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## MICROELECTRONIC DEVICE DATA HANDBOOK

Volume 2: Manufacturer and Specific Device Information

Prepared by  
ARINC RESEARCH CORPORATION  
Annapolis, Md.  
for Electronics Research Center



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION • WASHINGTON, D. C. 20546 JUL 2 1968



## MICROELECTRONIC DEVICE DATA HANDBOOK

Volume 2: Manufacturer and Specific Device Information

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION





## FOREWORD

This document provides guidance for the selection and application of microelectronic devices in space systems. Emphasis is placed upon considerations affecting reliability of systems employing such devices.

This handbook consists of two volumes. Volume I comprises six sections of user-oriented technical discussion, ranging from design, manufacture, use of the devices in subsystems, and specifications to reliability and failure physics. Volume II lists and gives the characteristics of approximately 2,000 devices, arranged to facilitate device selection.

The material presented herein was prepared by ARINC Research Corporation, under contract number NAS 12-528, NASA Work Unit No. 125-25-04-25-25.

Some of the material used is copyrighted; permission for its use is gratefully acknowledged.

The U.S. Army Electronics Command, DOD, through its standardization program, Project 5962-004, has reviewed the drafts and provided editorial and technical comments.

This document will be revised periodically; comments and suggestions regarding forthcoming issues are solicited, and should be directed to:

NASA Electronics Research Center  
Qualifications and Standards Laboratory  
Component Standards Branch  
575 Technology Square  
Cambridge, Massachusetts 02139



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# 1. INDEX OF MANUFACTURERS

Companies engaged in manufacturing standard microelectronic devices are listed in Table 1 along with basic information on the nature of their devices.

TABLE 7-1 INDEX OF MANUFACTURERS OF MICROELECTRONIC DEVICES							
Manufacturer's Name and Address	Code in Devices Catalog	Basic Logic	Technology*	Manufacturer's Name and Address	Code in Devices Catalog	Basic Logic	Technology*
Alpha Microelectronics Co., Inc. 10501 Rhode Island Avenue Beltville, Maryland			M	National Semiconductor Corp. Danbury, Connecticut	NSC	RTL	A M
Amelco, Inc. Semiconductor Division 1300 Terra Bella Avenue Mountain View, California	AMEL	DCTL RTL	F	Norden Division of United Aircraft Norwalk, Connecticut	NORD	RTL	R F
Burroughs Corporation Plainfield, New Jersey			M	Philco Lansdale Division Lansdale, Pennsylvania	PHIL	RTL	A J
Corning Electronics 3900 Electronics Drive Raleigh, North Carolina	CORN	DTL	D	Radiation, Inc. Melbourne, Florida	RAD	DTL	C J
CTS Research, Inc. 2101 Cumberland Avenue West Lafayette, Indiana			O	Radio Corporation of America Harrison, New Jersey	RCA	ECL DTL	A
Fairchild Semiconductor 545 Whisman Road Mountain View, California	FSC	RTL TTL DTL	A	Raytheon Semiconductor Division 350 Ellis Street Mountain View, California	RAY	DTL	A
General Electric Semiconductor Products Dept. Electronics Park Syracuse 1, New York	GESP	ECL	A F G	Signetic Corporation 680 West Maude Avenue Sunnyvale, California	SIGN	TTL DTL	A
General Electric Light Military Electronics Dept. Utica, New York	GELM		N	Siliconix, Inc. 1140 W. Evelyn Avenue Sunnyvale, California	SILX	DTL Mod.DTL TTL	A
General Instruments Corporation 600 W. John Street Hicksville, New York	GI	DTL	H K	Sperry Semiconductor Norwalk, Connecticut, 06852	SPER	RTL	B
Philco-Ford 2920 San Ysidro Way Santa Clara, California	PHIL	RTL TTL	A F K	Sprague Electric Company North Adams, Massachusetts	SPRG	RCTL	F M
Halex 139 Maryland Street El Segundo, California			M	Stewart-Warner Microcircuits, Inc. 730 East Evelyn Avenue Sunnyvale, California	SW	DTL TTL ECL	A
IIT Semiconductors 3301 Electronics Way West Palm Beach, Florida 33402	ITT	OTL	A	Sylvania Electric Products, Inc. Semiconductor Division Woburn, Massachusetts	SYL	TTL	B
Hughes Aircraft Company Semiconductor Division Newport Beach, California	HUGH	TTL	M	Texas Instruments, Incorporated Semiconductor Components Div. P. O. Box 5012 Dallas 22, Texas	TI	RCTL Mod. DTL TTL	A F J
Intellux, Inc. P. O. Box 929 Santa Barbara, California	INTX	TRL	L	Transitron Electronic Corp. Wakefield, Massachusetts	TRAN	TTL	B
Mepco, Inc. 35 Abbott Avenue Morristown, New Jersey	MEPC	DTL	E	Varo, Incorporated 2201 Walnut Street Garland, Texas	VARO	DTL TRL	E
Motorola Semiconductors Box 955 Phoenix, Arizona	MOTA	DTL ECL	A F J	Westinghouse Electric Corp. Molecular Electronics Division P. O. Box 1836, Baltimore Elkridge, Maryland	WMED	ECL DTL	A J

\*Indicates technology of devices listed in devices catalog only and hence does not necessarily indicate total capability. See Table 4 for explanation of code.

## 2. CATALOG OF DEVICES

### 2.1 General

The catalog of microelectronic devices is restricted to those devices that are integral units and that cannot be broken down into smaller segments without destruction of the entire unit. The catalog is further restricted, in general, to those devices in which all active and passive elements necessary to a fully operable circuit are included and intraconnected in one package. A few of the devices tabulated offer only questionable compliance with these requirements; however, these exceptions are readily identifiable in the schematic diagrams (see Section 2.5).

It cannot be stressed too strongly that this catalog must be considered as an initial reference and used accordingly. Detailed appraisal of a circuit must include reference to the manufacturer's data sheet or consultation with the manufacturer. In the extraction of data for the catalog from the individual manufacturers' data sheets, a number of factors made it impossible to provide a standard tabulation with values that were exactly comparable from one circuit to another. These factors included the variety of formats used, the variety of information presented, the variety of words used to describe the same item, the variety of definitions applied to the same words, and the variety of testing conditions. The reported characteristics and the manner of their presentation, however, have been restricted and selected so that the values listed from circuit to circuit are reasonably comparable. The user is urged to read carefully section 2.2, "Notes Concerning Column Headings," in order to avoid misunderstandings from some of the arbitrary definitions that were necessary to maintain a reasonable degree of uniformity in the catalog.

The catalog has been developed with separate sections for linear circuits, digital circuits, and digital arrays. The digital circuits and digital arrays are presented in the same format. In the linear-circuit format, the column headings for electrical characteristics are somewhat different.

### 2.2 Notes Concerning Column Headings

#### 2.2.1 Digital and Linear Circuit Formats

CIRCUIT DESCRIPTION - Devices are listed alphabetically according to circuit function. However, descriptive titles for circuit functions are by no means standard throughout the electronics industry. For example, one manufacturer's



"Driver" is another manufacturer's "Buffer", and yet another manufacturer's "Inverter". In the device catalog, all like functions have been assigned the same descriptive title -- regardless of the manufacturer's terminology -- according to the following criteria:

- (1) All logic functions are described in the positive logic mode. For example, a function is described as an "AND" gate if all inputs are required to be at the high level (logic "1") to acquire a high-level output.
- (2) If a slash mark appears between two descriptive terms, the device can be used to perform either of the two functions described. For example, if circuitry for a complementary output were added to the device described in Note 1, it would be described as an "AND/NAND" gate, and cross-listed as "NAND/AND" gate.
- (3) When a hyphen appears between two or more descriptive terms, the device is a multifunction circuit which performs functions in series or series-parallel as described, and in the order listed, in the title. For example, if the outputs from two "AND" gates are applied to the input of a "NAND" gate, the circuit is described as an "AND-NAND" gate. If multifunction circuits contain stages that operate in parallel, the parallel functions are listed in alphabetical order. For example, if one of the input "AND" gates in the prior example were an "OR" gate, the device would be described as an "AND-OR-NAND" gate. The circuit schematic must be consulted to determine the precise configuration.
- (4) If a device contains more than a single circuit and the circuits are functionally independent, the term "DUAL", "TRIPLE", or "QUAD", as appropriate, will follow the generic name. The circuits are usually identical but not in every case; the majority of exceptions involve a difference in the number of gate inputs. For example, if a device contained three identical "NAND" gates, each with three inputs, the device would be described as a "NAND, TRIPLE 3 INPUT" gate. On the other hand, if one of the circuits had only two inputs, the description would be "NAND, TRIPLE 2-3-3 INPUT" gate.
- (5) All abbreviations are explained in Section 2.3.

MFR (Manufacturer) - The code name can be interpreted by reference to the Index of Manufacturers of Microelectronic Devices (Table 1).

TECH (Technology) - The code letter can be interpreted by reference to Table 4. These codes should not be confused with the Electrical Characteristic Codes. (Letter symbols are used for both.)

OPER TEMP CNTGRDE (Operating Temperature, Centigrade) - The temperatures defined by the MIN and MAX columns represent absolute limits. Operation outside this range may be detrimental to the device. The sign has been omitted in the MAX column on the format for linear devices and should be understood as being positive in every case.

SUPPLY VOLTAGE VDC (Supply Voltage, DC Volts) - This field, divided into two separate columns, will indicate a requirement for a third power supply if a letter code (explained in Table 7) appears in column 2. The voltage(s) listed are consistent with the values listed for other electrical characteristics of the device; however, the majority of digital devices may be operated at different voltage supply levels, with corresponding trade-offs in values of the other characteristics. The values coded as maximum are absolute; operation above these maximums may be detrimental to the device.

PACKAGE TYPE - The numbers or letters appearing in this column refer to the Package Outline Drawings that are compiled in Section 2.4. A letter code is used to designate a package that has a JEDEC number and is registered with the EIA. Table 5 explains this code. Numbers are used for unregistered packages.

An asterisk is used in the column to show when additional packages are available for that particular device but have not been listed because of space limitations.

SCHEMATIC NO. - The numbers in this column refer to the schematic drawings in Section 2.5. A letter code appears after the schematic number if there is an exception to the given drawing. This code is explained in Table 6.

#### 2.2.2 Digital-Circuit and Digital-Array Formats

PWR DIS MW (Power Dissipation Milliwatts) - This field presents typical power supply drain at 25°C. The values in the column represent the average power drain at a 50-percent duty cycle. When multiple-circuit devices (dual, triple, etc.) are encountered, the values presented are for one circuit.

FAN OUT - The value in this column represents the number of like-stage inputs that can be direct-coupled to each output of the circuit, over the stated operating-temperature range. When the value is coded as maximum, it represents the fan out possible under the most favorable conditions and usually at 25°C. When two values appear in this column, the circuit has two output terminals with different fan-out capabilities. In this case, one of the outputs will usually be from an emitter follower. Generally, such multiple outputs can drive the stated loads simultaneously.

INPUT THRESHOLD VOLTS - The value in the column headed ZERO indicates the maximum voltage that can be applied to the circuit without turning on the input transistor. Any voltage below this level will be processed by the circuit as a "logic zero". The values under the ONE column represent the minimum voltage that can be applied to the input without turning off the input transistor. Any level

above this value will be processed by the circuit as a "logic one". Values in both columns are worst case at 25°C. Values shown are negative when the value in the ZERO column is greater than that in the ONE column.

NOISE IMMUNITY VOLTS - This is the difference between the input threshold level and the corresponding output level of the circuit. The column is included only as a convenience, since noise-immunity voltage is simply the lower of the following two differences:

- (1) Input-threshold zero minus output-level zero
- (2) Output-level one minus input-threshold one

DELAY NANOSECS - The values in this column represent the maximum delay at 25°C. It is the sum of the turn-on delay and turn-off delay divided by 2. The values should be considered as gross approximations since they are highly dependent upon the conditions under which they are measured and upon the various definitions used to define turn-on time and turn-off time.

OPERATING SPEED MHZ - The values in this column represent the maximum clock rates for which the circuit was designed to operate, over the stated temperature range. Values coded as maximum indicate possible operating speeds under the most favorable conditions and at 25°C.

OUTPUT LEVEL VOLTS - The value in the column headed ZERO indicates the maximum low-level voltage that will appear at the output. The values in the column headed ONE indicate the minimum high-level voltage that will appear at the output. Both columns are worst-case values at 25°C. Values shown are negative when the value in the ZERO column is greater than that in the ONE column.

### 2.2.3 Linear Format Only

SUPPLY POWER MILLIWATTS - The value in this column represents the typical power drain from the supply at 25°C with no signal applied to the input. When a multiple circuit device (dual, triple, etc.) is encountered, the value shown is the power drain per circuit. A value coded as maximum indicates the absolute maximum power that can be dissipated by the device. Operation beyond this value may be detrimental to the device.

IMPEDANCE - The value shown is typical at 25°C.

GAIN - The value appearing in the VOLTAGE V/V column represents the ratio of output voltage to input voltage and is typical at 25°C. The value in the POWER DB column represents the ratio of output power to input power expressed in decibels. The values shown are typical at 25°C.

3 DB B.W. MHZ (Three-dB Bandwidth, Megahertz) - The value shown is typical at 25°C and represents the upper frequency at which gain is 3 dB down from the flat response. The lower 3-dB frequency is generally a few hundred hertz or less.

N.F. DB (Noise Figure) - The value shown is typical at 25°C. Units are decibels.

COM.MODE REJ.DB (Common Mode Rejection) - The value shown is typical at 25°C. Units are decibels.

DIFF. OFFSET MV (Differential Offset, Millivolts) - The value shown is the maximum input differential-offset voltage and is the typical value at 25°C.

H.D. % MAX (Harmonic Distortion) - The value is shown as a percentage; it represents the maximum harmonic distortion at 25°C.

OUTPUT SIGNAL - The value shown under the column headed SWING represents the peak-to-peak voltage that can be obtained without clipping and is typical at 25°C. The value shown in the column headed POWER represents the available load power consistent with the specified distortion or, in cases where distortion is not applicable, the rated power-dissipation characteristic of the device.

### 2.3 Codes and Abbreviations

Codes and abbreviations used are presented in Tables 2, 3, 4, 5, 6, and 7.

TABLE 2 ELECTRICAL CHARACTERISTIC CODES	
Code	Explanation
*	Maximum
#	Minimum
A	Divide by 1000
B	Multiply by 1000
C	Divide by 100
D	Multiply by 100
E	Divide by 10
F	Multiply by 10
J	Microwatts divided by 10
K	Maximum forward current in milliamps
L	Diode reverse recovery time
M	Multiply by 10 <sup>10</sup>
P	Single ended
R	Input
S	Output
T	Typical
W	Worst case
X	Maximum milliamps

TABLE 3 ABBREVIATIONS	
Abbreviation	Explanation
BCD to B	Binary Coded Decimal to Binary
BCD to D	Binary Coded Decimal to Decimal
CLCKD	Clocked
CPS	Cycles per second
DB	Decibel
DIFF	Differential
DIR	Direct
D to A	Digital to Analog
EX	Expandable
GND	Ground
H.D.	Harmonic Distortion
IF	Intermediate Frequency
INP	Input
MHz	Megacycles per second
MONO	Monostable
N.F.	Noise Figure
PH	Phase
REV	Reverse
TRNSTRS	Transistors
SP	Split
VDC	Volts DC
VF	Variable Feedback
WC	With Complement

**TABLE 4  
MANUFACTURER TECHNOLOGY CODES**

Code	Explanation
A	Silicon, monolithic, planar-diffused, epitaxial, passivated. Gold leads to aluminum metalization.
B	Same as A, except that all intraconnections are monometallic.
C	Same as A, but also has polycrystalline isolation.
D	Alumina substrate glazed with alkali-free glass. Resistors formed by photoresist masking and subsequent etching of tin oxide deposited by non-vacuum process. Copper conductor material is applied by an electrolysis silk-screen process. Transistors are discrete silicon face-bonded chips.
E	Alumina substrate. Resistors are vacuum-deposited nichrome. Transistors, diodes, and capacitors are attached discrete components.
F	Same as A, but without epitaxy.
G	Alumina substrate; cermet resistors; metal-slurry intraconnections and capacitors applied by silk-screen process brazed to substrate. Active devices are planar passivated silicon chips bonded to wafer. Connections from chips are thermocompression-bonded wire leads.
H	Multichip; all circuit elements as separate planar epitaxial passivated silicon chips bonded to a non-conductive substrate. Intraconnections are thermocompression-bonded wires. Multiple internal connections to a single node are made to vacuum-deposited or brazed metal-slurry leads. When possible, chips are bonded directly to metal header or header post for greater heat dissipation and reduced lead length. Construction details will depend in large measure on circuit type and design.
J	Same as A, except that resistors are vacuum-deposited on the monocrystalline substrate.
K	Monolithic device consisting of metal-oxide-silicon transistors. Source and drain regions are planar-diffused. Isolation layer is silicon monoxide. Gate electrodes and intraconnections are vacuum-deposited aluminum.
L	Resistors formed by photoresist masking of pyrolytically deposited tin oxide on glass of matched expansivity. Film thickness is typically 2500 $\text{\AA}$ ; line widths are 0.003" minimum. Terminations and capacitor plates are silk-screened silver slurry; after silk-screening, they are fired. Passive components are hermetically sealed by a fusible powdered glass, which also serves as a dielectric for the capacitor. Intraconnection patterns are electroplated and photo-etched. Active devices are cased in TO-18 or TO-46 cans and are attached by welding.
M	Thin-film passive components with active devices separately attached.
N	Thin-film resistors and conductors vacuum-deposited on ceramic substrate. A monolithic diffused silicon chip containing all active devices is attached to the ceramic substrate; and intraconnections between chip, substrate, and bonding posts are thermocompression-bonded leads.
O	Cermet resistors; discrete active devices separately attached.
P	Conductors and capacitors deposited on a nonconducting substrate. Inductor leads are bonded to conductor pads on the substrate.
R	Multichip; selected portions of the circuit are planar diffused into two or more silicon chips. The chips are intraconnected with thermocompression-bonded wire leads.
S	Same as C, but the intraconnections are monometallic.
T	Same as S, except the resistors are vacuum-deposited.

**TABLE 5  
PACKAGE CODES**

Letter	TO Number	Page Numbers
A	TO-99	2-9
B	TO-100	2-10
C	TO-86	2-14
D	TO-70	2-9
E	TO-79	2-9
F	TO-84	2-14
G	TO-85	2-14
H	TO-116	2-20
J	TO-80	2-9
K	TO-101	2-11
L	TO-74	2-10
M	TO-76	2-9
N	TO-77	2-9
P	TO-78	2-9
Q	TO-97	2-10
R	TO-73	2-11
S	TO-91	2-15
T	TO-89	2-15
U	TO-90	2-15
V	TO-95	2-22
W	TO-87	2-22
X	TO-88	2-22

**TABLE 6  
SCHEMATIC EXCEPTION CODES**

Letter	Exception
A	No pull-up resistor
B	R1, R2, Q1 omitted
C	Terminal A omitted
D	A and B intraconnected
E	No resistor; diodes reversed
F	No resistor
G	Short out R2
H	Short out R1, R2
J	52, 53, C2 C3 omitted
K	PNP transistors, diodes reversed
L	Output resistors omitted
M	R2 omitted
N	R1, R2 omitted
P	Omitted Q1, Q5 input to Q2 Q4
Q	No capacitors
R	Short out R6, R7
S	CRI omitted
T	R1 off GND and to output
U	R1, C1, omitted
V	R4, Q1 omitted
W	PNP Devices
X	Gates are 4 INP plus CLCK
Y	Delete dashed-line area
Z	NPN devices

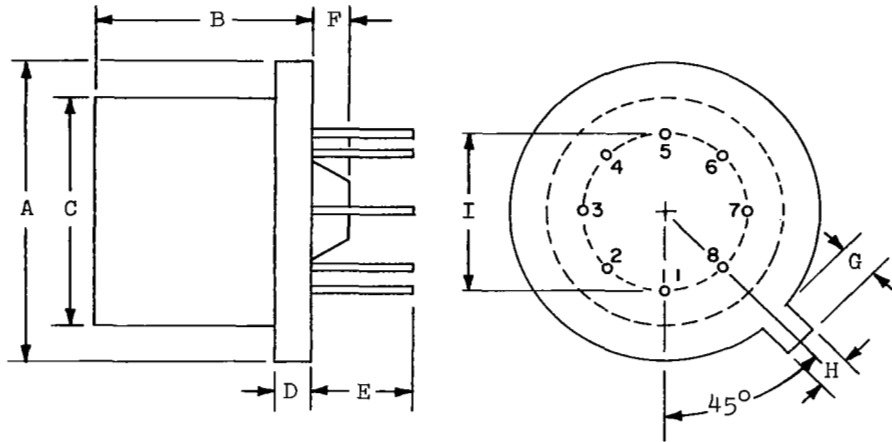
**TABLE 7  
THIRD POWER SUPPLY CODES**

Letter	Voltages of Third Power-Supplies
A	10
B	5
C	6
D	12
E	24

#### 2.4 Outline Drawings

Outline drawings of packages used for microelectronic devices are shown on the following pages. The specific configurations are indexed -- by type, letter, and number -- in the Catalog of Devices. The dimensions shown are in inches.

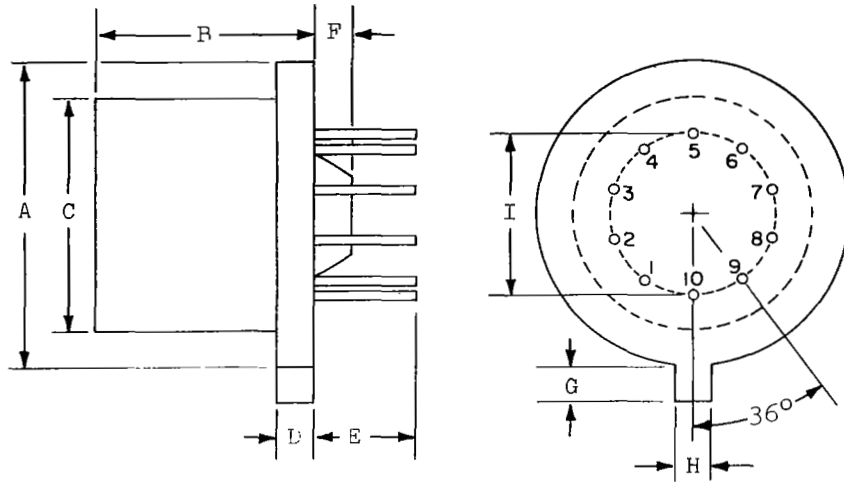




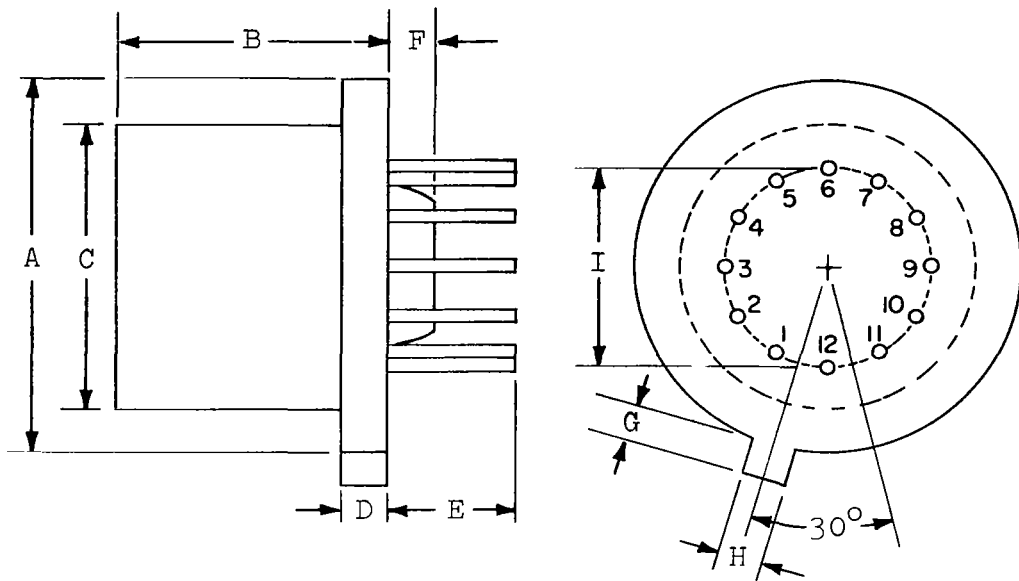
Type No.*	A	B	C	D	E	F	G	H	I	Lead Dia.
0	0.370 0.290	0.180 0.160	0.335 0.290	0.125 0.009	1.500 Min.		0.029 Min.	0.034 0.028	0.210 0.190	0.019 0.016
1	0.370 0.335	0.185 0.165	0.335 0.305	0.040 Max.	0.500 Min.	0.050 Max.	0.045 0.029	0.034 0.028	0.200	0.019 0.016
2	0.370 0.355	0.180 0.170	0.325 0.315	0.030 0.020	1.500 Min.	0.045 0.015	0.033 0.028	0.034 0.028	0.210 0.190	0.019 0.016
3	0.365 Max.	0.180 Max.	0.327 Max.	0.030 Max.	0.750 Min.	0.040 Max.	0.033 0.029	0.034 0.028	0.210 0.190	0.019 0.016
4	0.360	0.180 Max.	0.335		0.750					0.230
5	0.362 0.358	0.185 0.165	0.328 0.322	0.025	1.530	0.030	0.034 0.029	0.034 0.028	0.200	0.019 0.016
6	0.270 0.240	0.085 0.065	0.240 0.205	0.040 Max.	0.500 Min.	N/A	0.025 0.015	0.025 0.015	0.141	0.019 0.016
7	0.370 0.355	0.180 0.170	0.305 0.335		1.500 Min.		0.045 0.029	0.028 0.034	0.210 0.190	0.019 0.016
8	0.270 0.240	0.080 0.060	0.240 0.220	0.040 Max.	1.5 Min.		0.025 0.015	0.025 0.015	0.141	0.019 0.016
9	0.365 0.355	0.180 0.170	0.325 0.315		0.500 Min.		0.033 0.029	0.034 0.028	0.210 0.190	0.019 0.016
TO99	0.370 0.335	0.185 0.165	0.335 0.305	0.040 Max.	0.500 Min.	0.050 Max.	0.045 0.029	0.034 0.028	0.200	0.019 0.016
TO70	0.270 0.240	0.085 0.065	0.240 0.205	0.040 Max.	0.500 Min.	N/A	0.025 0.015	0.025 0.015	0.141	0.019 0.016
TO79	0.370 0.325	0.160 0.140	0.335 0.305	0.040 Max.	0.500 Min.	N/A	0.045 0.029	0.034 0.028	0.200 Typ.	0.019 0.016
TO80	0.370 0.335	0.105 0.085	0.335 0.305	0.040 Max.	0.500 Min.	N/A	0.045 0.029	0.034 0.028	0.200 Typ.	0.019 0.016
TO76	0.370 0.335	0.260 0.240	0.335 0.305	0.040 Max.	0.500 Min.	0.040 0.010	0.045 0.029	0.034 0.028	0.200 Typ.	0.019 0.016
TO77	0.370 0.335	0.260 0.240	0.335 0.305	0.040 Max.	0.500 Min.	N/A	0.045 0.029	0.034 0.028	0.200 Typ.	0.019 0.016
TO78	0.370 0.335	0.185 0.165	0.335 0.305	0.040 Max.	0.500 Min.	N/A	0.045 0.029	0.034 0.028	0.200 Typ.	0.019 0.016

\*Package Type





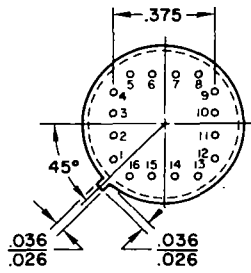
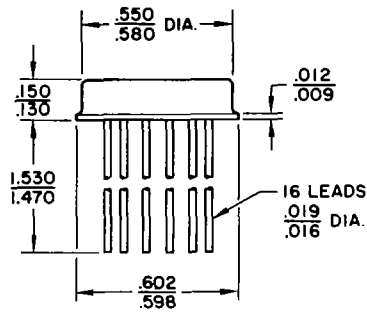
Type No.*	A	B	C	D	E	F	G	H	I	Lead Dia.
10	0.360	0.180	0.325		0.300 Min.		0.034 0.026	0.034 0.028	0.230	0.019 0.016
11	0.370 0.335	0.185 0.165	0.335 0.305	0.040 Max.	0.500 Min.	0.050 Max.	0.045 0.029	0.034 0.028	0.230	0.019 0.016
12	0.370 0.355	0.180 0.170	0.325 0.315	0.030 0.020	0.750 Min.	0.045 0.015	0.040 0.030	0.034 0.028	0.240 0.220	0.019 0.016
13	0.360 Max.	0.180 Max.	0.335		0.750				0.230	
14	0.362 0.358	0.102 0.096	0.302 0.298	0.025	1.53	0.025	0.034 0.029	0.034 0.028	0.230	0.019 0.016
15	0.370 0.350	0.175 Max.	0.335 0.322	0.035	0.165 0.150				0.200	0.019 0.016
16	0.370 0.290	0.180 0.160	0.335 0.290	0.125 0.009	1.50 Min.		0.029 Min.	0.034 0.028	0.210 0.190	0.019 0.016
17	0.365 Max.	0.180 Max.	0.327 Max.	0.030 Max.	0.750	0.040 Max.	0.033 0.029	0.034 0.028	0.235 0.220	0.019 0.016
18	0.370 0.290	0.180 0.140	0.335 0.290	0.125 0.009	1.50 Min.		0.029 Min.	0.034 0.028	0.230	0.019 0.016
19	0.370 0.335	0.260 0.240	0.335 0.305	0.040 Max.	0.500 Min.	0.050 Max.	0.045 0.029	0.034 0.028	0.230	0.019 0.016
T0 100	0.370 0.335	0.185 0.165	0.335 0.305	0.040 Max.	0.500 Min.	0.040 0.010	0.045 0.029	0.034 0.028	0.230 Typ.	0.019 0.016
T097	0.370 0.335	0.160 0.140	0.335 0.305	0.040 Max.	0.500 Min.	N/A	0.045 0.029	0.034 0.028	0.230 Typ.	0.019 0.016
T096	0.370 0.335	0.260 0.240	0.335 0.305	0.040 Max.	0.500 Min.	N/A	0.045 0.029	0.034 0.028	0.200 Typ.	0.019 0.016
T074	0.370 0.335	0.260 0.240	0.335 0.305	0.040 Max.	0.500 Min.	0.050 Max.	0.045 0.029	0.034 0.028	0.200 Typ.	0.019 0.016
*Package Type										



Type No.*	A	B	C	D	E	F	G	H	I	Lead Dia
20	0.370	0.180	0.335		1.500		0.045	0.034	0.210	0.019
	0.355	0.170	0.305		Min.		0.029	0.028	0.190	0.016
21	0.365	0.180	0.325		0.500		0.033	0.034	0.210	0.019
	0.355	0.170	0.315		Min.		0.029	0.028	0.190	0.016
22	0.370	0.180	0.325	0.030	0.750	0.045	0.040	0.034	0.240	0.019
	0.355	0.170	0.315	0.020	Min.	0.015	0.030	0.028	0.220	0.016
23	0.370	0.160	0.335	0.040	0.250	0.040	0.045	0.034	0.160	0.019
	0.350	0.140	0.305	Max.	Min.	0.010	0.029	0.028	0.140	0.016
24	0.362	0.185	0.328	0.025	1.530	0.030	0.034	0.034	0.200	0.019
	0.358	0.165	0.322	Typ	Typ	Typ	0.029	0.028	Typ	0.016
25	0.370	0.180	0.335		0.500		0.045	0.034	0.245	0.020
	0.335	Max.	0.305		Min.		0.024	0.028	0.215	0.016
26	0.360	0.180	0.325		0.300		0.034	0.034	0.200	0.019
		Max.	Max.		Min.		0.026	0.028		0.016
27	0.370	0.190	0.335	0.030	0.300		0.33	0.34	0.240	0.019
	0.350	0.170	0.315	0.020	Min.		0.28	0.28	0.220	0.016
T073	0.370	0.260	0.335	0.040	0.500	N/A	0.045	0.034	0.200	0.019
	0.335	0.240	0.305	Max.	Min.		0.029	0.028	Typ.	0.016
T0101	0.370	0.185	0.335	0.040	0.500	0.040	0.045	0.034	0.230	0.019
	0.335	0.165	0.305	Max.	Min.	0.010	0.029	0.028	Typ.	0.016

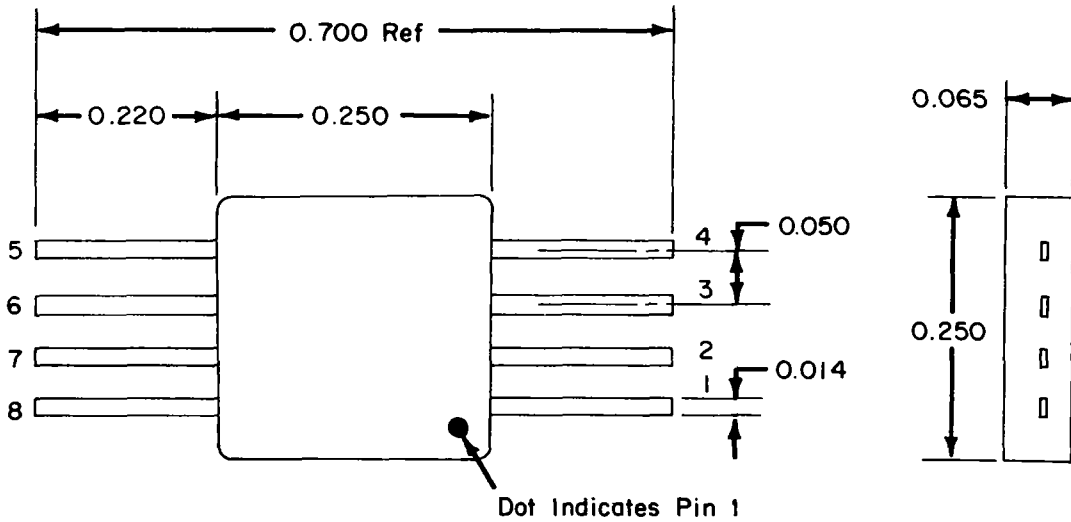
\*Package Type

G package

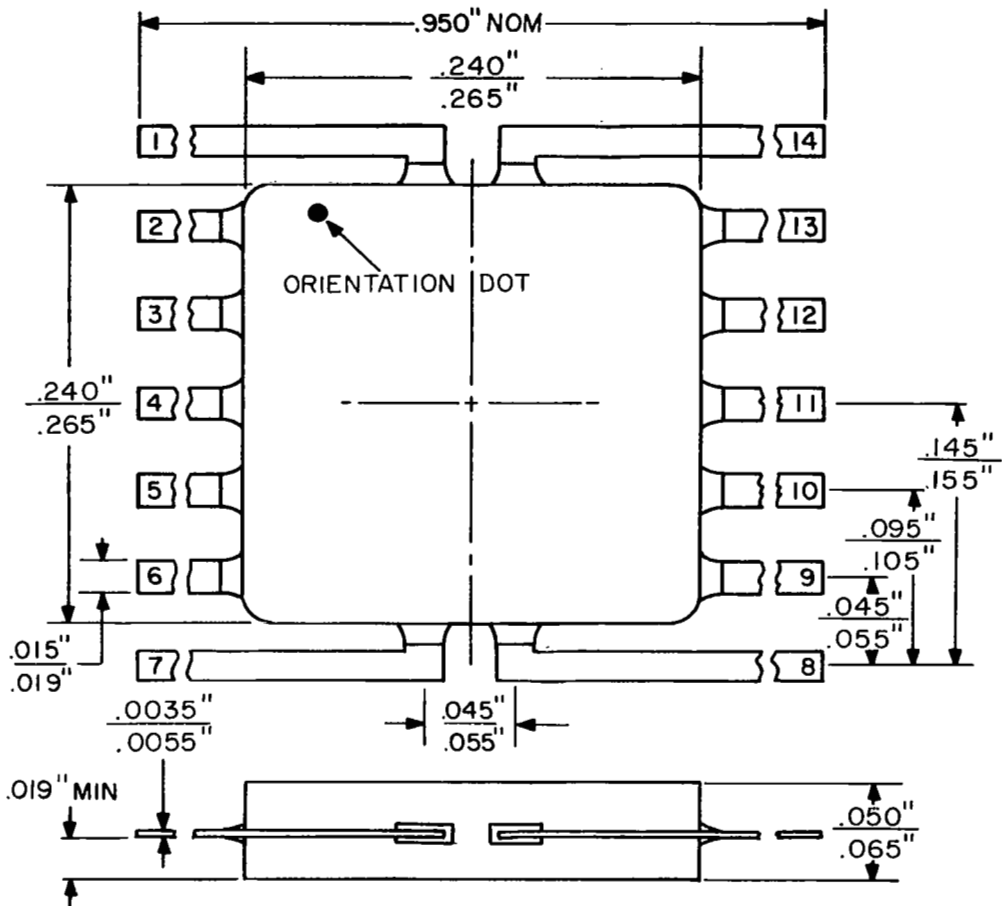


BOTTOM VIEW

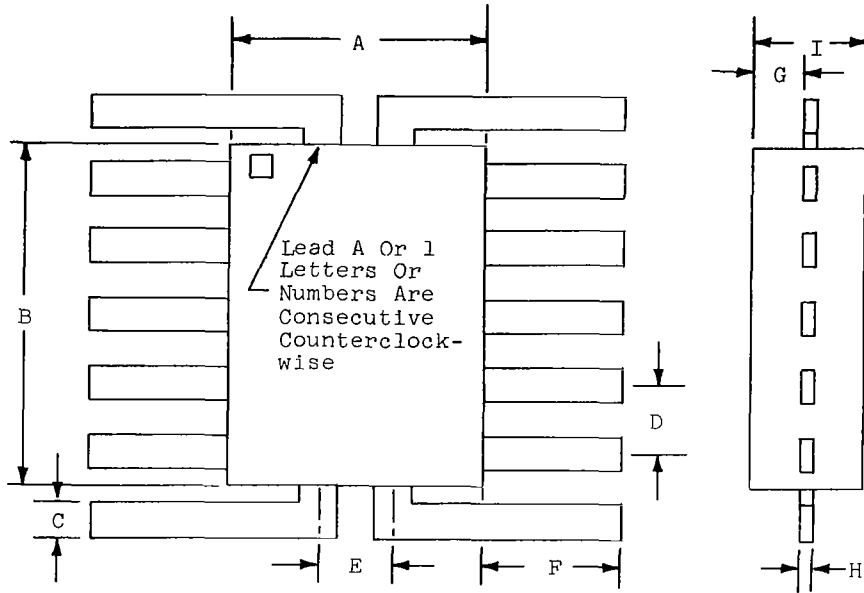
PACKAGE TYPE 30



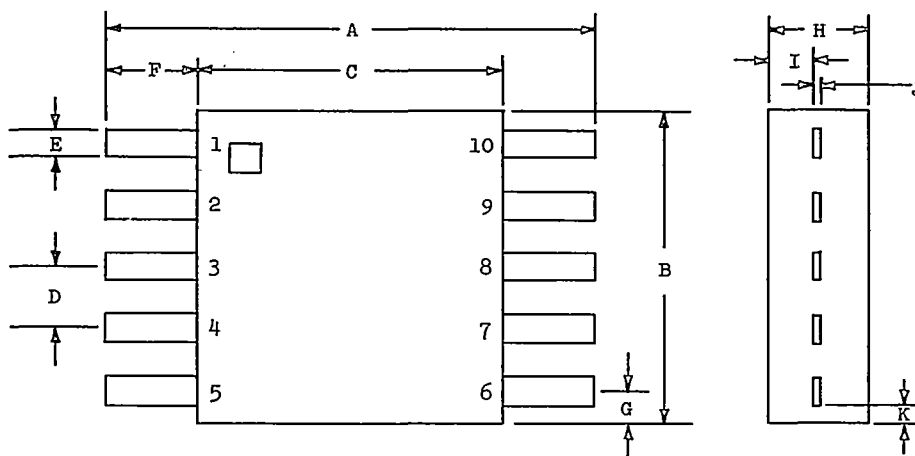
PACKAGE TYPE 31



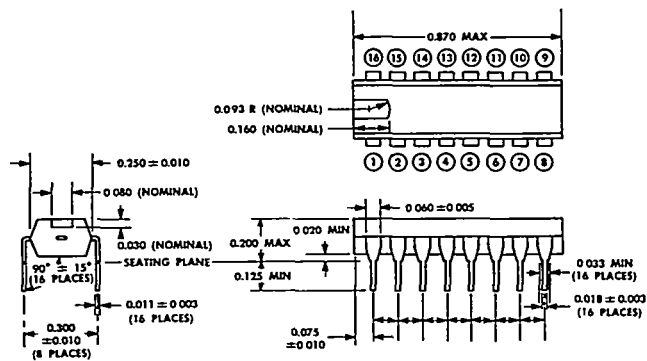
PACKAGE TYPE 36



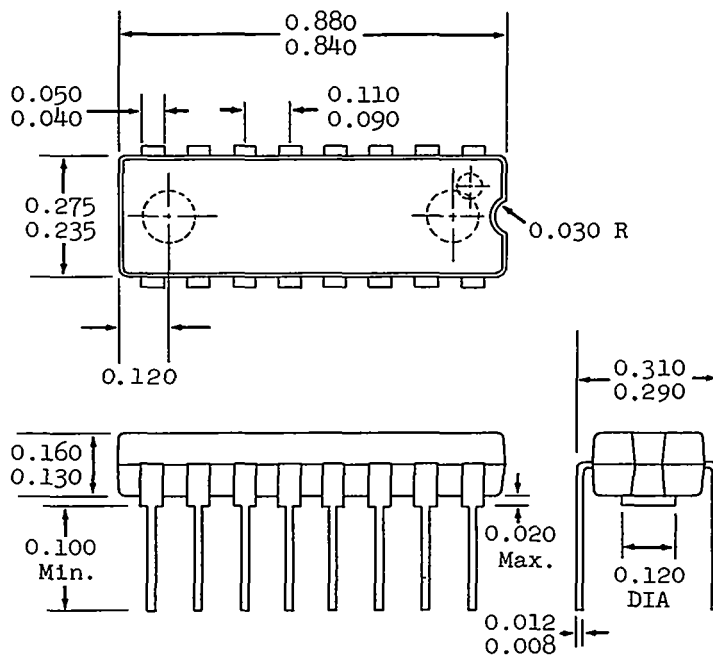
Type No.*	A	B	C	D	E	F	G	H	I
37	0.250	0.250	0.017	0.050		0.375 Max.			0.065
38	0.140	0.250	0.012	0.050		0.180			0.055 Max.
40	0.195 0.165	0.270 0.240	0.018 0.014	0.050	0.050	0.350 Min.	0.008 0.022	0.005 0.003	0.055 0.040
41	0.240 0.230	0.240 0.230	0.018 0.016	0.050			0.010 Min.	0.004 0.003	0.060 0.048
42	0.135 0.115	0.260 0.240	0.012	0.050		0.180 Min.	0.018 0.008	0.004	0.045 0.025
43	0.125	0.250	0.012	0.050		0.185		0.004	0.055 Max.
44	0.265 Max.	0.265		0.050		0.188			0.050
45	0.175	0.250		0.050			0.030	0.004	0.060
46	0.125 0.135	0.250 0.260	0.010 0.013			0.130 Min.	0.008 0.016	0.003 0.005	0.040 0.050
47	0.195 0.175	0.275 0.240	0.019 0.016	0.050		0.300 Min.	0.030 0.015	0.006 0.003	0.055 0.040
48	0.135 0.125	0.260 0.250	0.015 0.010	0.050		0.122 0.112	0.013	0.005 0.003	0.045 0.030
49	0.250	0.250	0.015 Typ	0.050 Typ		0.150 Min.	0.030	.0035 .0055	0.055 Max.
T084	0.150 0.120	0.260 0.240	0.019 0.010	0.055 0.045		0.070 Min.	0.035 0.005	0.006 0.003	0.070 0.030
T085	0.185 0.160	0.275 0.240	0.019 0.010	0.055 0.045		0.070 Min.	0.035 0.005	0.006 0.003	0.070 0.030
T086	0.260 0.240	0.275 0.240	0.019 0.010	0.055 0.045		0.070 Min.	0.035 0.005	0.006 0.003	0.070 0.030
*Package Type									



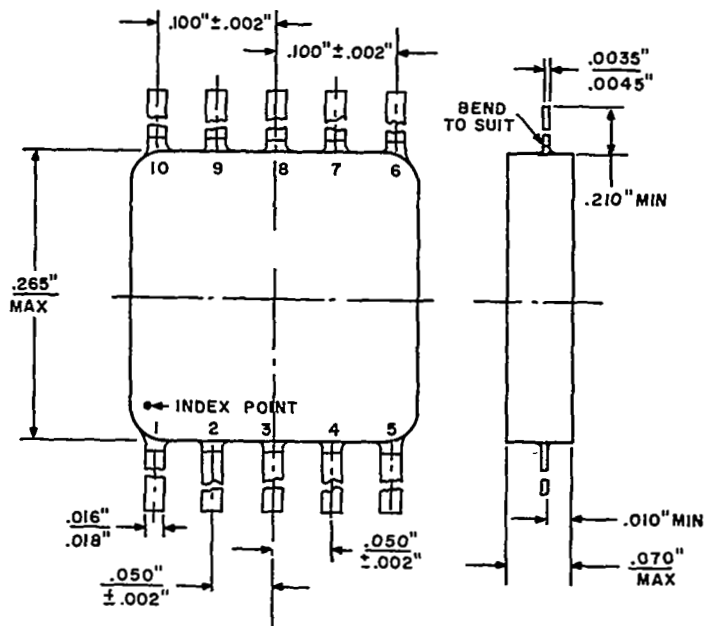
Type No.*	A	B	C	D	E	F	G	H	I	J	K
50	0.550	0.250	0.250	0.050	0.015	0.150 Min.		0.055 Max.	0.030	0.06 0.03	
51		0.240 0.230	0.240 0.230	0.052 0.048	0.018 0.016	0.210 Min.		0.070 Max.	0.010 Min.	0.004 0.003	0.015 0.005
52	0.750 0.730	0.255 0.245	0.260 0.240	0.050 0.005	0.014 0.015	0.250 0.230	0.038 0.012	0.063 0.051	0.027 0.006	0.006 0.004	
53	0.750	0.275 Max.	0.250	0.050	0.015	0.460		0.060 Max.		0.005	
54		0.260 Max.	0.260 Max.	0.050	0.017	0.235 Min.		0.070 Max.	0.020	0.004	
55	0.760 0.740	0.265 0.245	0.265 0.240	0.055 0.045	0.018 0.015	0.260 0.235		0.065 0.055		0.006 0.004	
56	0.760 0.740	0.255 0.245	0.260 0.230	0.055 0.045	0.018 0.015	0.260 0.235	0.038 0.012	0.065 0.055	0.025 0.015	0.006 0.004	0.030 0.003
57	0.505 0.495	0.260 0.250	0.135 0.125	0.050	0.013 0.010	0.0185		0.045 0.030	0.013 Min.	0.005	0.020 0.018
58	0.290 0.380	0.255 0.245	0.130 0.120	0.050	0.010	0.080	0.025	0.040 0.030	0.012 Min.	0.003	
59		0.250	0.175					0.060	0.035	0.004	
60		0.500	0.500	0.100	0.020		0.050	0.125	0.050	0.010	
61		0.275 Max.	0.190 Max.	0.050		0.200 Min.		0.070 Max.		0.005	
62		0.275 0.255	0.170 0.150	0.050	0.017 0.013	0.249 0.187		0.060 0.040	0.017 Min.	0.006 0.004	
63		0.260 0.240	0.260 0.240	0.055 0.045	0.019 0.010	0.070 Min.		0.070 0.030	0.030 0.005	0.006 0.003	
64	0.780 0.720	0.260 0.240	0.260 0.240	0.055 0.045	0.019 0.015			0.060 0.045	0.029 0.015	0.006 0.003	
65	0.500	0.250	0.140	0.050	0.012	0.180		0.055 Max.			
66		0.260 0.240	0.260 0.240	0.050	0.019 0.015	0.250 Min.		0.060 0.050		0.006 0.003	
T089		0.290 0.240	0.150 0.120	0.055 0.045	0.019 0.010	0.070 Min.		0.070 0.030	0.035 0.005	0.006 0.003	
T090		0.290 0.240	0.185 0.160	0.055 0.045	0.019 0.010	0.070 Min.		0.070 0.030	0.035 0.005	0.006 0.003	
T091		0.290 0.240	0.260 0.240	0.055 0.045	0.019 0.010	0.070 Min.		0.070 0.030	0.035 0.005	0.006 0.003	
*Package Type											



PACKAGE TYPE 67

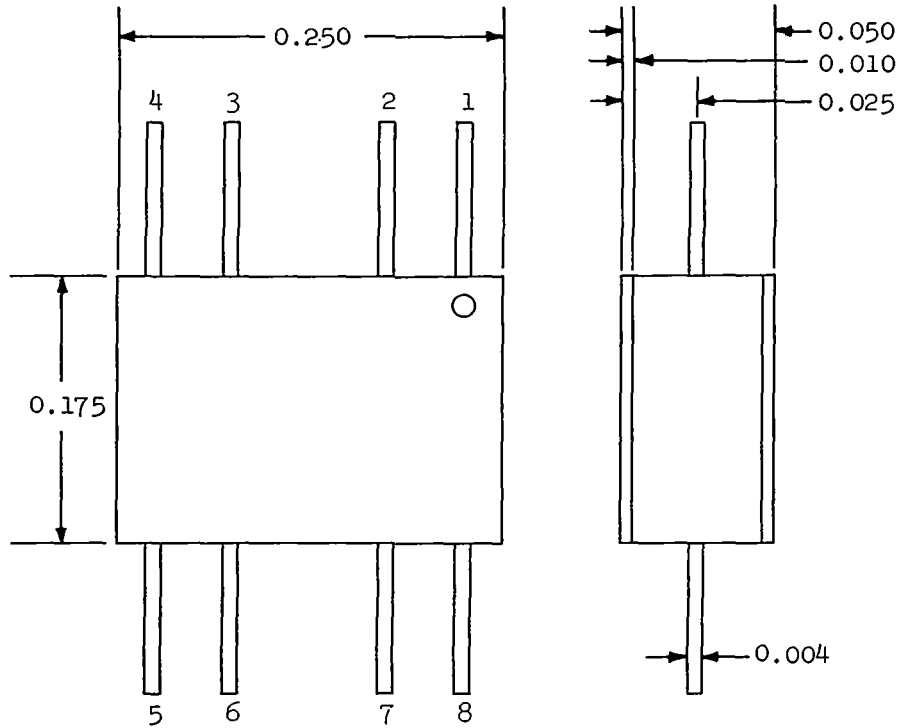


PACKAGE TYPE 68

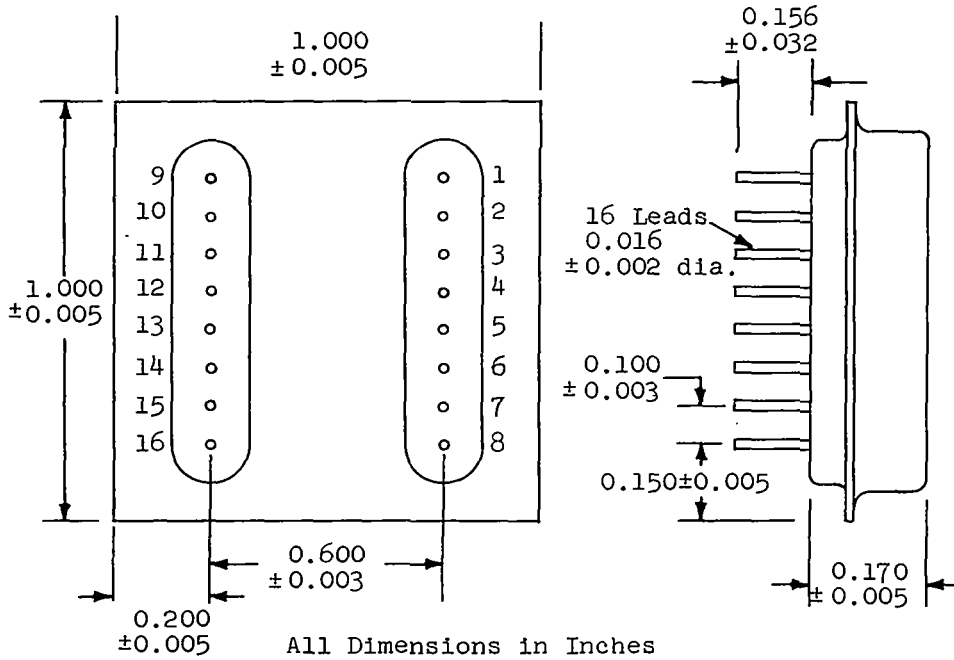


PACKAGE TYPE 69

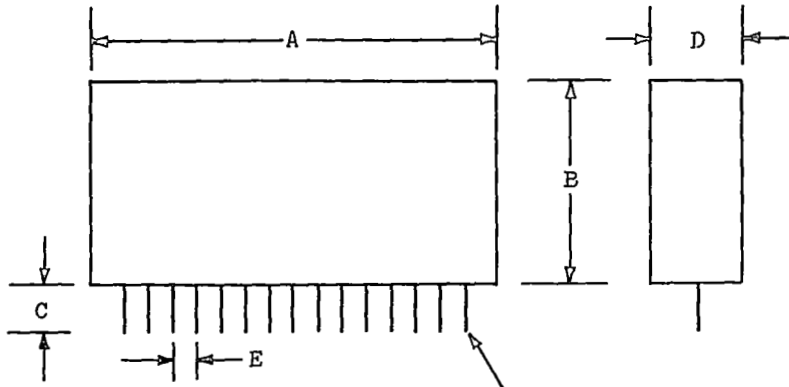




PACKAGE TYPE 70



PACKAGE TYPE 71



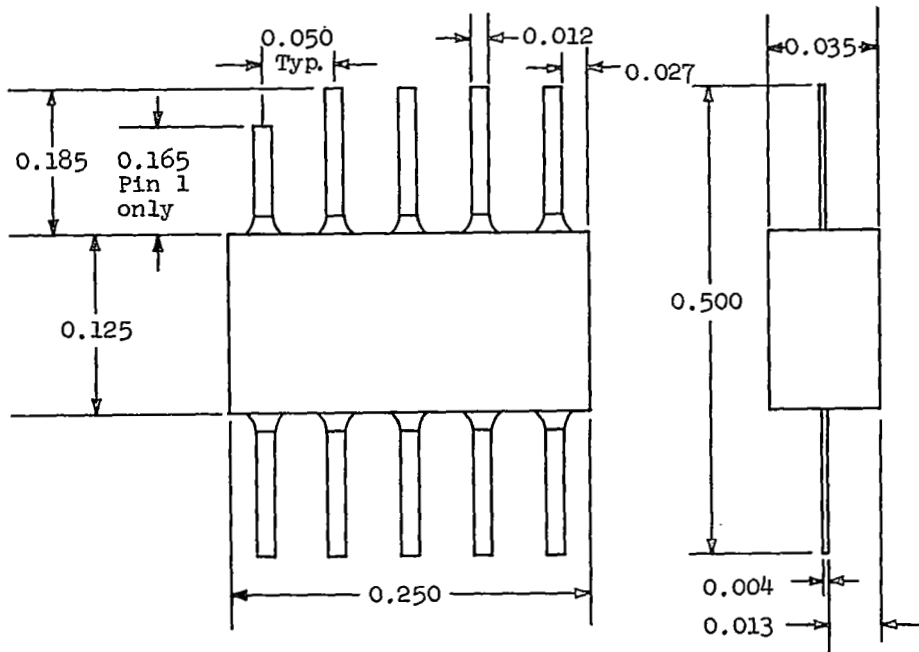
Package is Epoxy Encapsulant

F = Diameter of Leads

G = Number of Leads

Type	A	B	C	D	E	F	G
72	0.804 Max.	0.604 Max.	0.300 Min.	0.85 Max.	0.050 Typ.	0.015	15
73	0.650 Max.	0.700 Max.	0.500 Max.	0.200 Max.			5

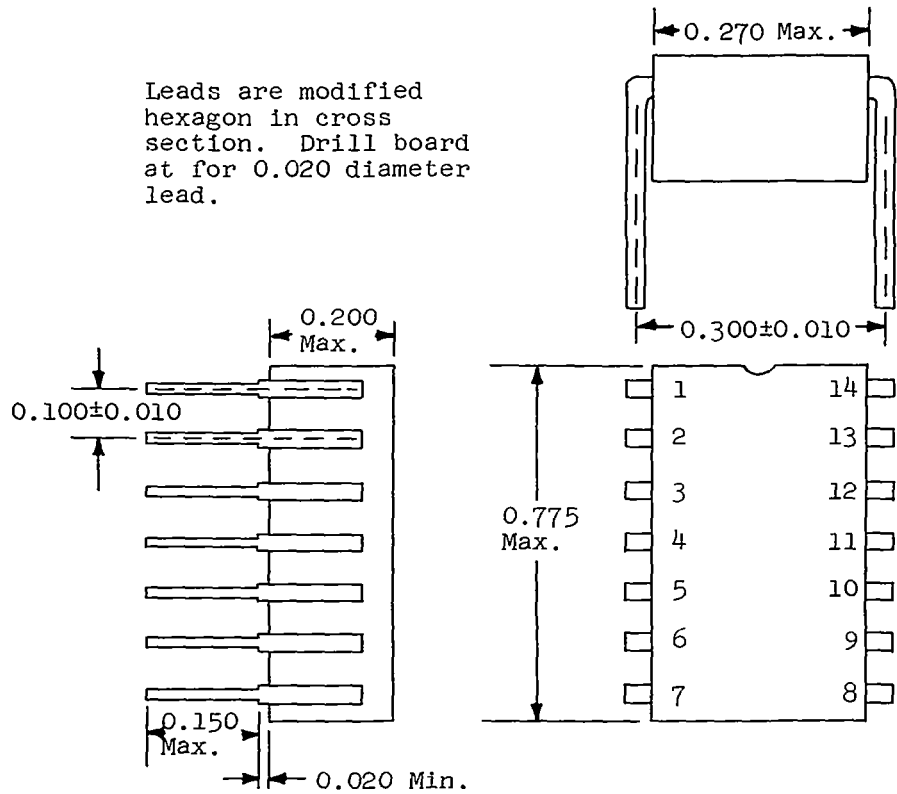
PACKAGE TYPE 72 AND 73



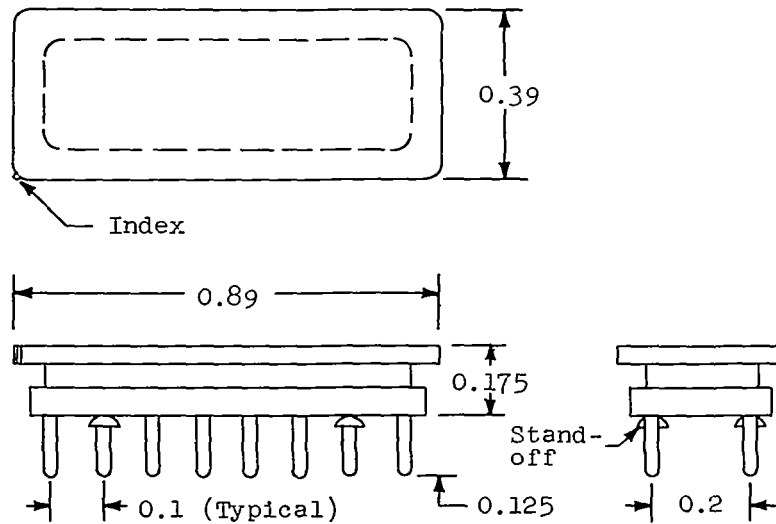
All dimensions in inches

PACKAGE TYPE 74

Leads are modified hexagon in cross section. Drill board at for 0.020 diameter lead.



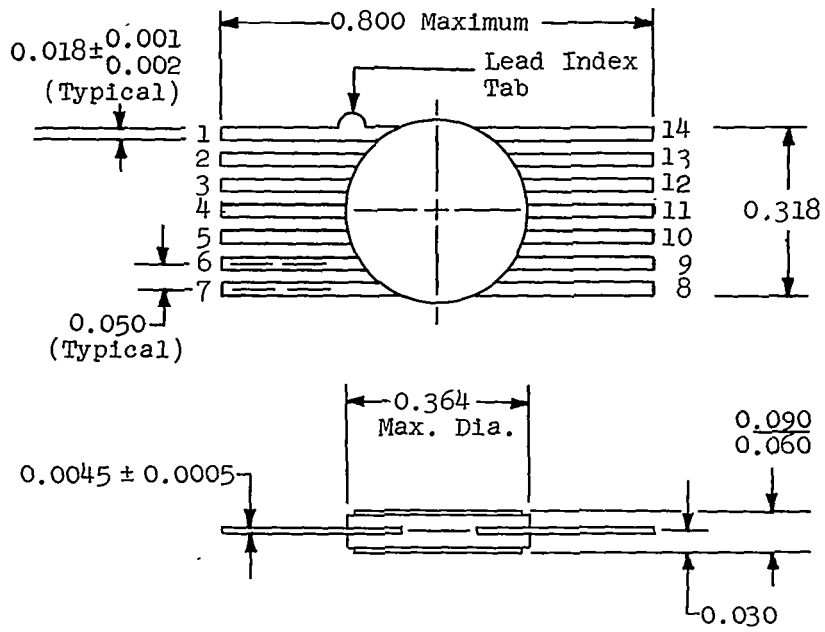
PACKAGE TO-116



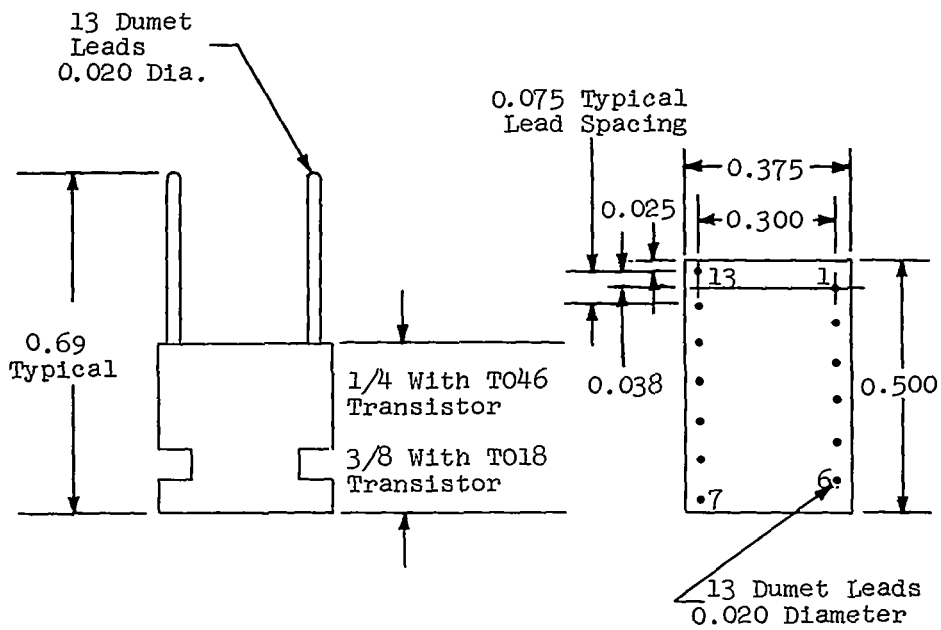
Notes:

1. All dimensions are nominal in inches.
2. All pins are 0.02 diameter.

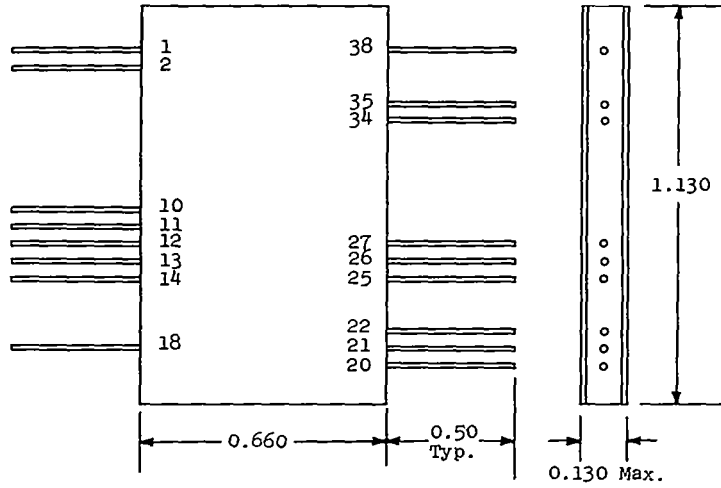
PACKAGE TYPE 76



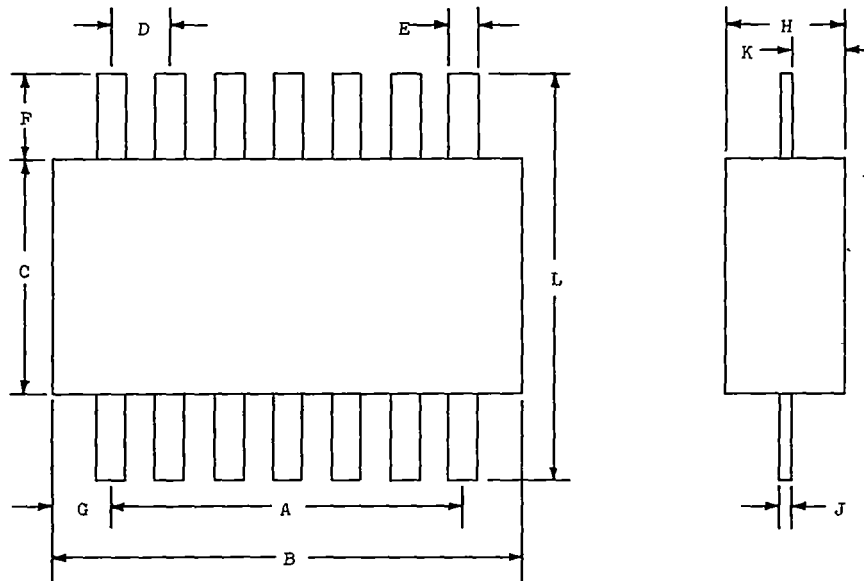
PACKAGE TYPE 77



PACKAGE TYPE 78

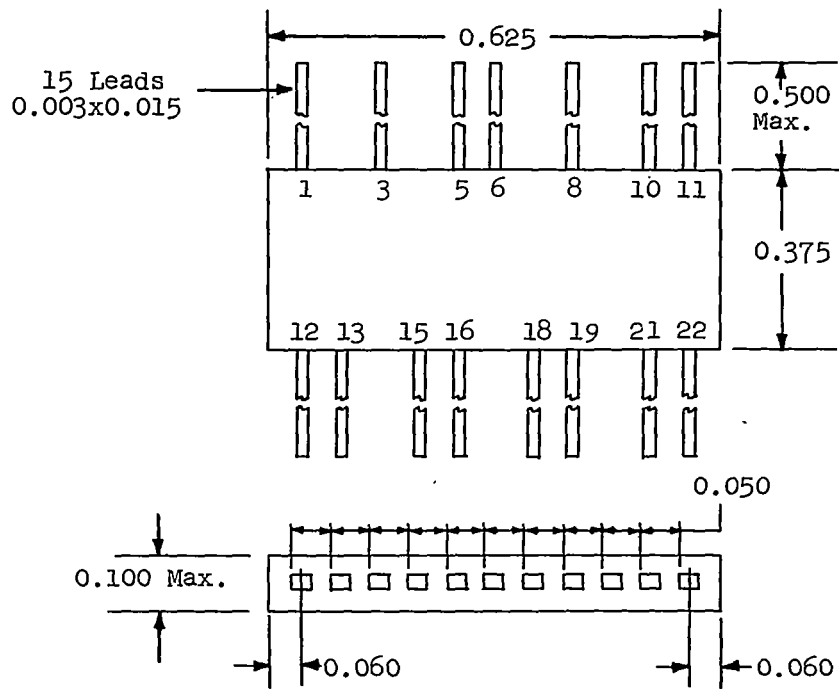


PACKAGE TYPE 79

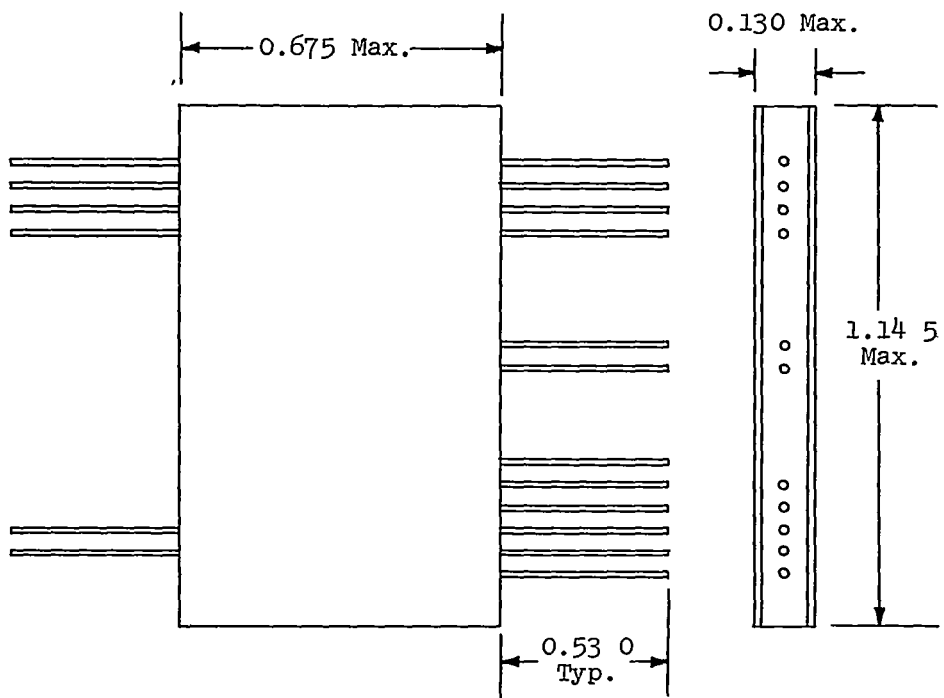


Type No.	A	B	C	D	E	F	G	H	J	K	L
80	0.300	0.360 0.380	0.140 0.160	0.047 0.053	0.014 0.016	0.125 Min.	0.035	0.065 Max.	0.0035 0.0045	0.015	
81		0.330 0.350	0.240 0.260	0.045 0.055	0.015 0.019	0.230 0.250	0.013 0.028	0.051 0.065	0.004 0.006	0.006 0.027	0.730 0.750
82		0.385 0.365	0.260 0.240	0.051 0.049	0.017 0.015	0.250 Min.		0.080 Max.	0.006 0.004	0.012 0.004	
83		0.390 0.375	0.390 0.375	0.55 0.45	0.017 0.015	0.500 Min.	0.038	0.075 Max.			
T087	0.410 0.360	0.275 0.240	0.055 0.045	0.019 0.010	0.070 Min.		0.070 0.030	0.006 0.003	0.035 0.005		
T088	0.350 0.330	0.260 0.240	0.055 0.045	0.019 0.010	0.070 Min.		0.070 0.030	0.006 0.003	0.035 0.005		
T095	0.329 0.308	0.260 0.240	0.055 0.045	0.019 0.010	0.070 Min.		0.070 0.030	0.006 0.003	0.035 0.005		

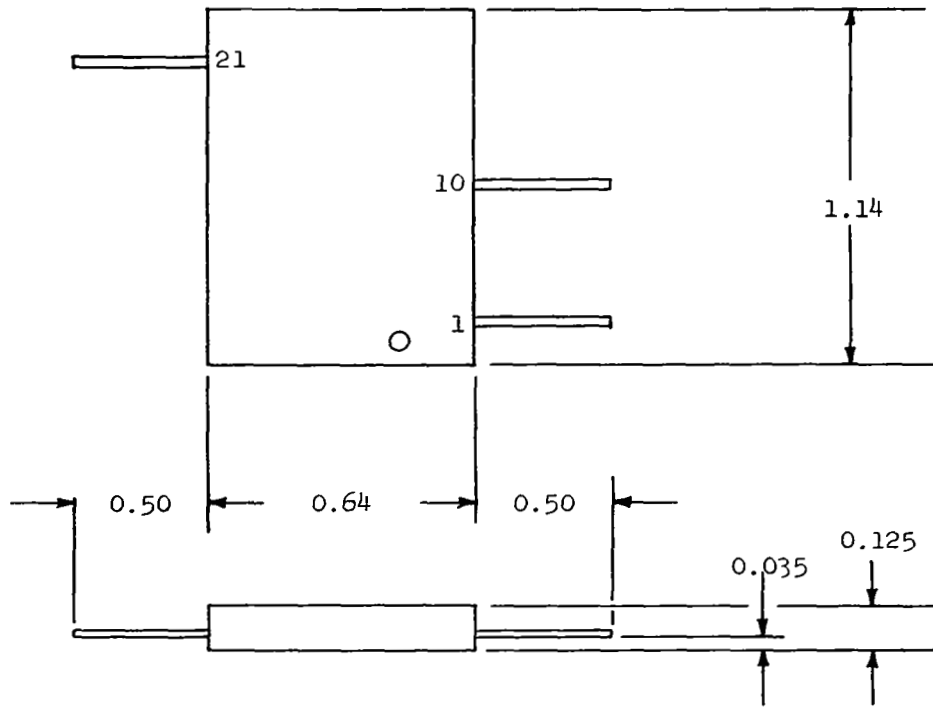
\*Package Type



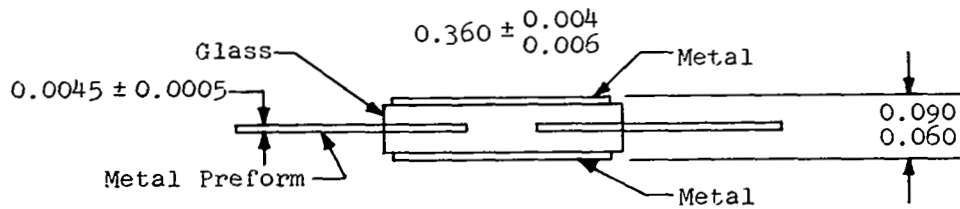
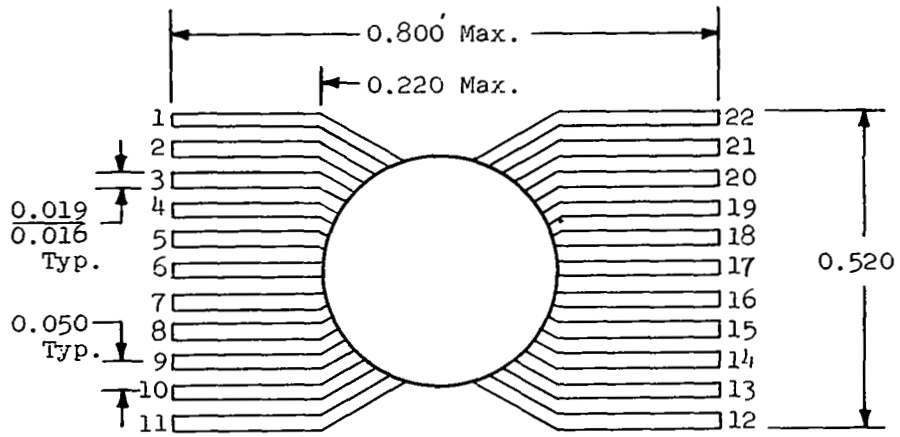
PACKAGE TYPE 85



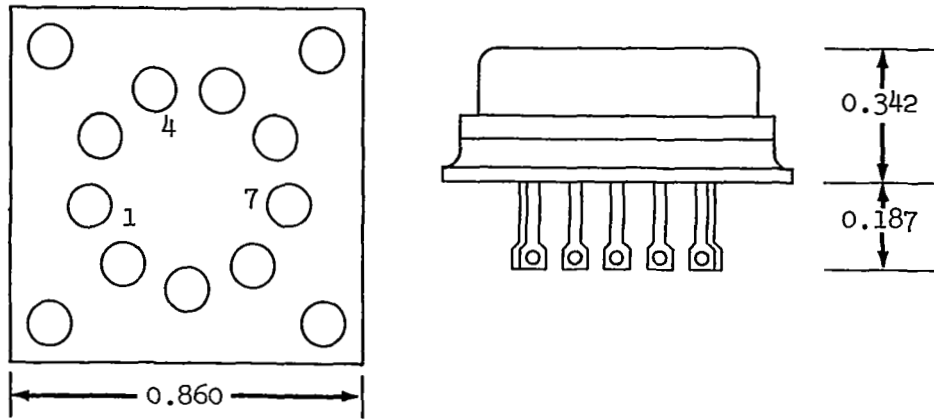
PACKAGE TYPE 86



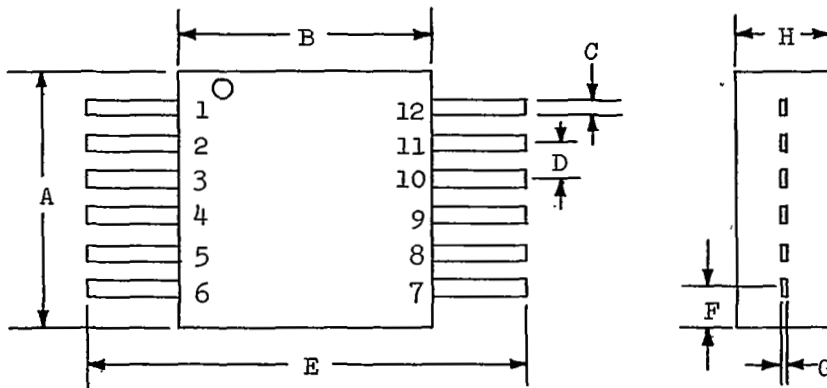
PACKAGE TYPE 87



PACKAGE TYPE 28

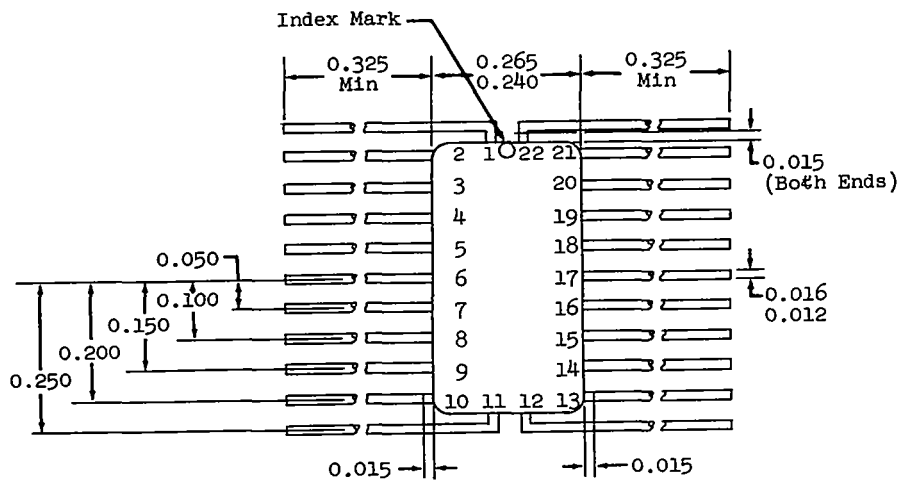


PACKAGE TYPE 89

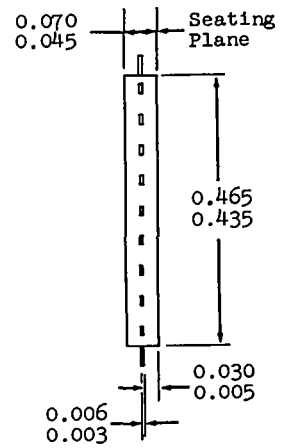


Type No.	A	B	C	D	E	F	G	H
90	0.375	0.375	0.015	0.050		0.062	0.003	0.085 Max.
91	0.375	0.250	0.015	0.050	0.690		0.005	0.060 Max.
92	0.406 0.375	0.406 0.375	0.017 0.013	0.055 0.045			0.006 0.004	0.055 Max.
93	0.390 Max.	0.390 Max.	0.015	0.050		0.062	0.003	0.100 Max.





PACKAGE TYPE 97



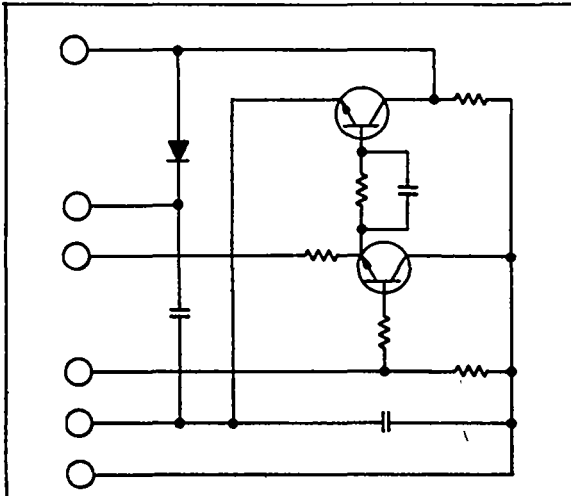
## 2.5 Schematic Drawings

Schematic drawings of microelectronic devices are presented on the following pages. Each drawing is referred to -- by schematic number -- in the Catalog of Devices. In many instances, the circuit configuration shown is only a basic representation of the actual circuit. The descriptive terms following the generic name in the Circuit Description column of the Catalog of Devices must be applied to modify as necessary the circuit shown. The Circuit Description column may indicate a need for modification in the following characteristics:

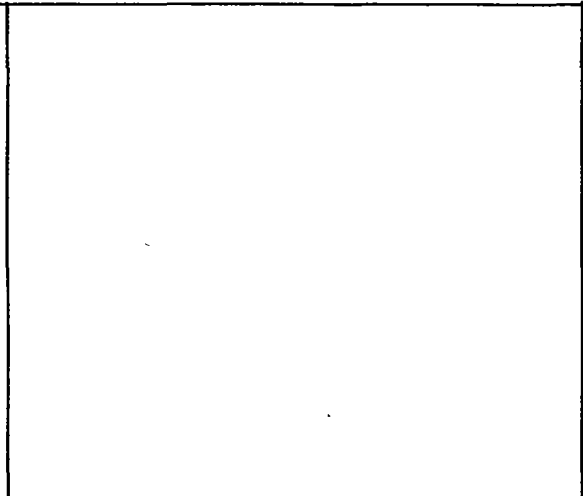
- Multiple circuit (dual, triple, etc.)
- Number of inputs
- Expandable nodes

Where appropriate, additional differences between the configuration shown and the actual configuration are indicated by a letter code in the Schematic Number column in the Catalog of Devices. These codes are explained in Table 6.

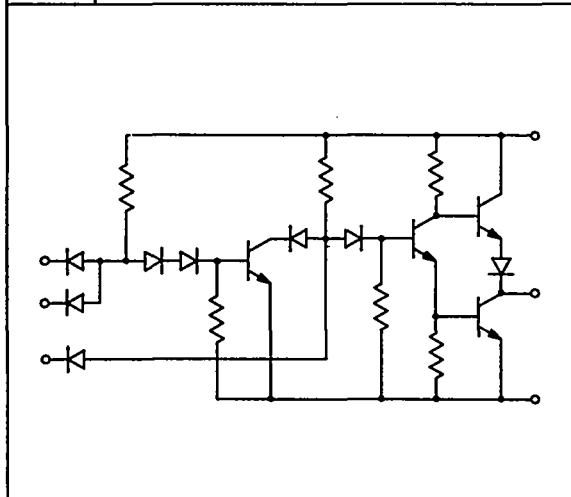




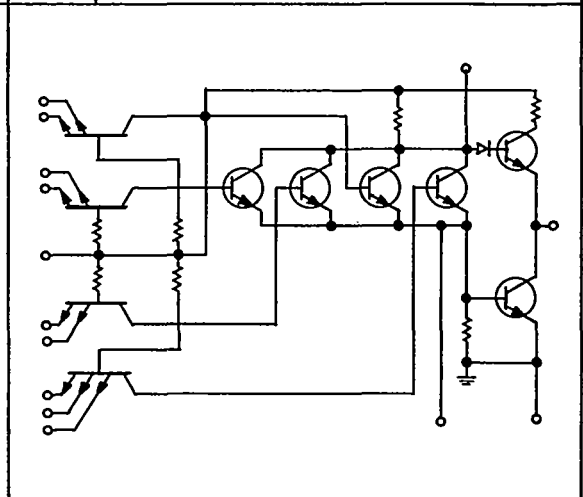
101



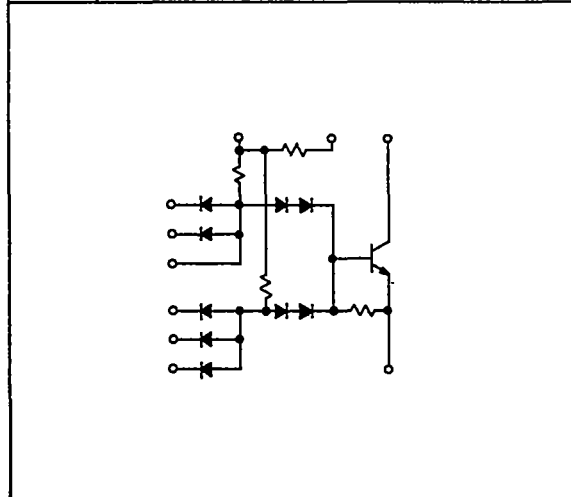
104



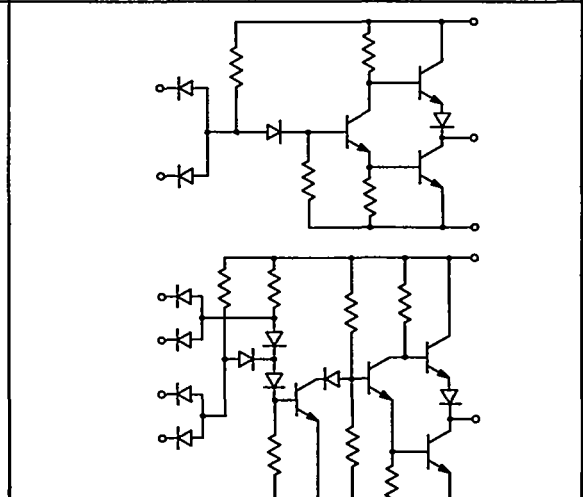
102



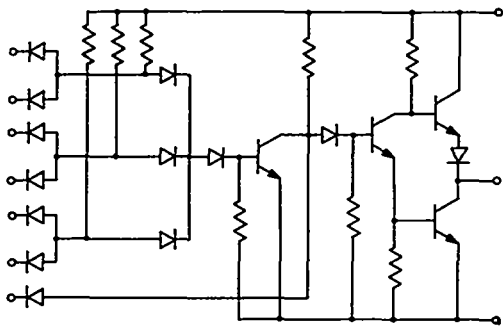
105



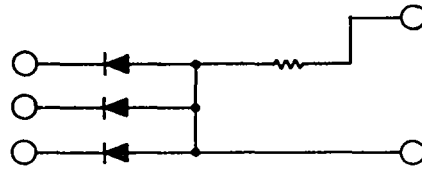
103



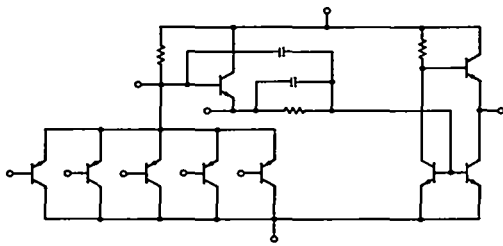
106



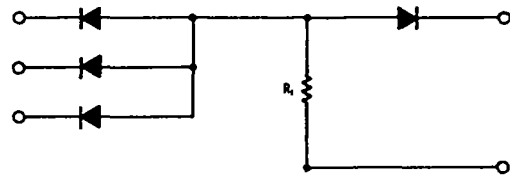
107



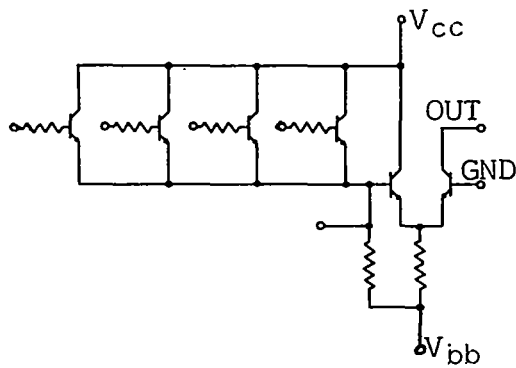
110



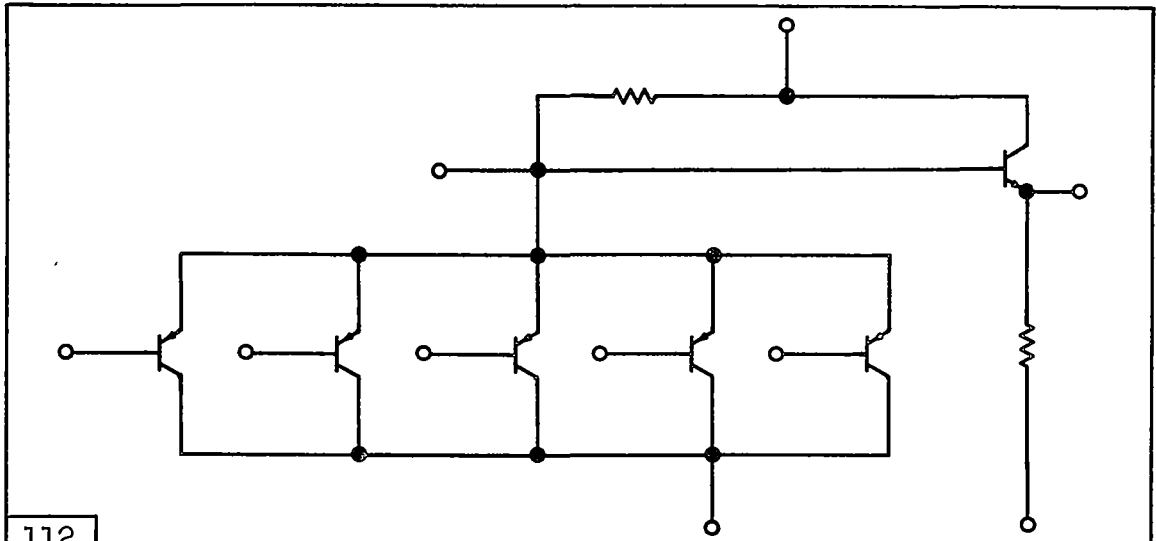
108



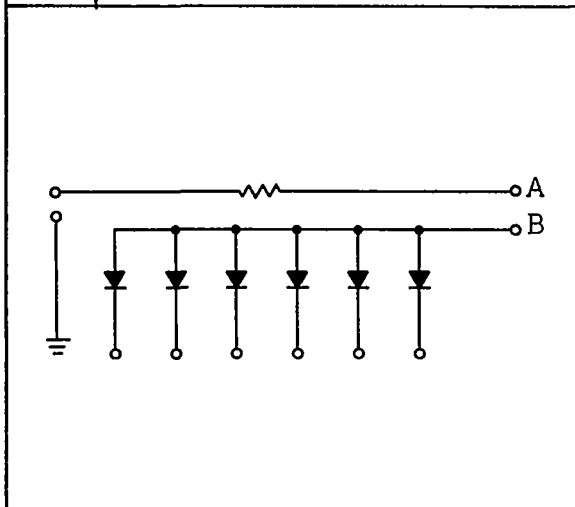
111



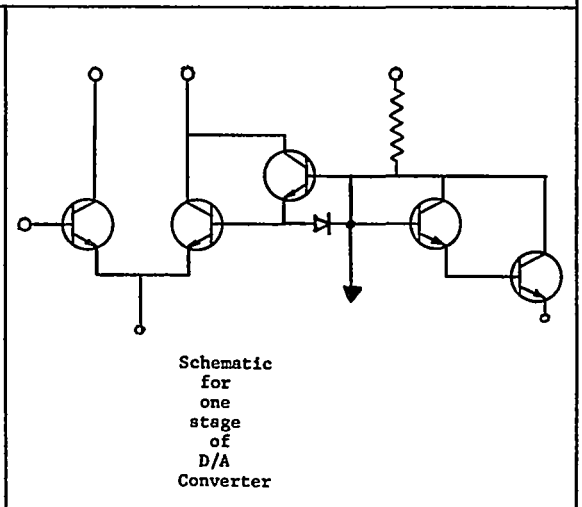
109



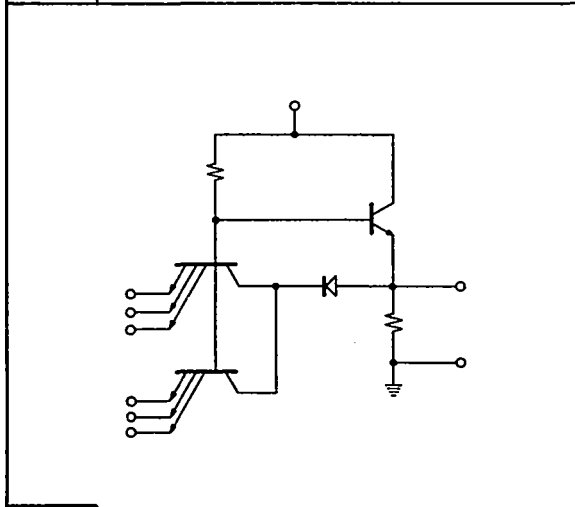
112



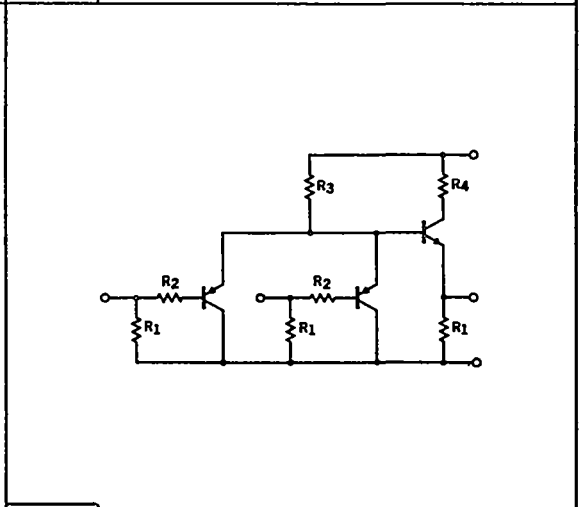
113



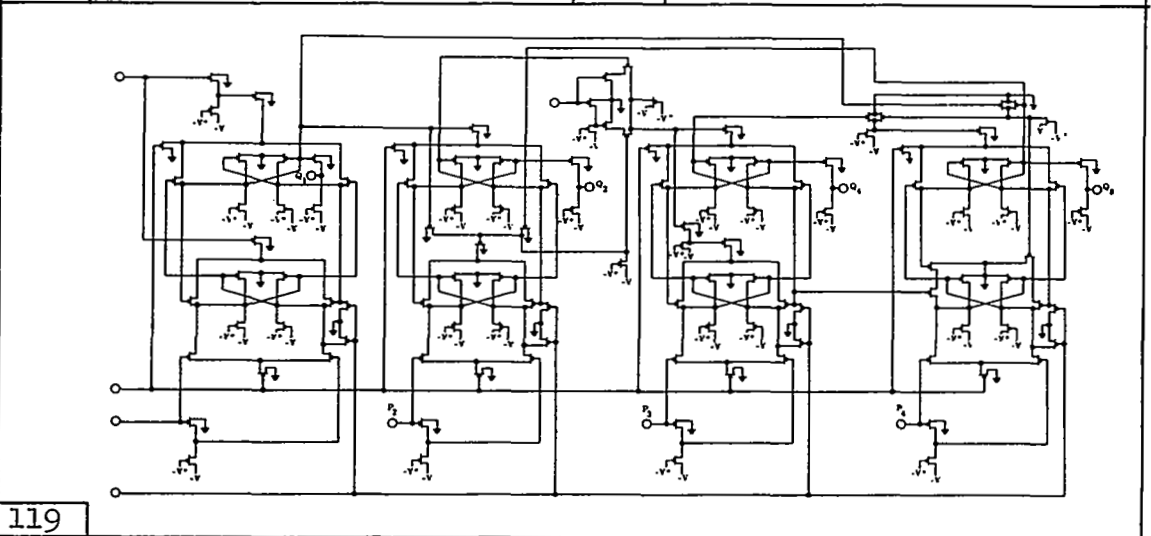
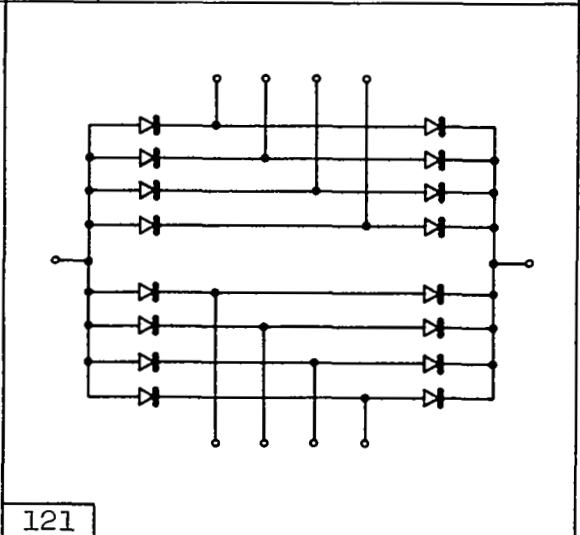
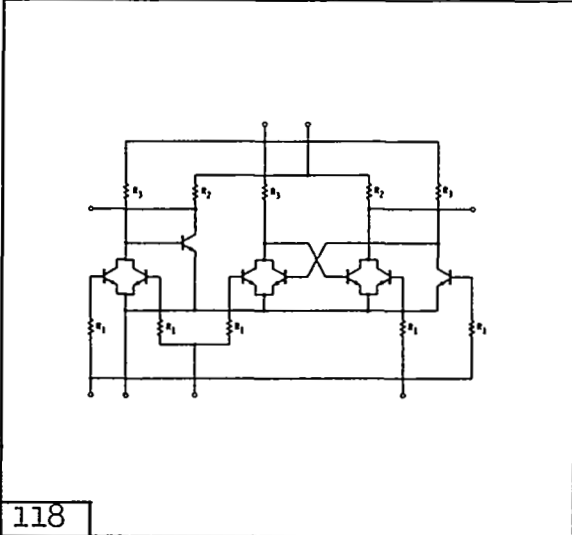
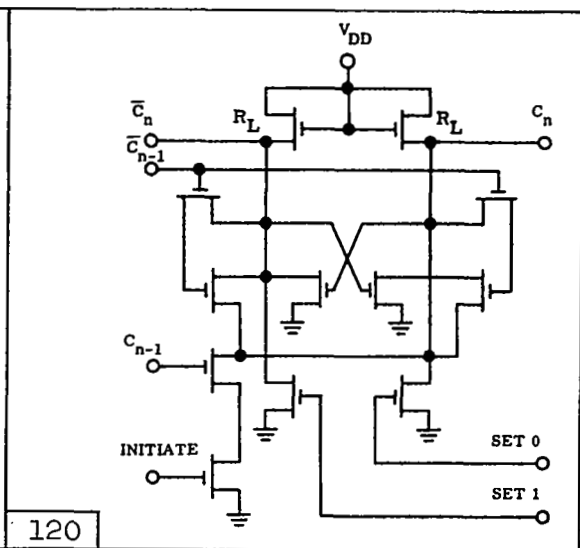
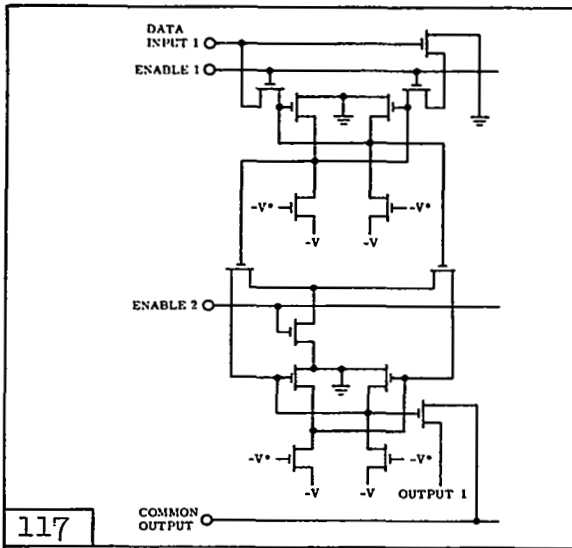
115

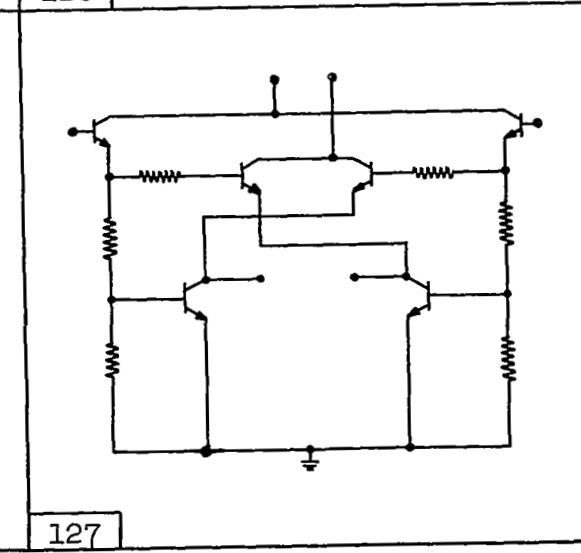
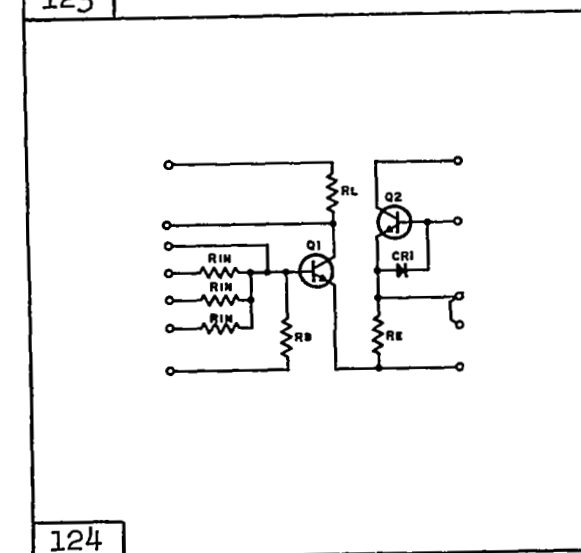
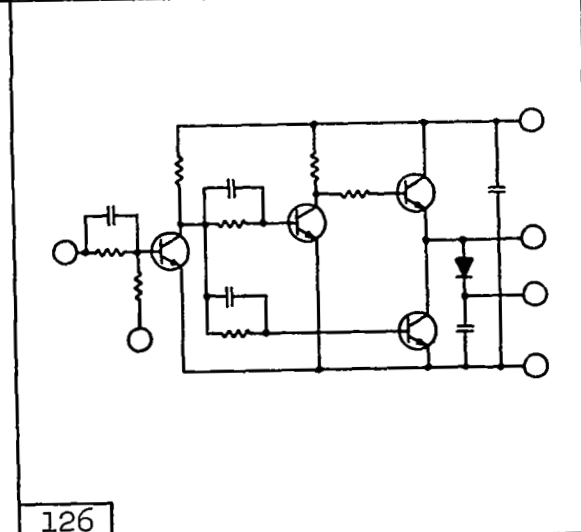
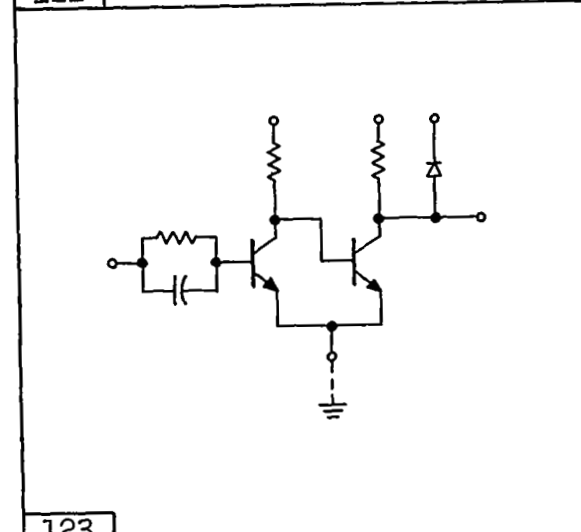
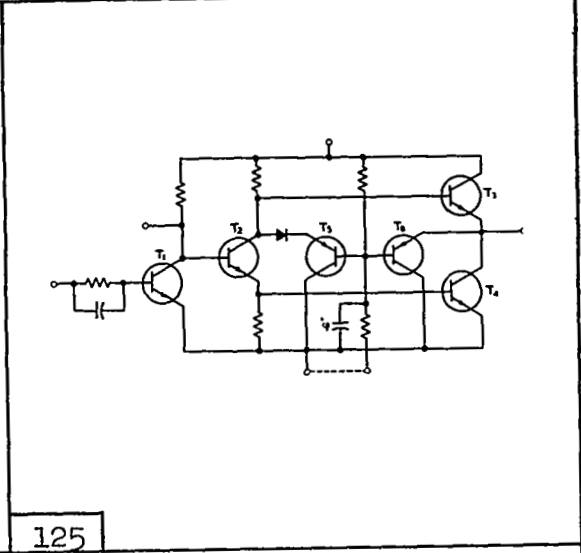
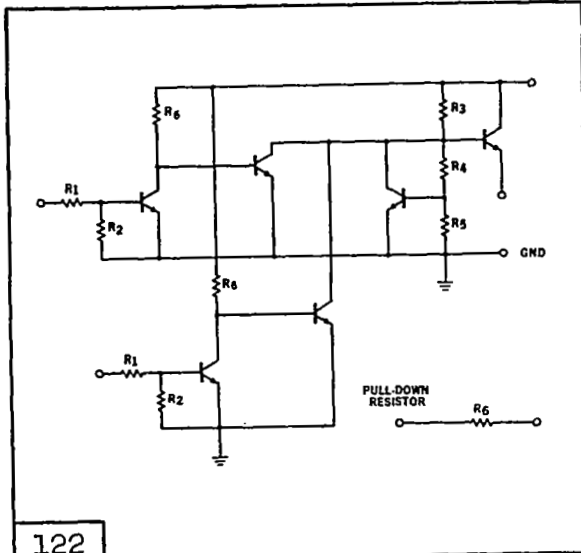


114

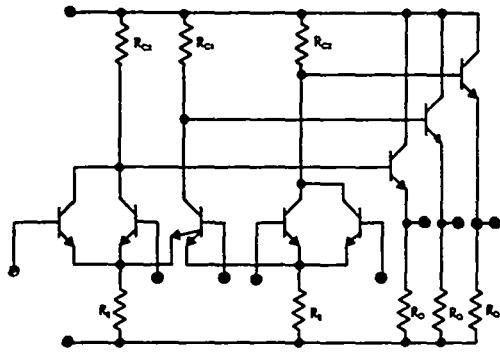


116

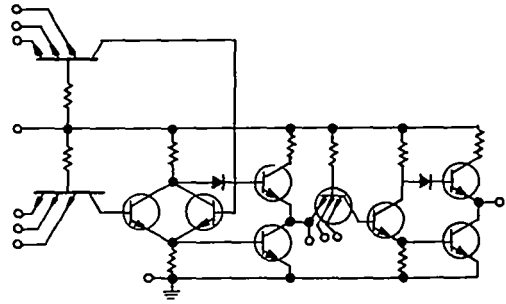




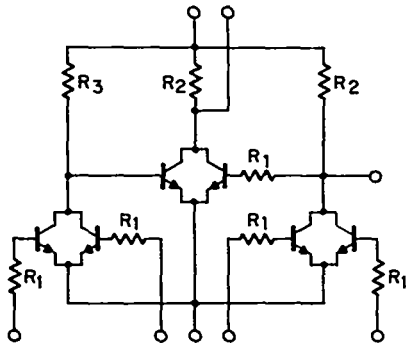




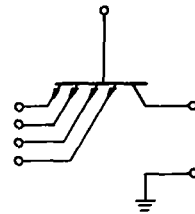
128



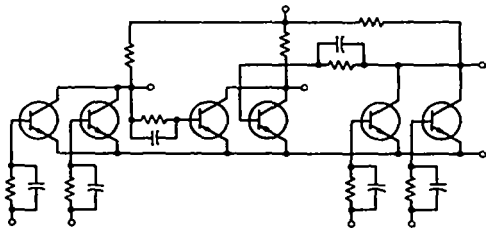
131



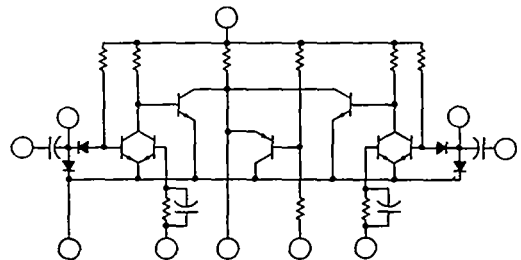
129



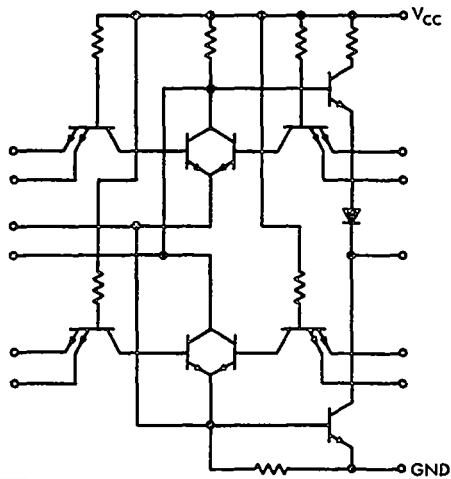
132



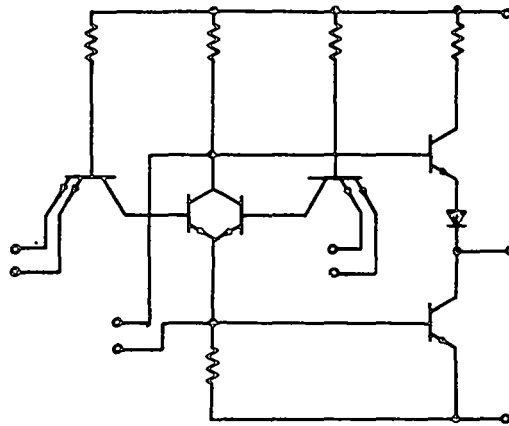
130



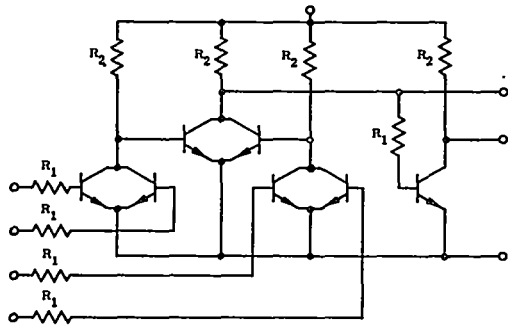
133



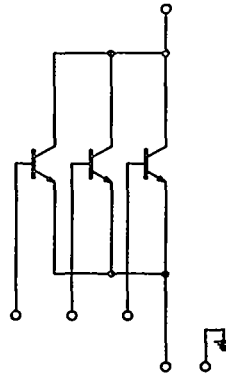
134



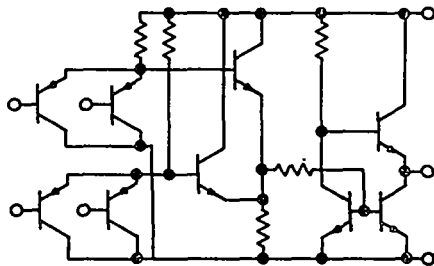
137



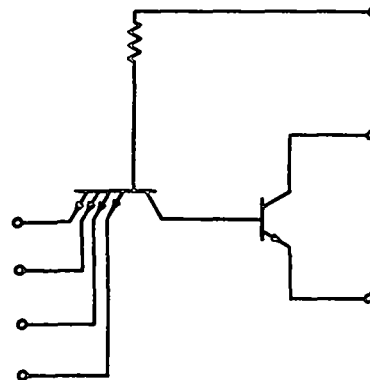
135



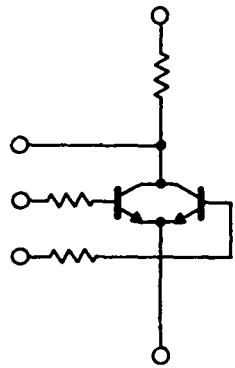
138



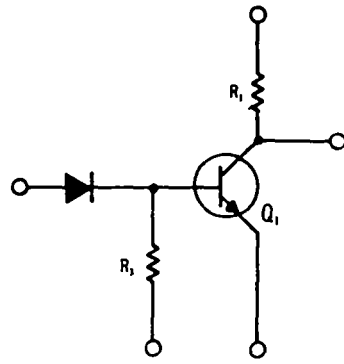
136



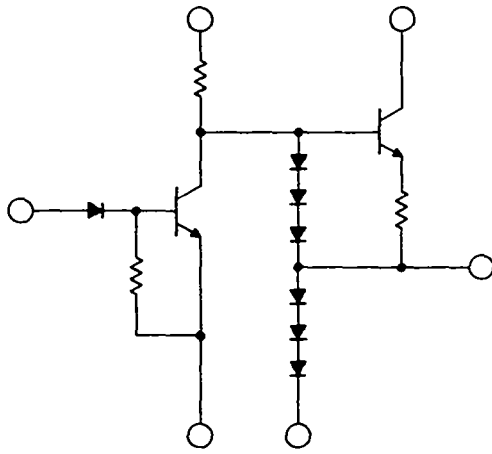
139



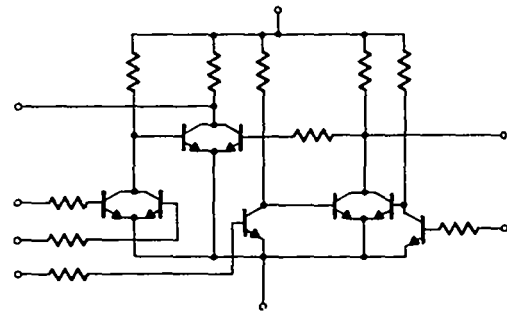
140



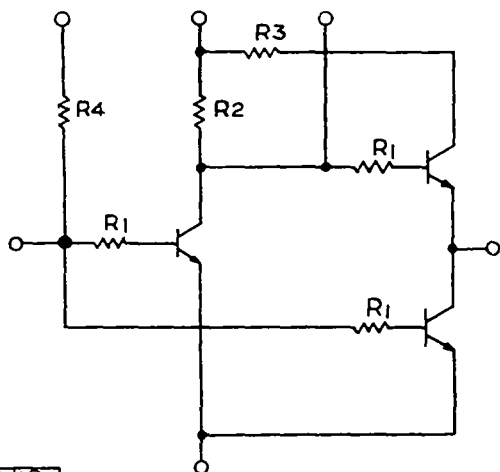
143



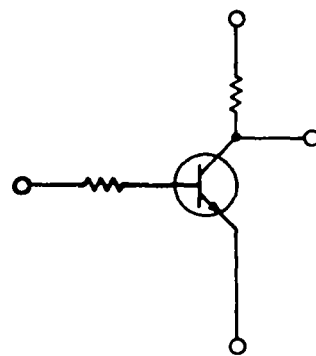
141



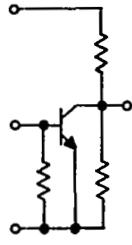
144



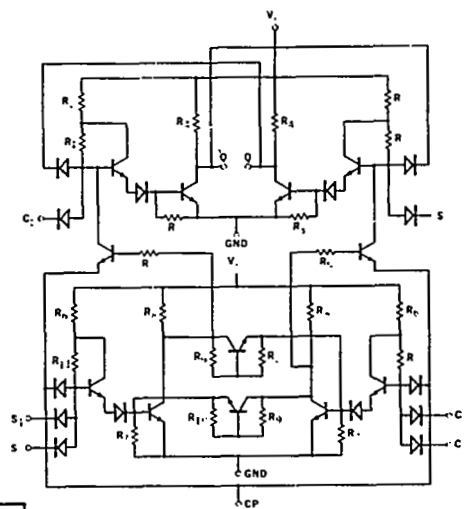
142



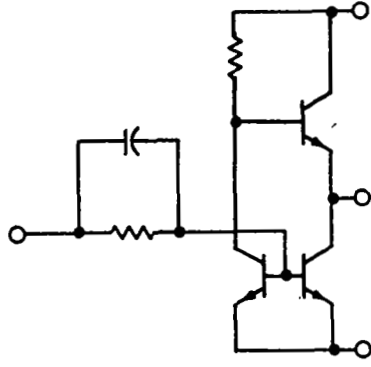
145



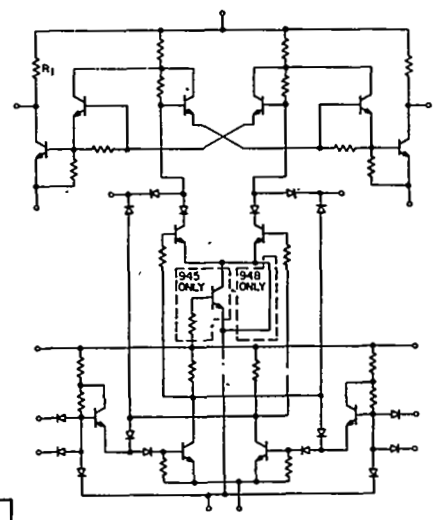
146



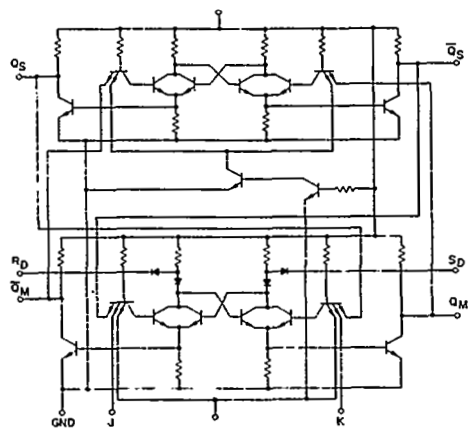
149



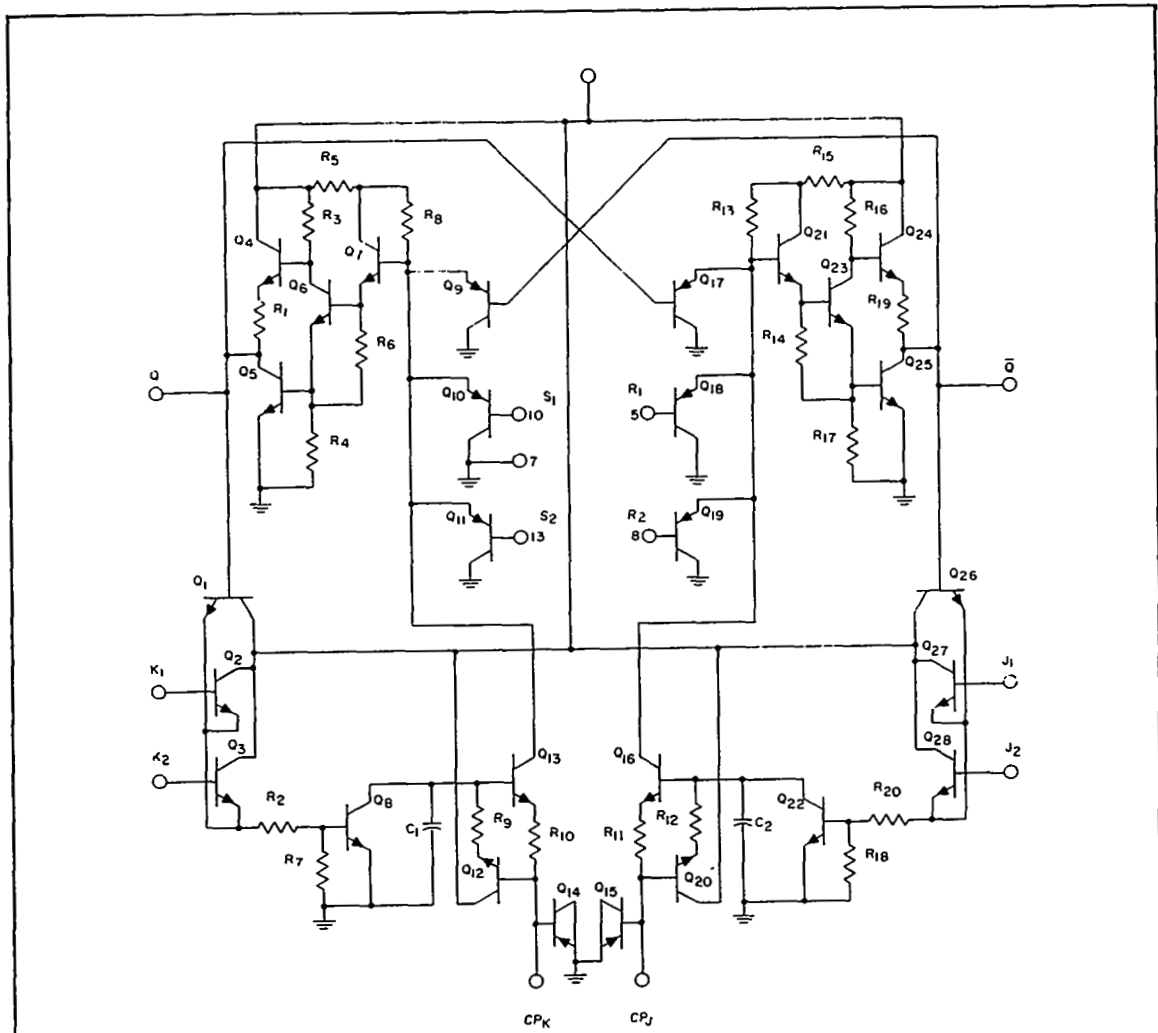
147



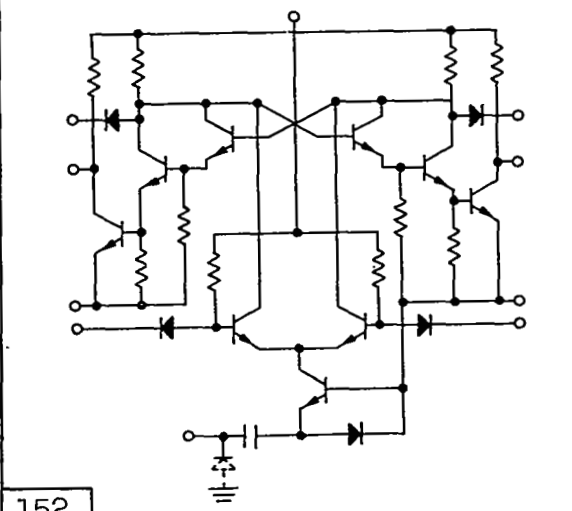
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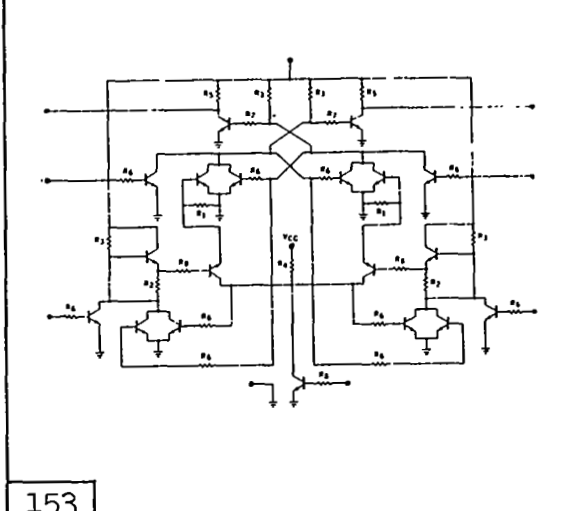
148



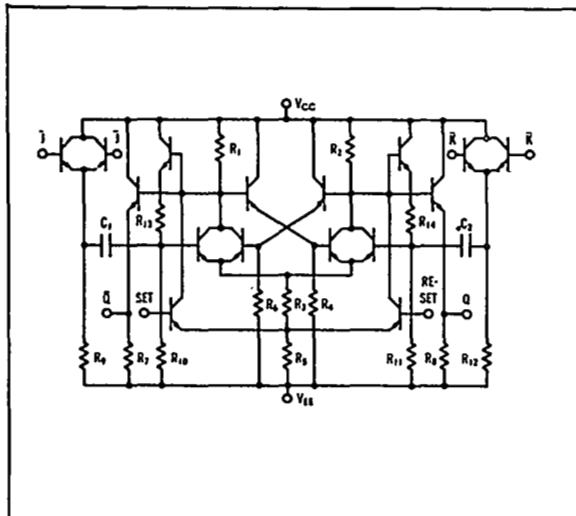
151



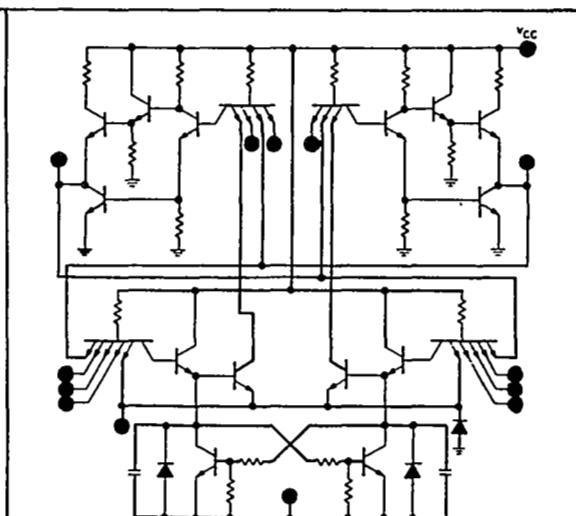
152



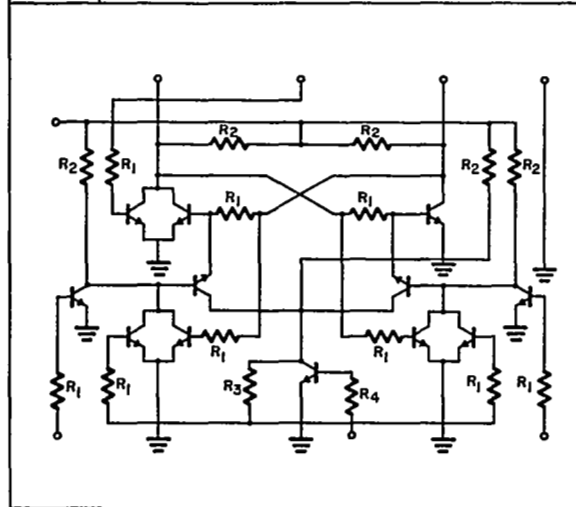
153



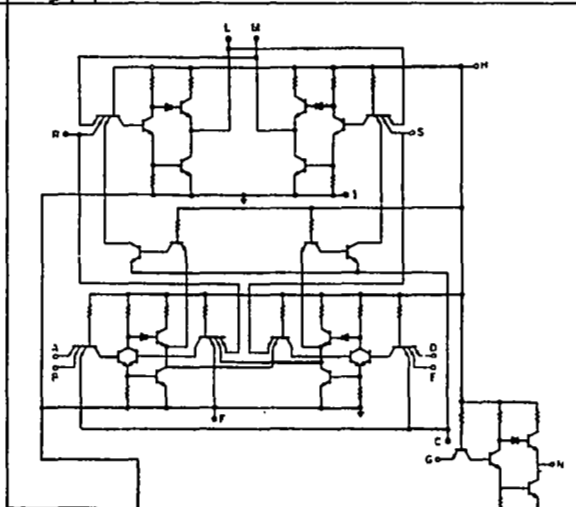
154



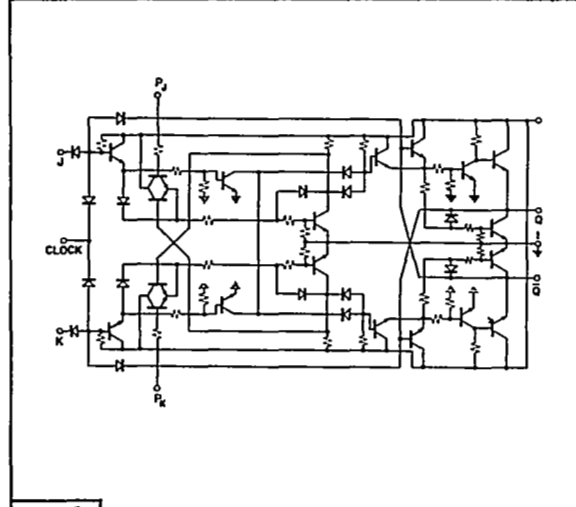
157



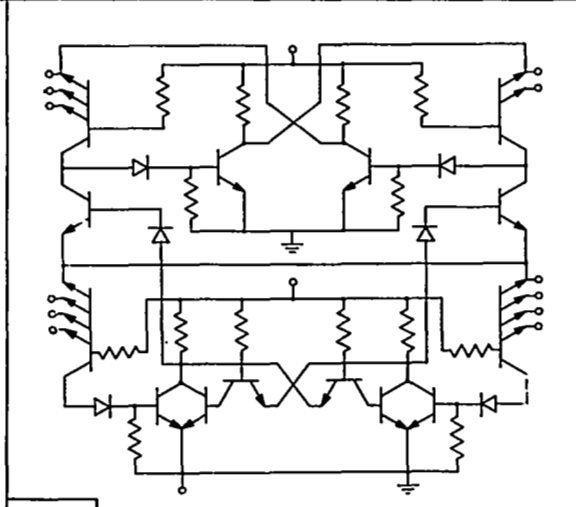
155



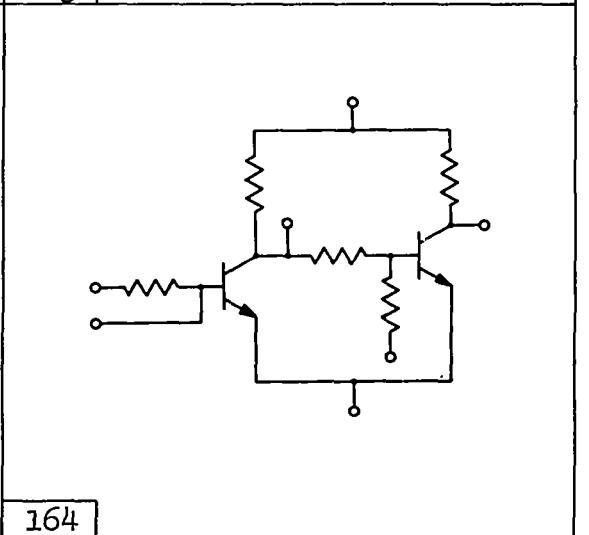
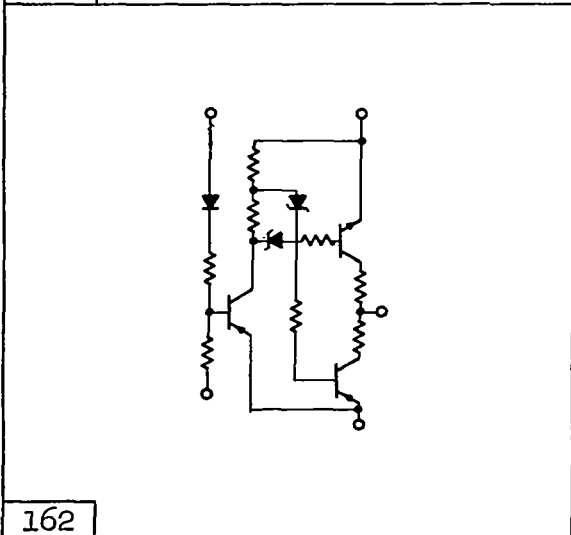
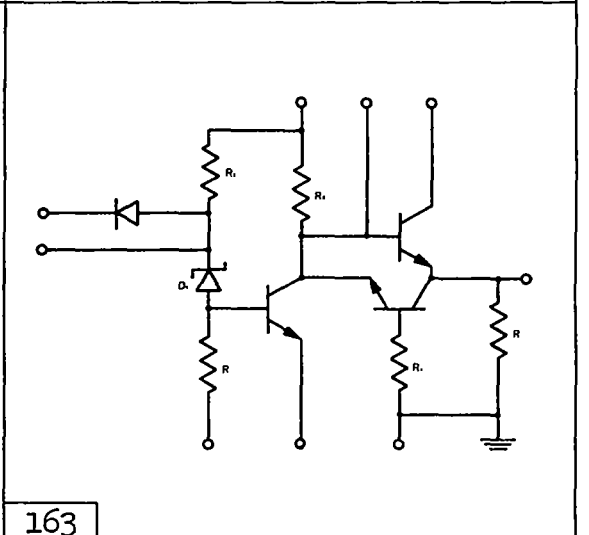
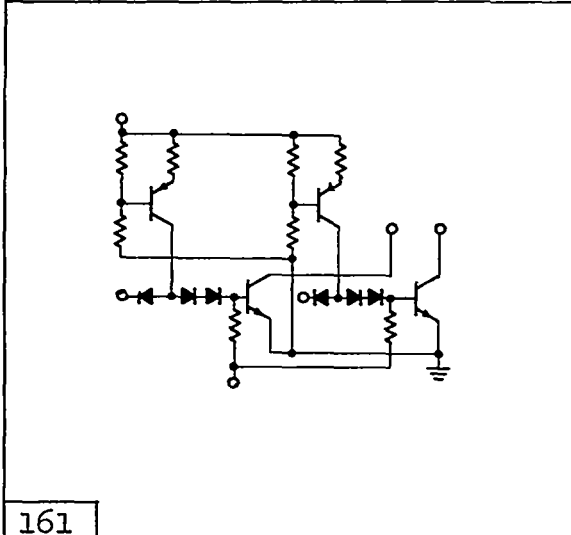
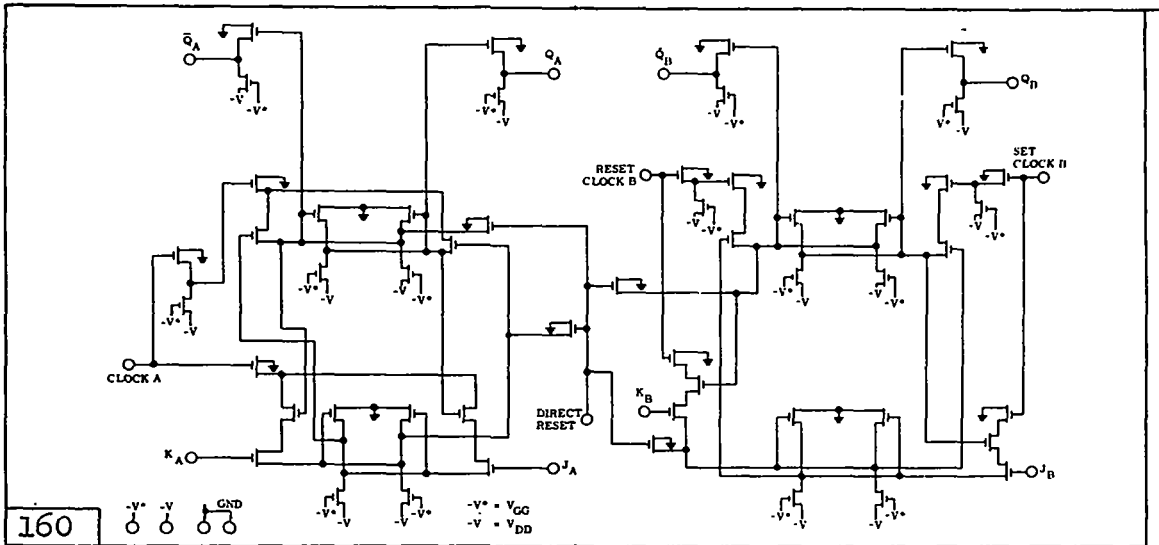
158

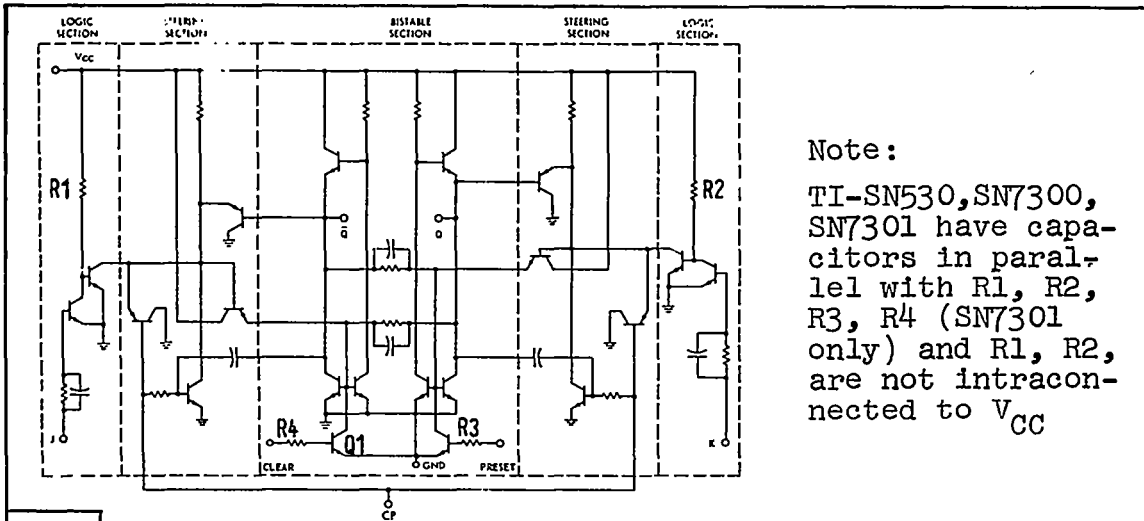


156



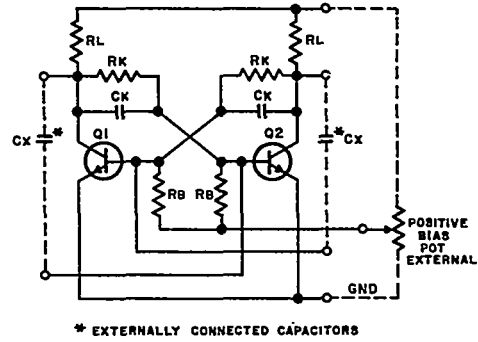
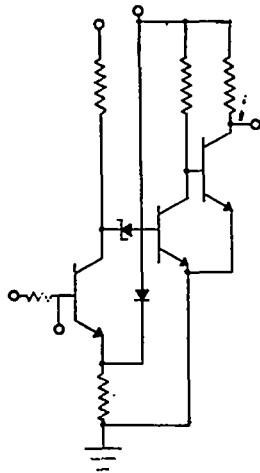
159





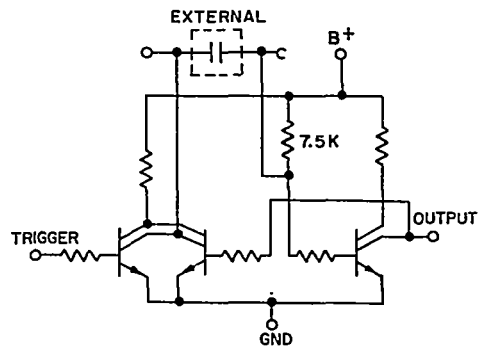
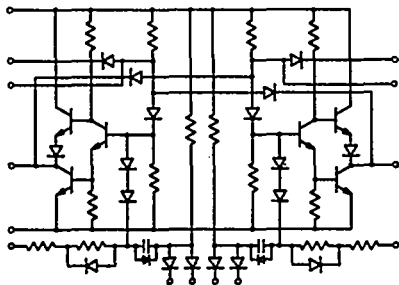
Note:  
 TI-SN530, SN7300,  
 SN7301 have capacitors in parallel with R1, R2, R3, R4 (SN7301 only) and R1, R2, are not intraconnected to V<sub>CC</sub>

165



166

168

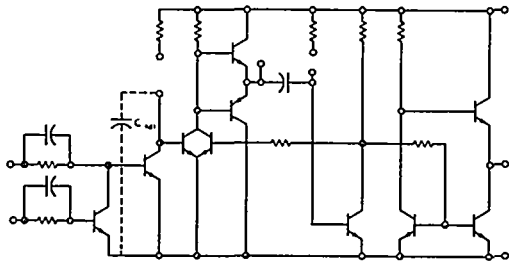


167

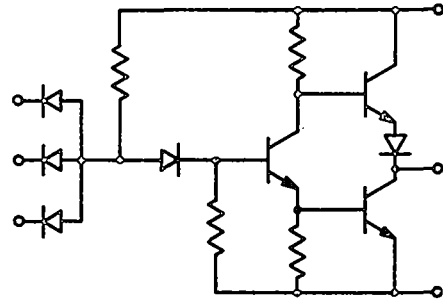
169



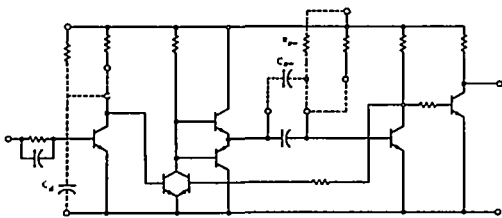




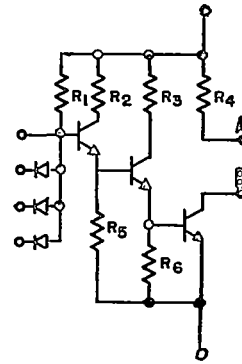
176



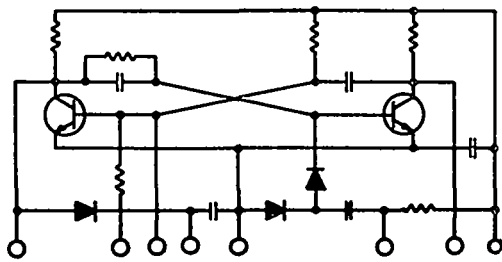
179



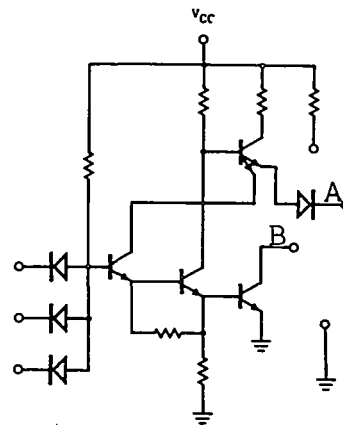
177



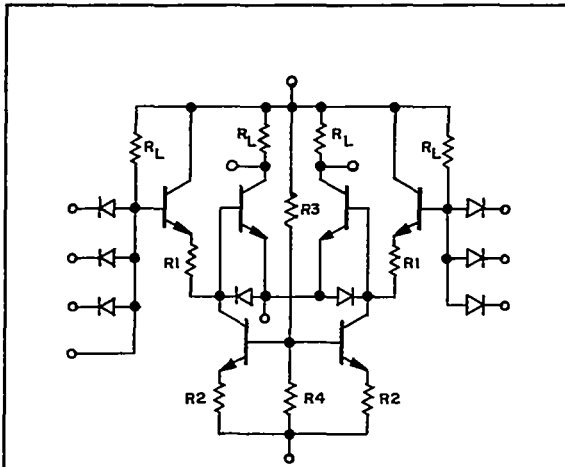
180



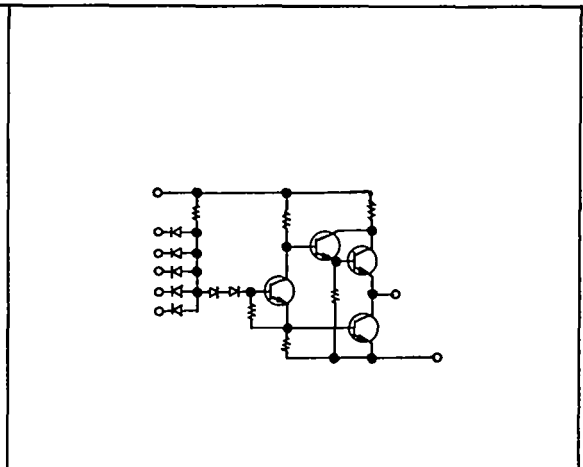
178



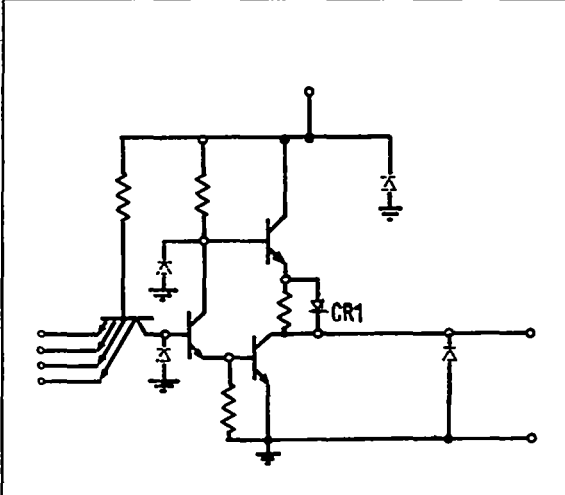
182



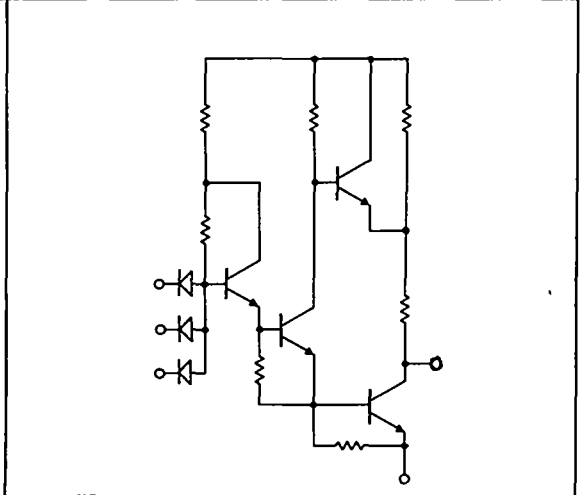
183



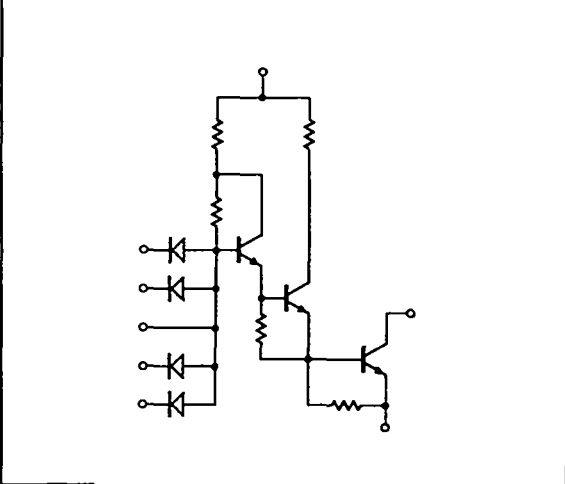
186



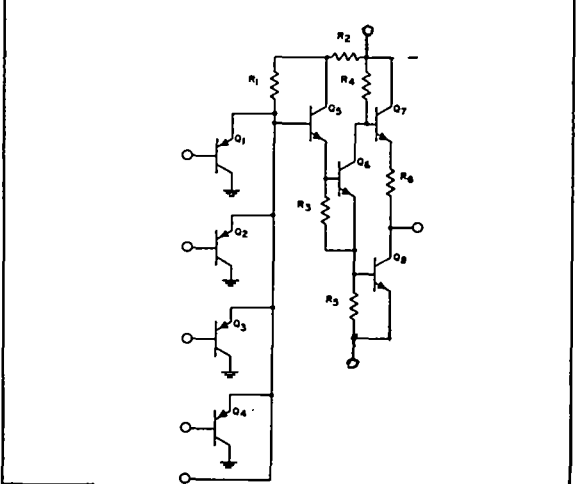
184



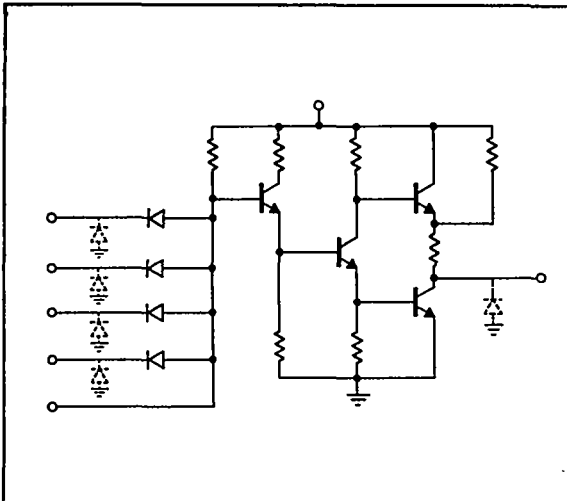
187



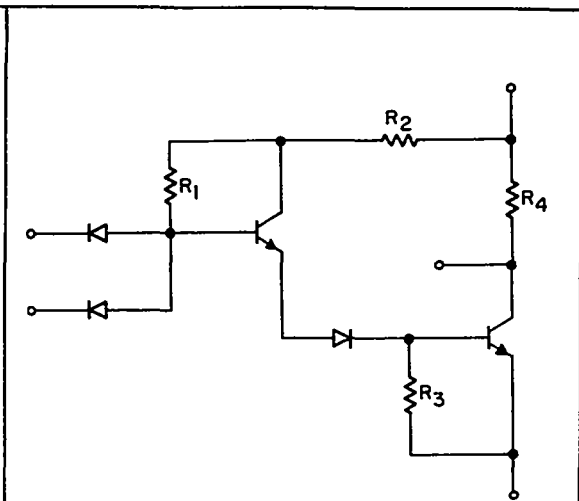
185



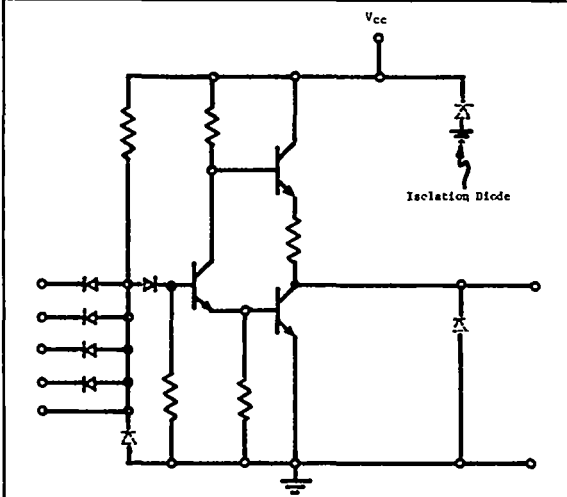
188



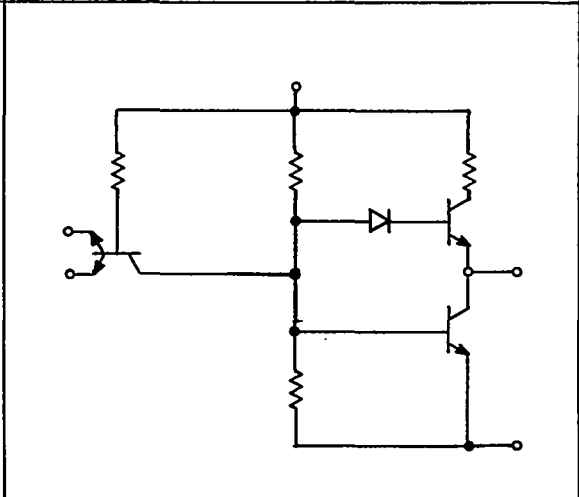
189



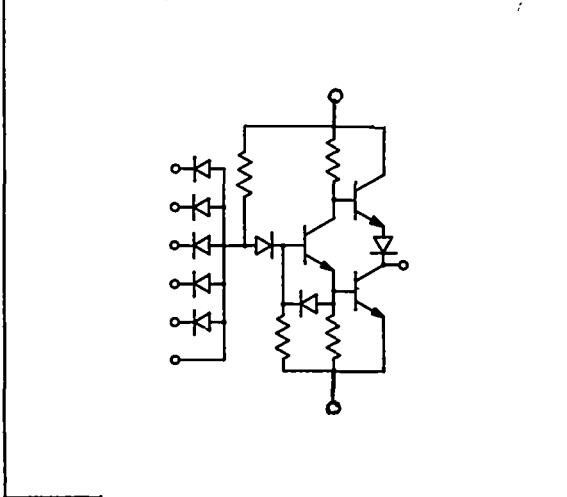
192



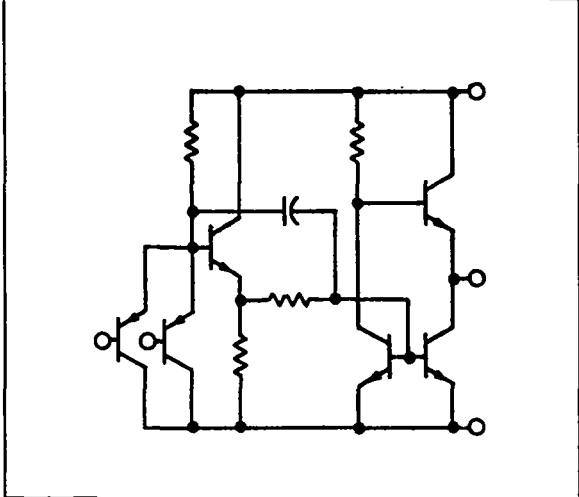
190



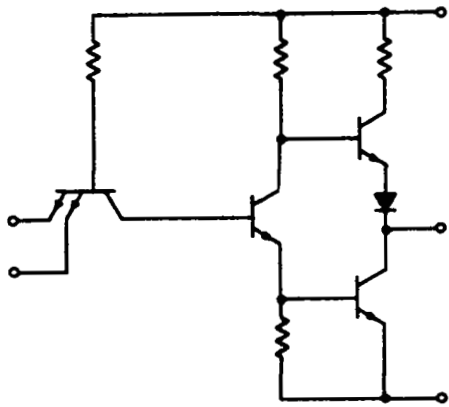
193



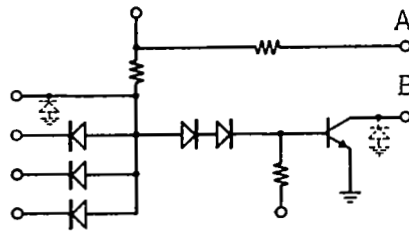
191



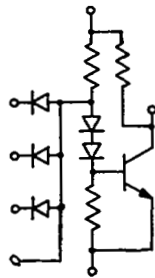
194



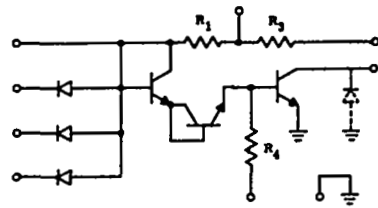
195



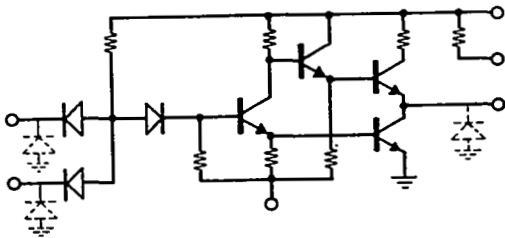
198



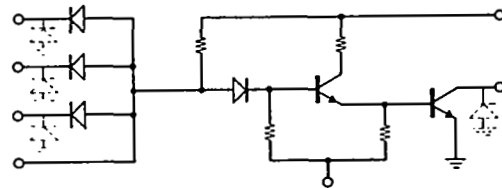
196



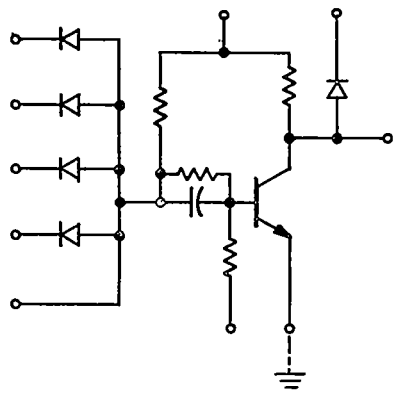
199



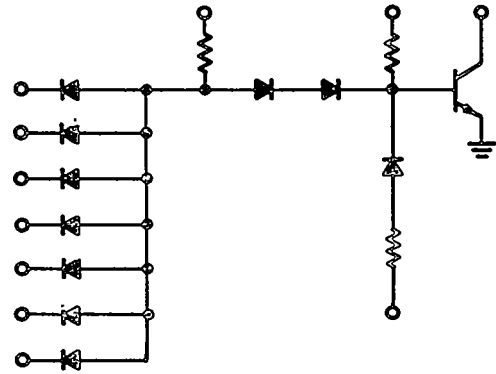
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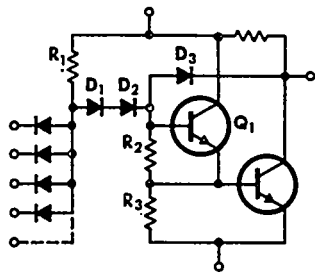
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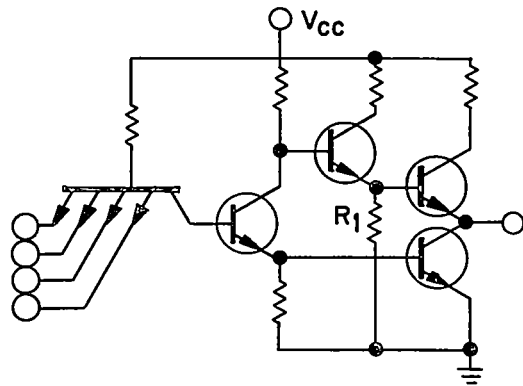
201



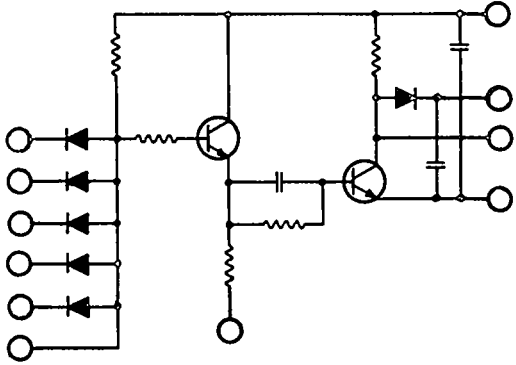
204



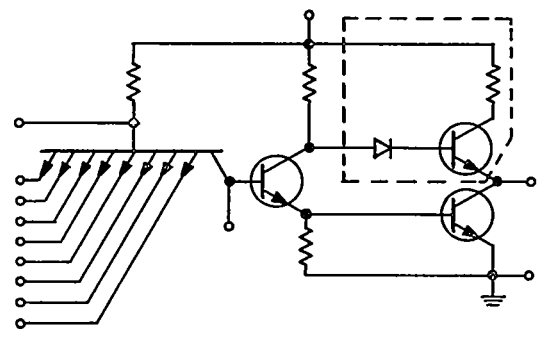
202



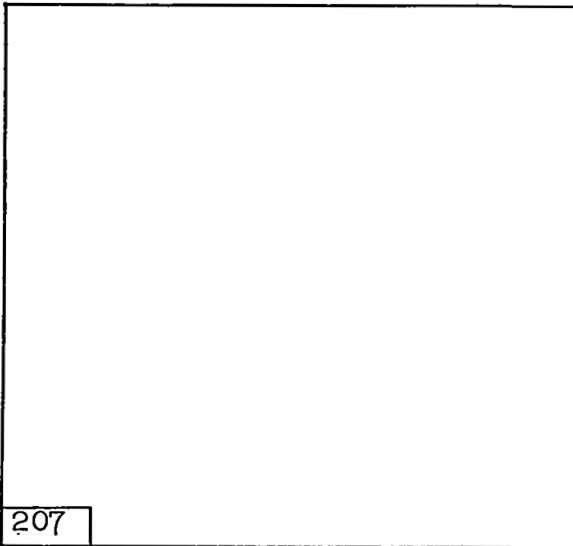
205



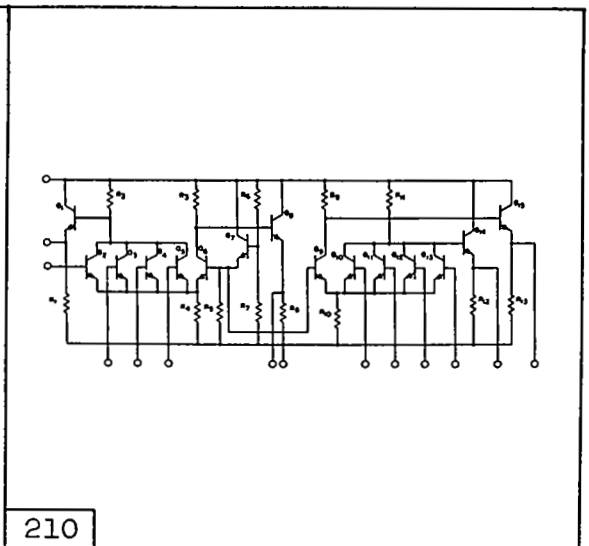
203



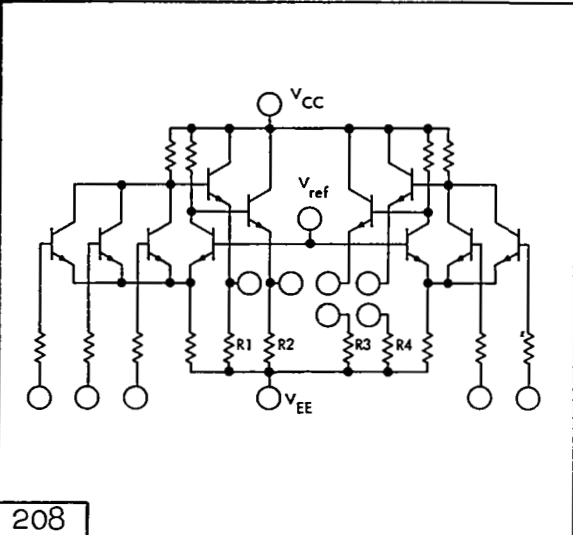
206



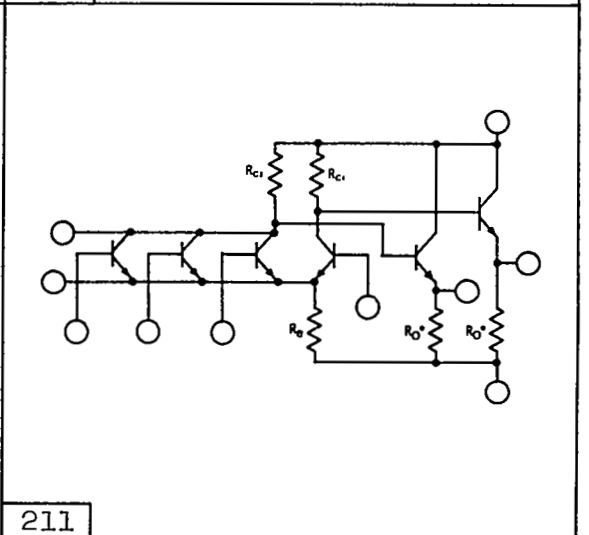
207



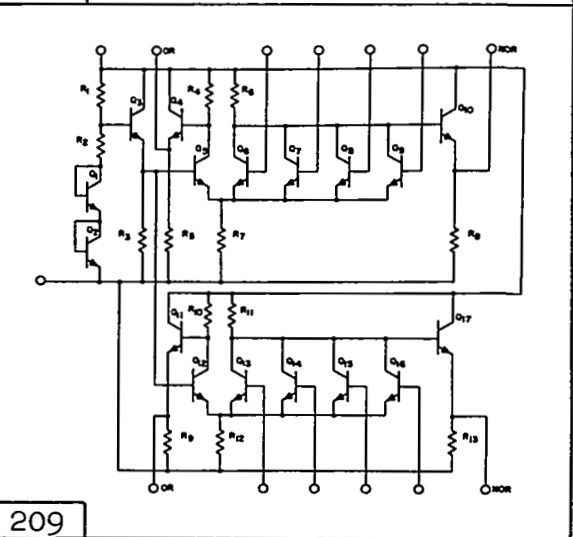
210



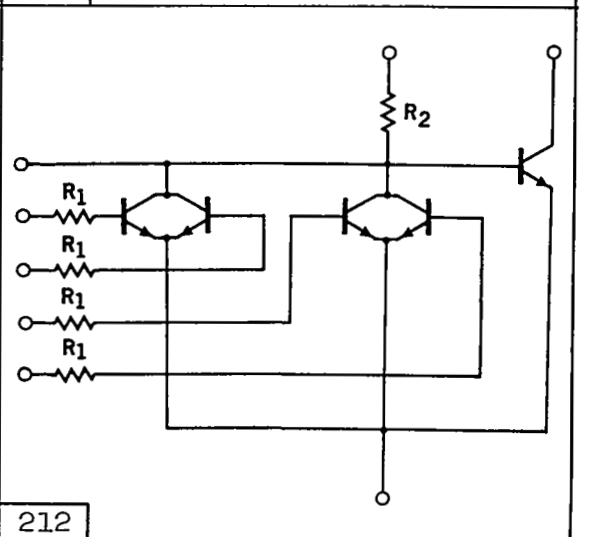
208



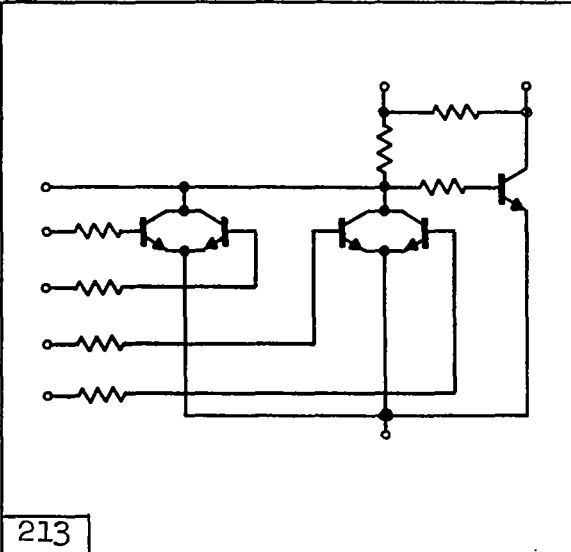
211



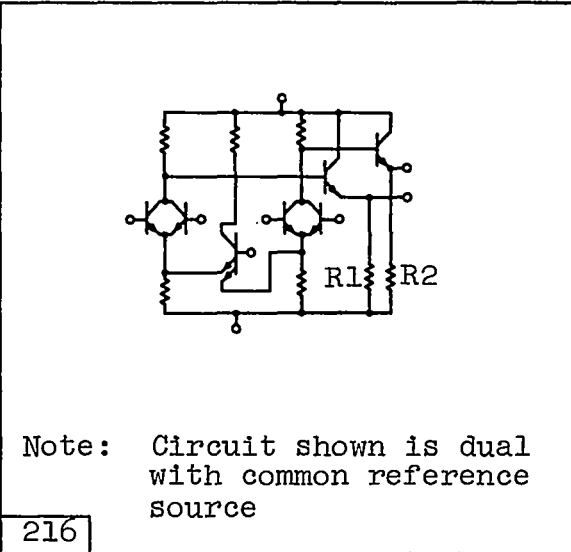
209



212

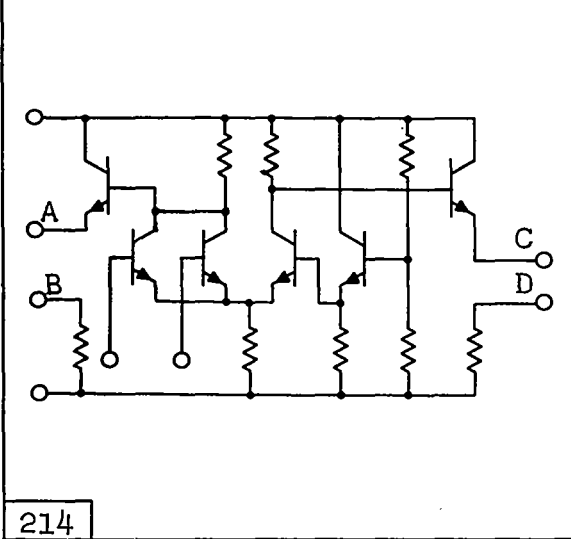


213

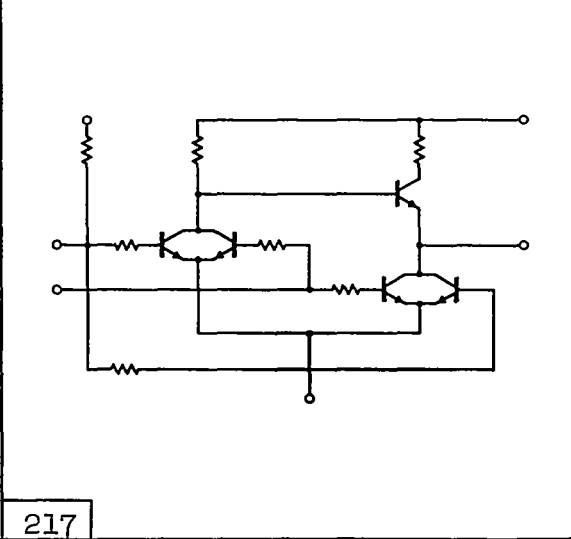


Note: Circuit shown is dual with common reference source

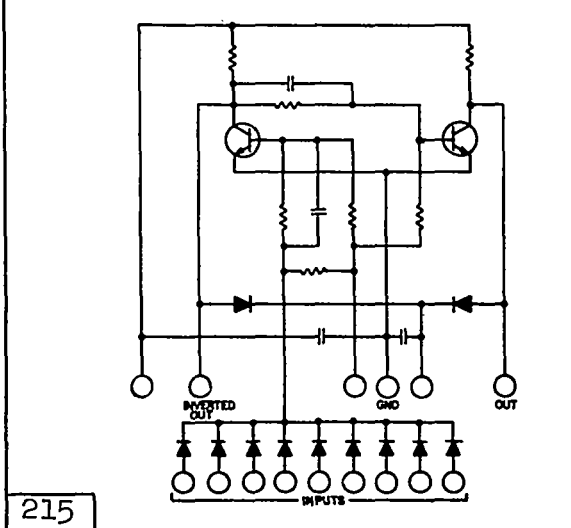
216



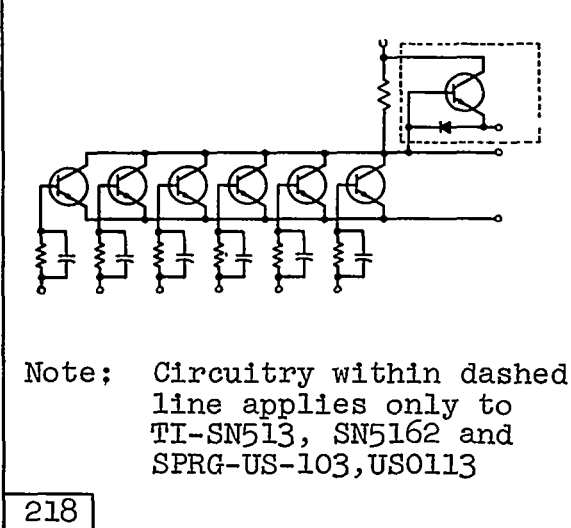
214



217



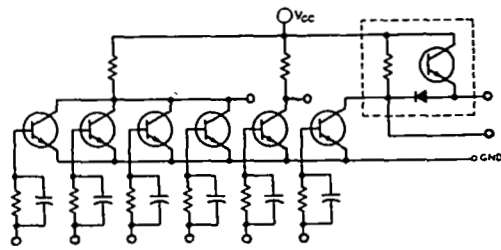
215



Note; Circuitry within dashed line applies only to TI-SN513, SN5162 and SPRG-US-103, US0113

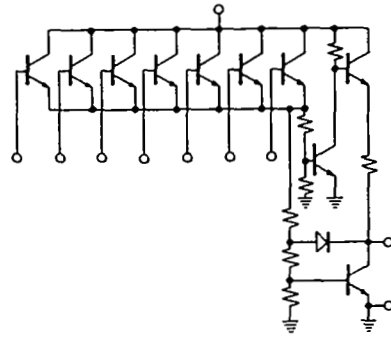
218



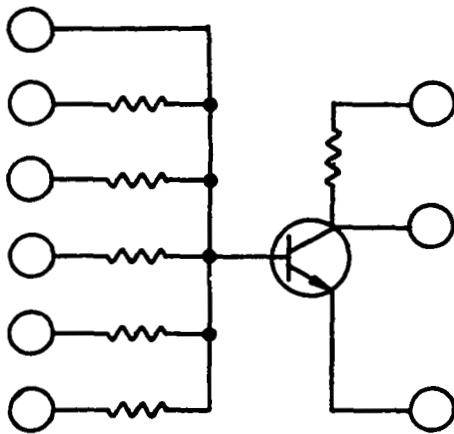


Note: Circuitry within dashed line applies only to SPRG-US0115

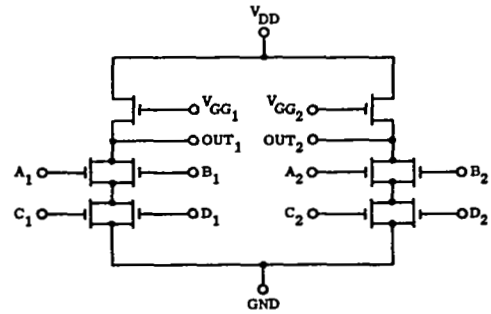
219



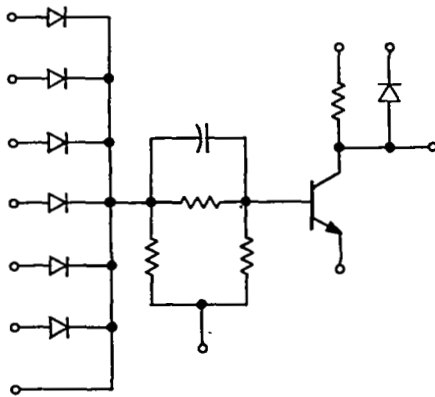
222



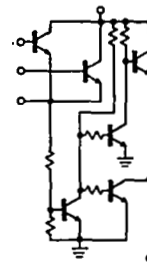
220



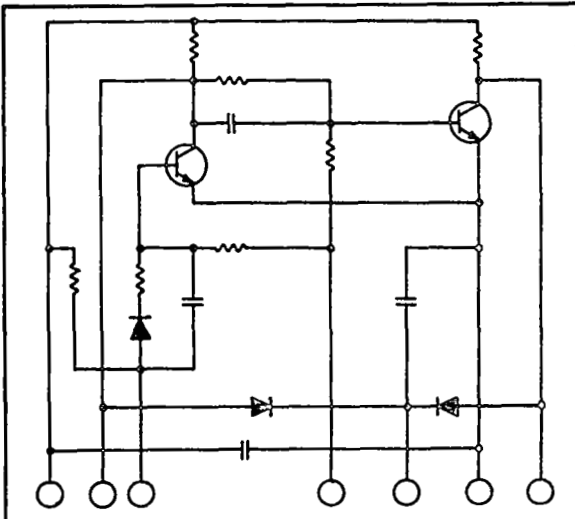
223



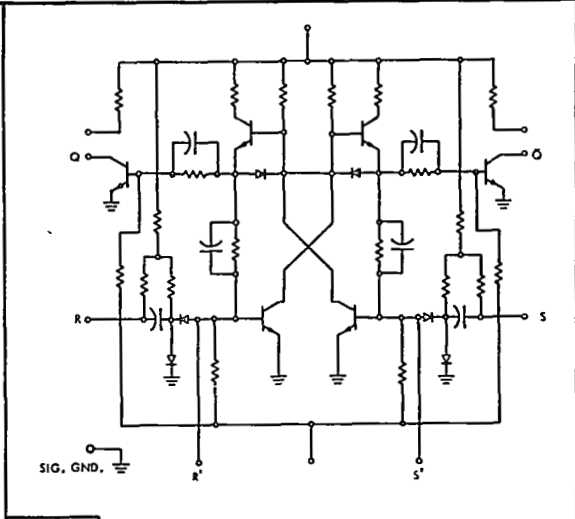
221



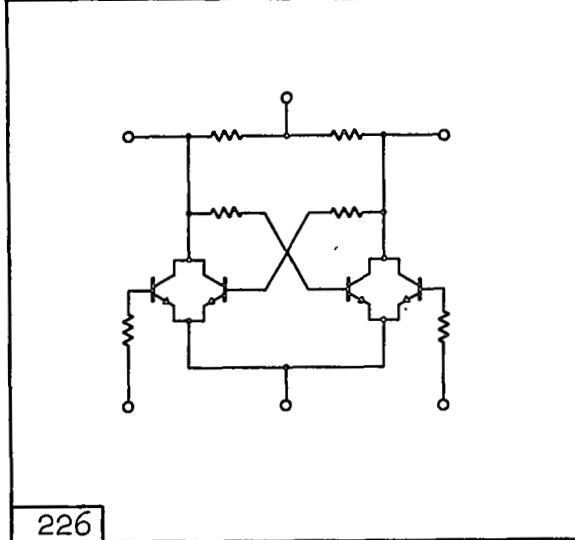
224



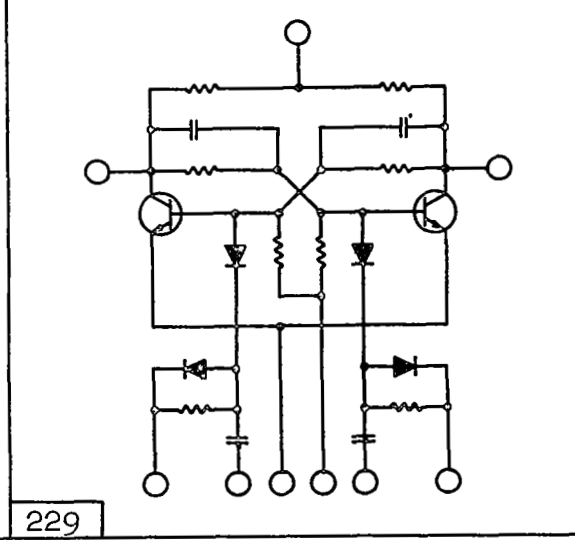
225



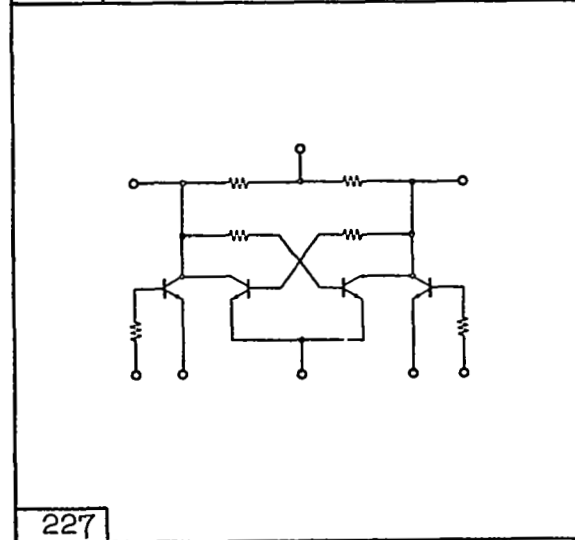
228



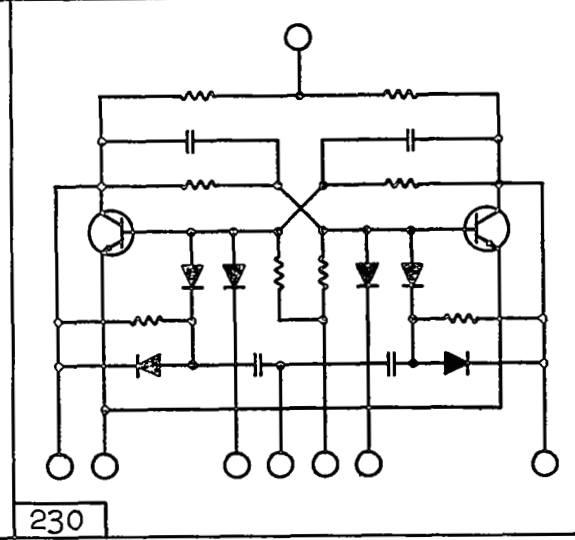
226



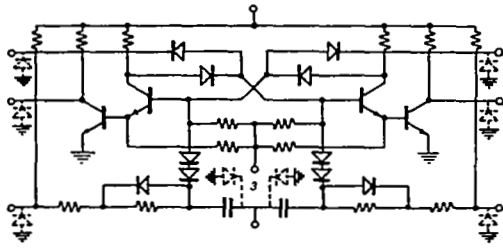
229



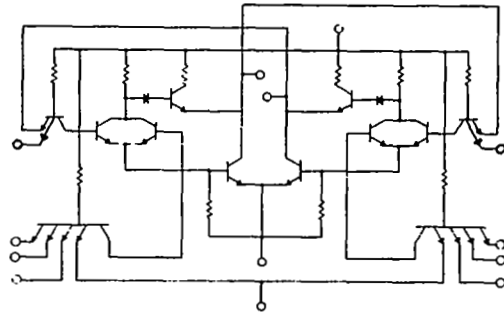
227



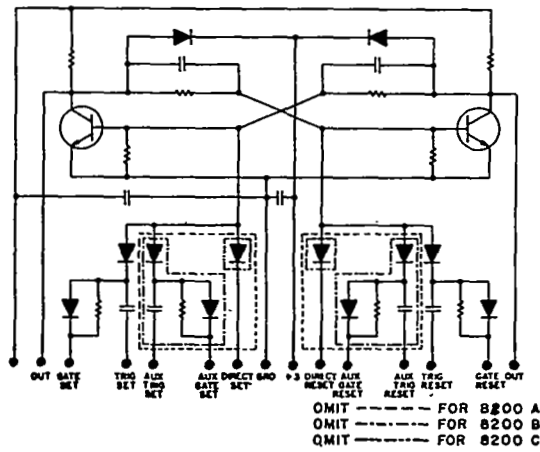
230



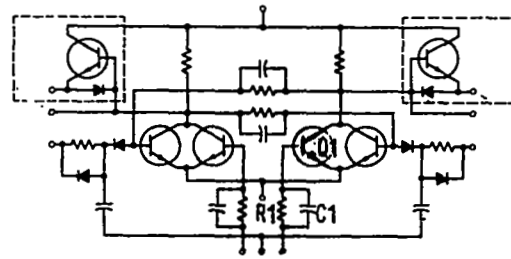
231



234

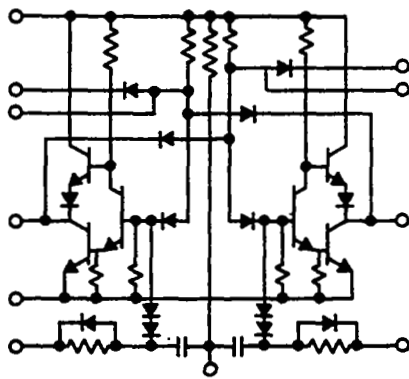


232

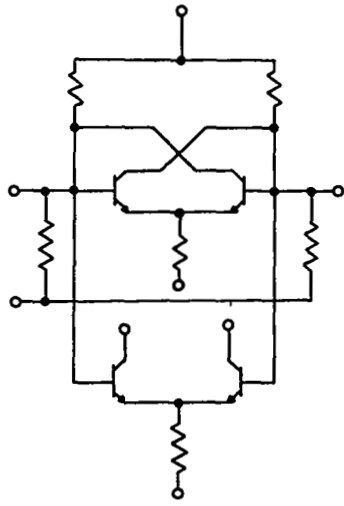


Note: Portion of circuitry within dotted line applies only to II-SN511, SN5112, SN5111; SPRG-USO111, USO101

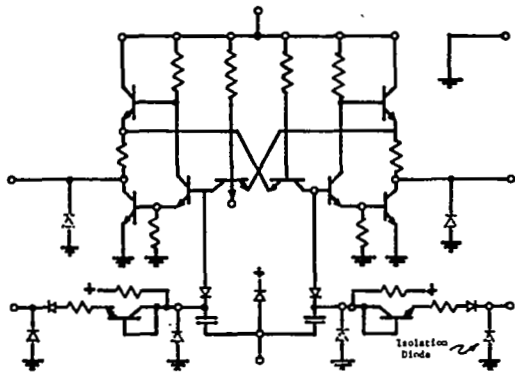
235



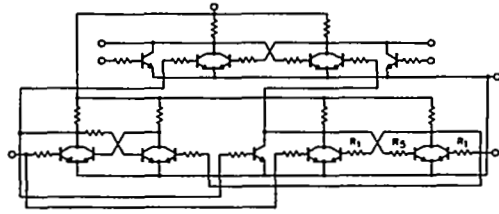
233



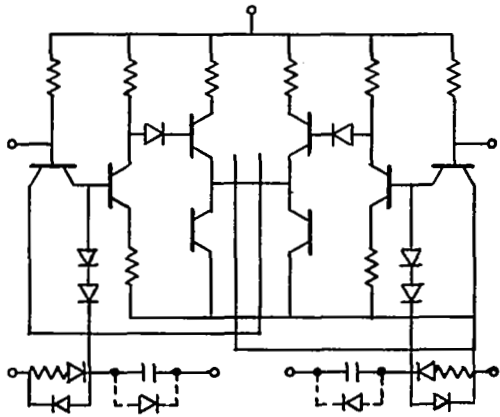
236



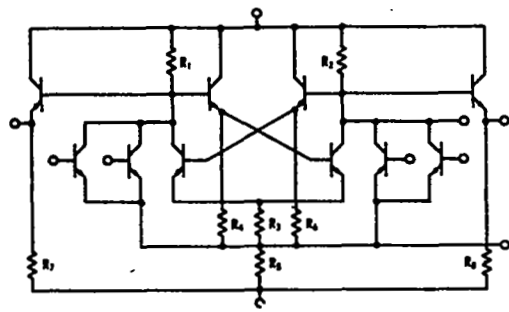
237



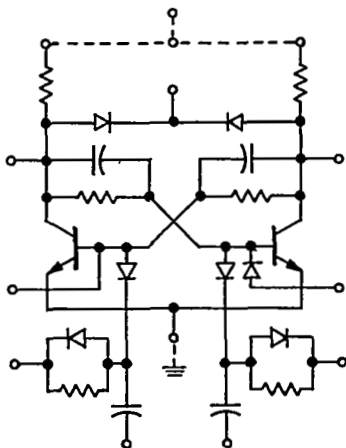
240



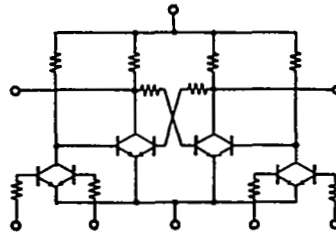
238



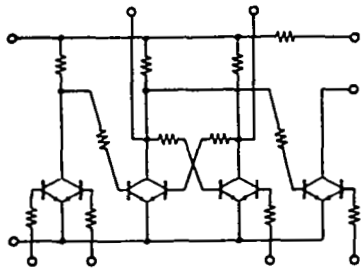
241



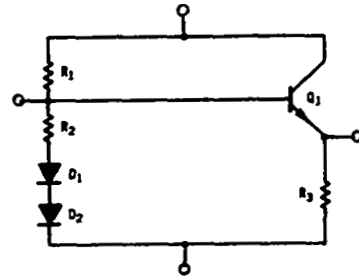
239



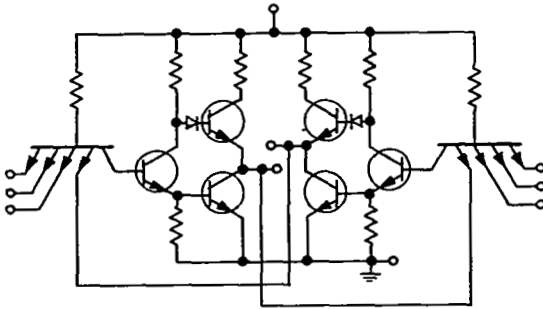
242



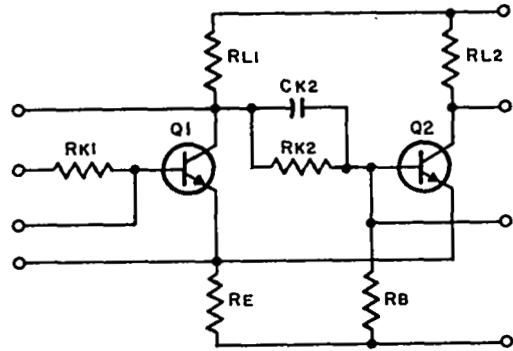
243



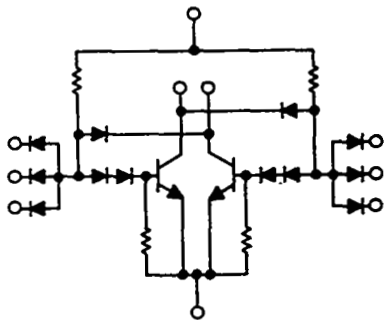
246



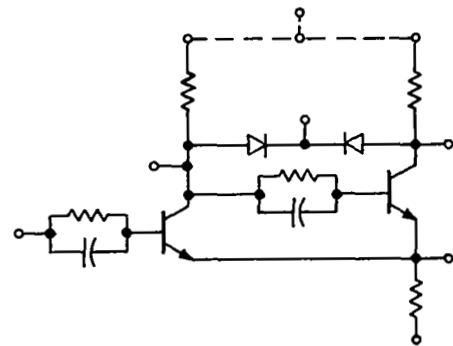
244



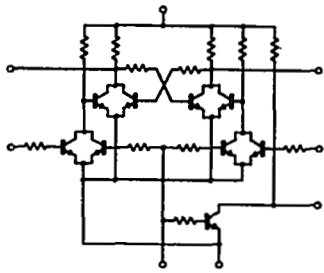
247



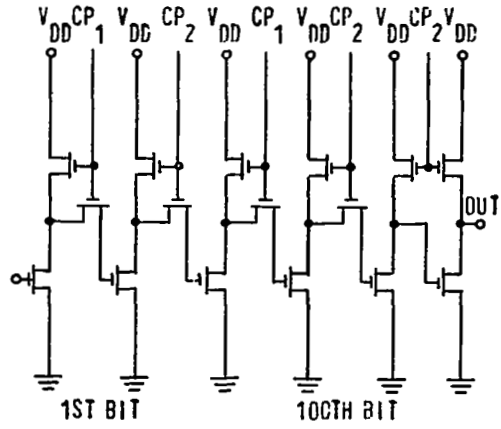
245



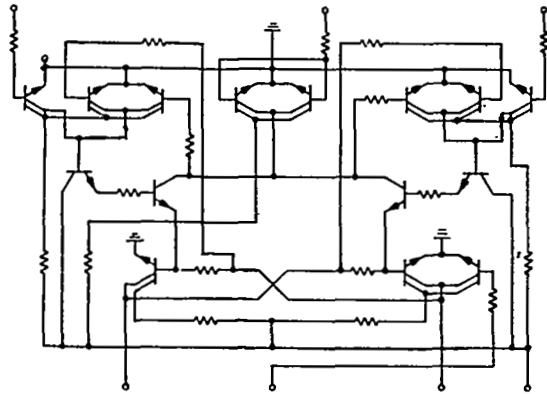
248



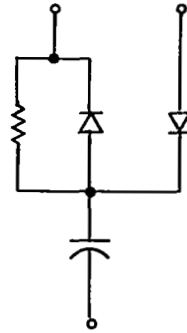
249



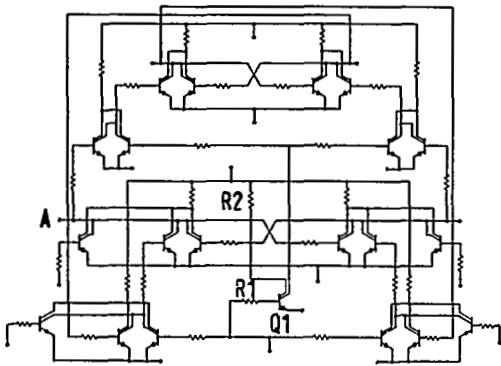
252



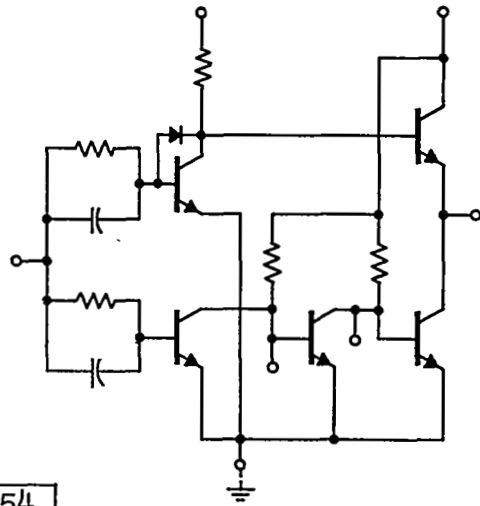
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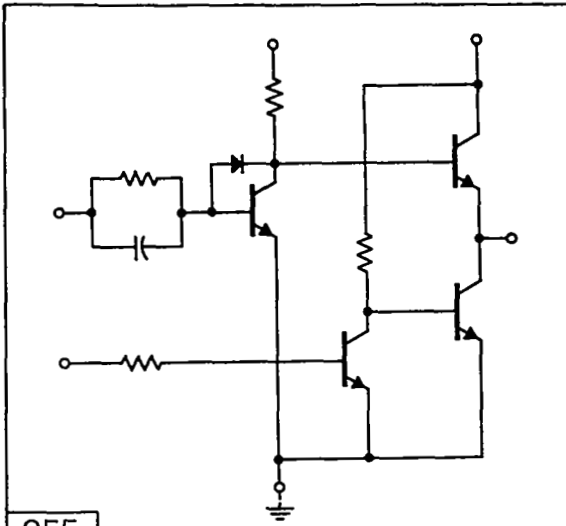
253



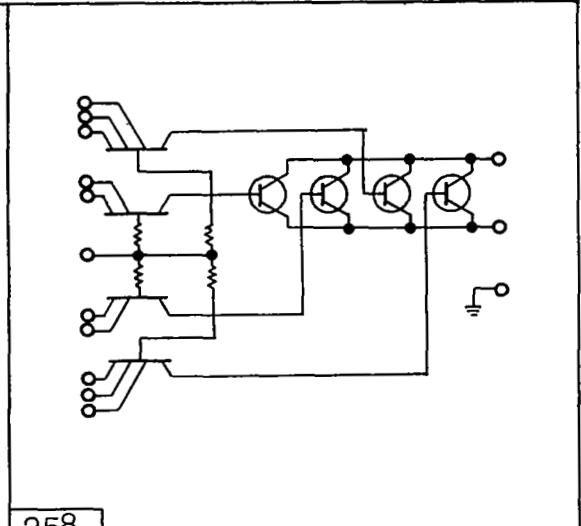
251



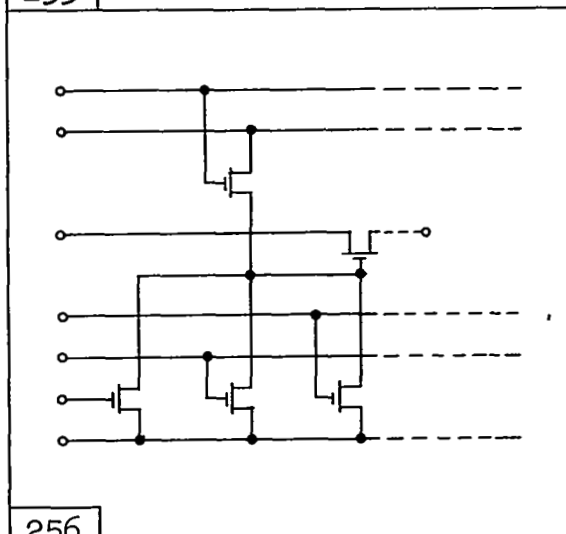
254



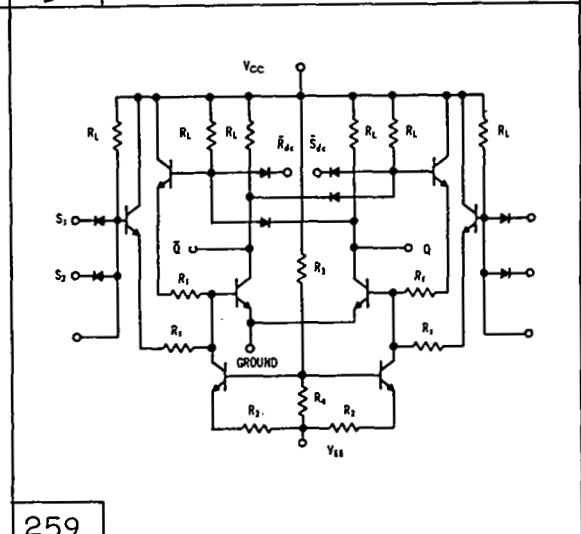
255



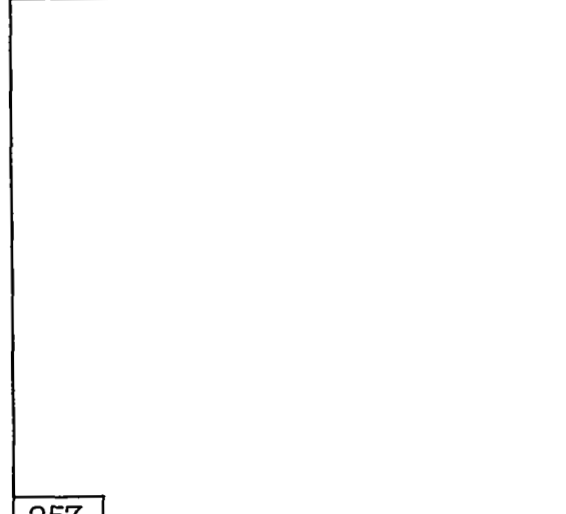
258



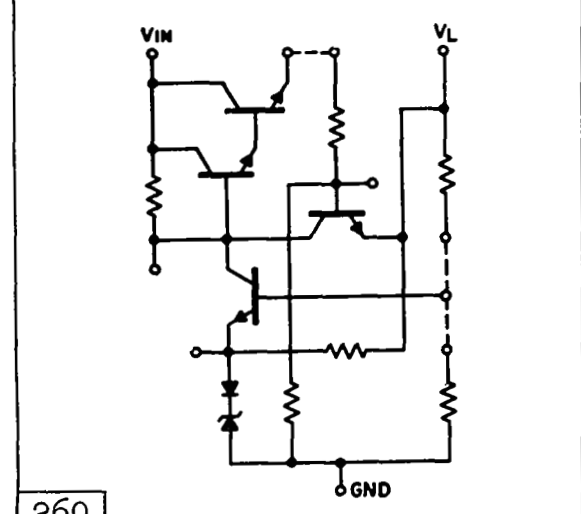
256



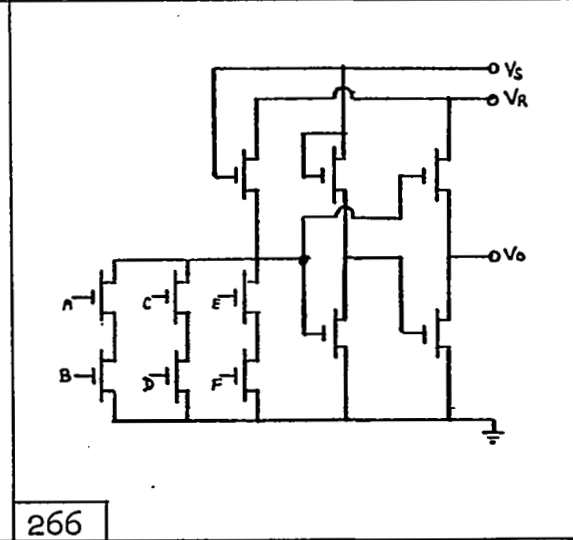
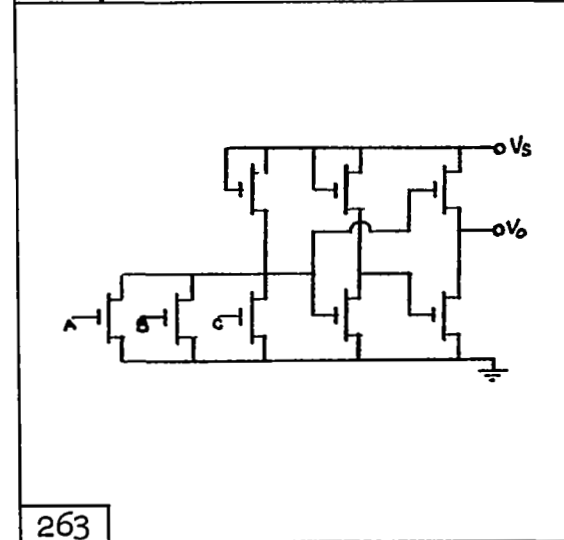
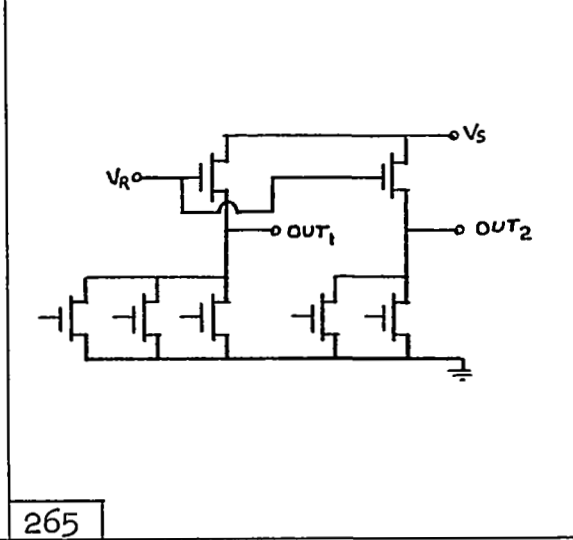
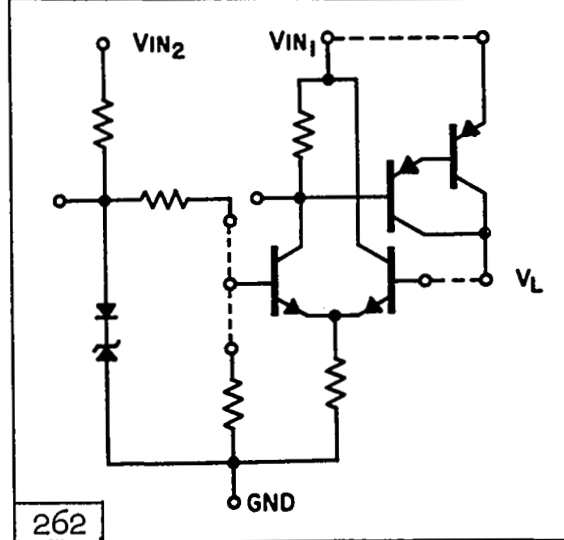
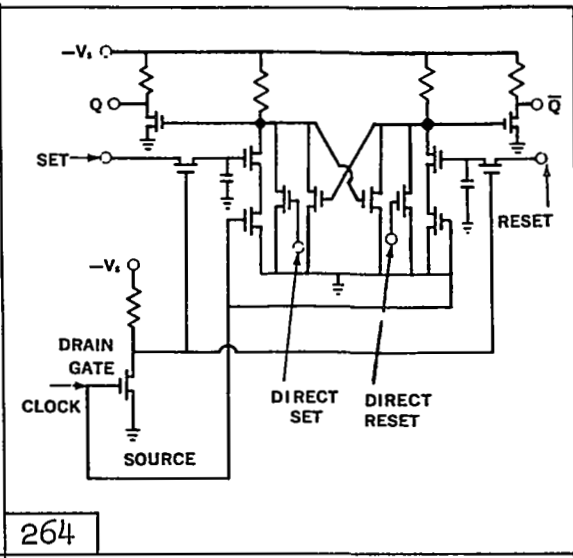
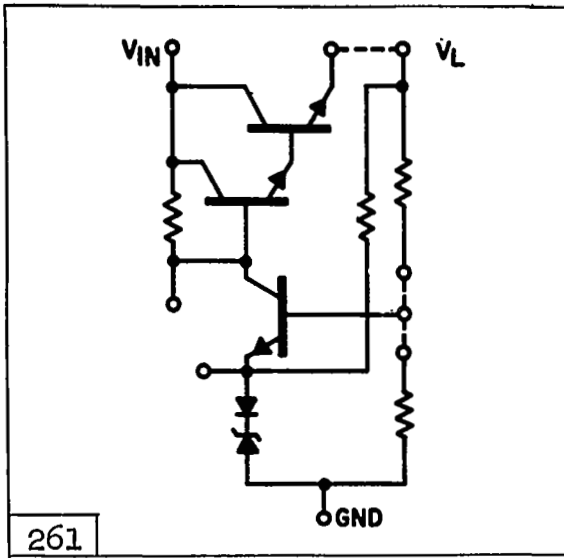
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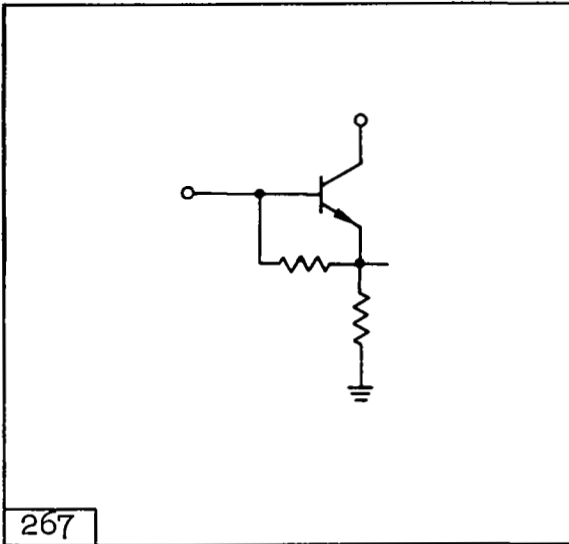
257



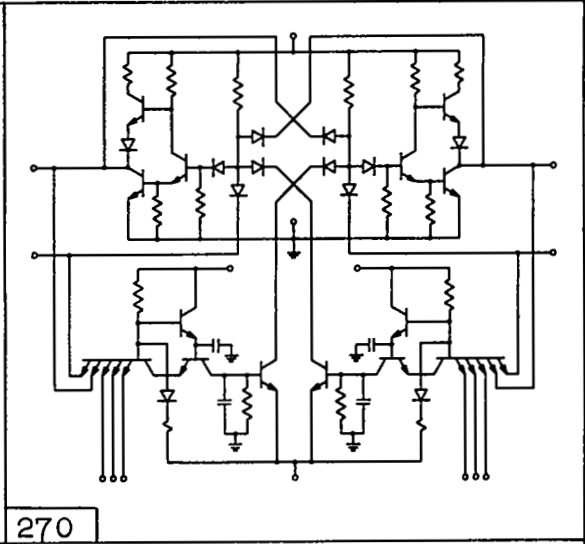
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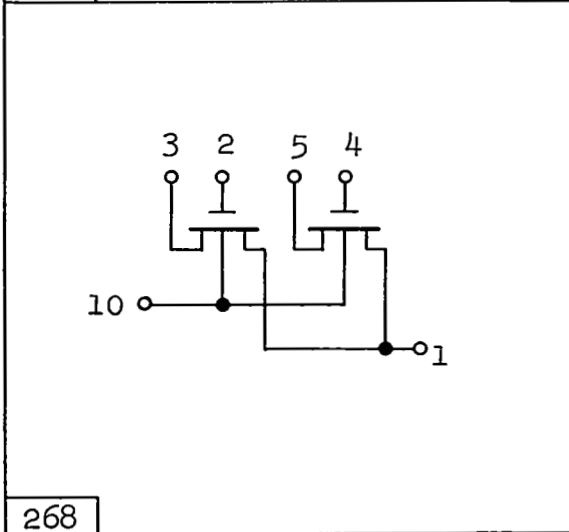




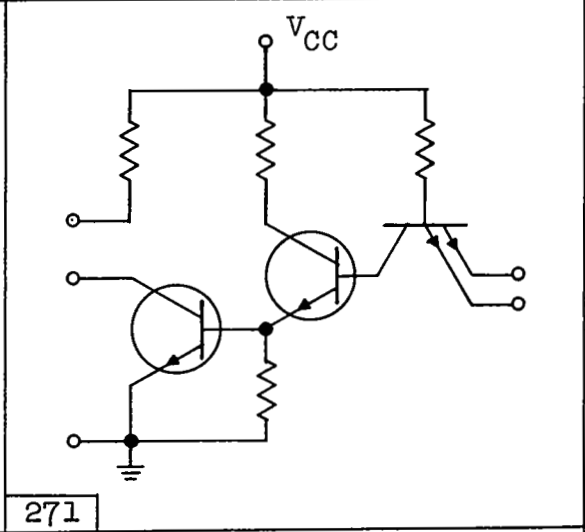
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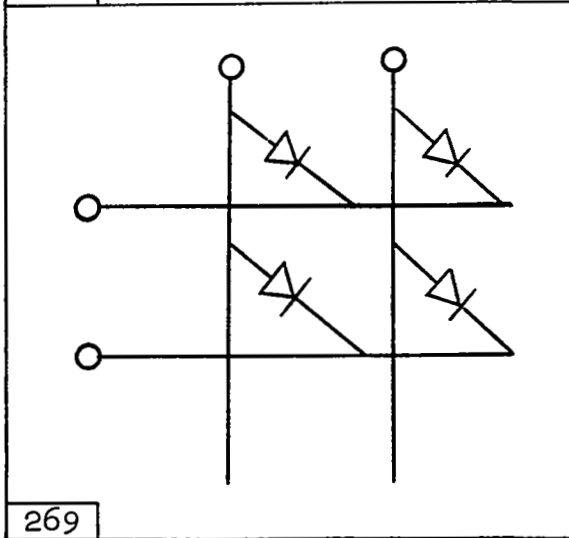
270



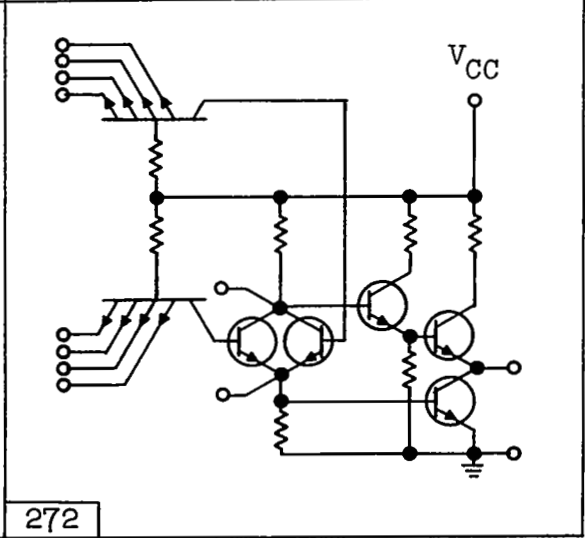
268



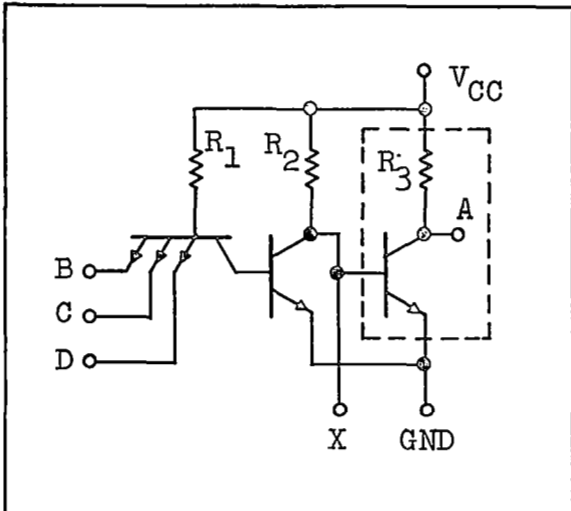
271



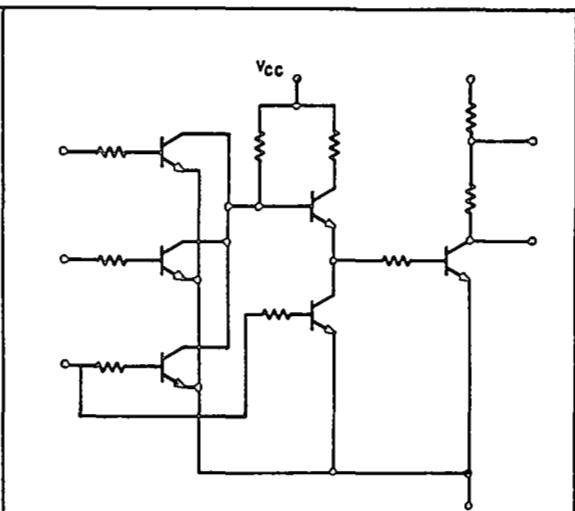
269



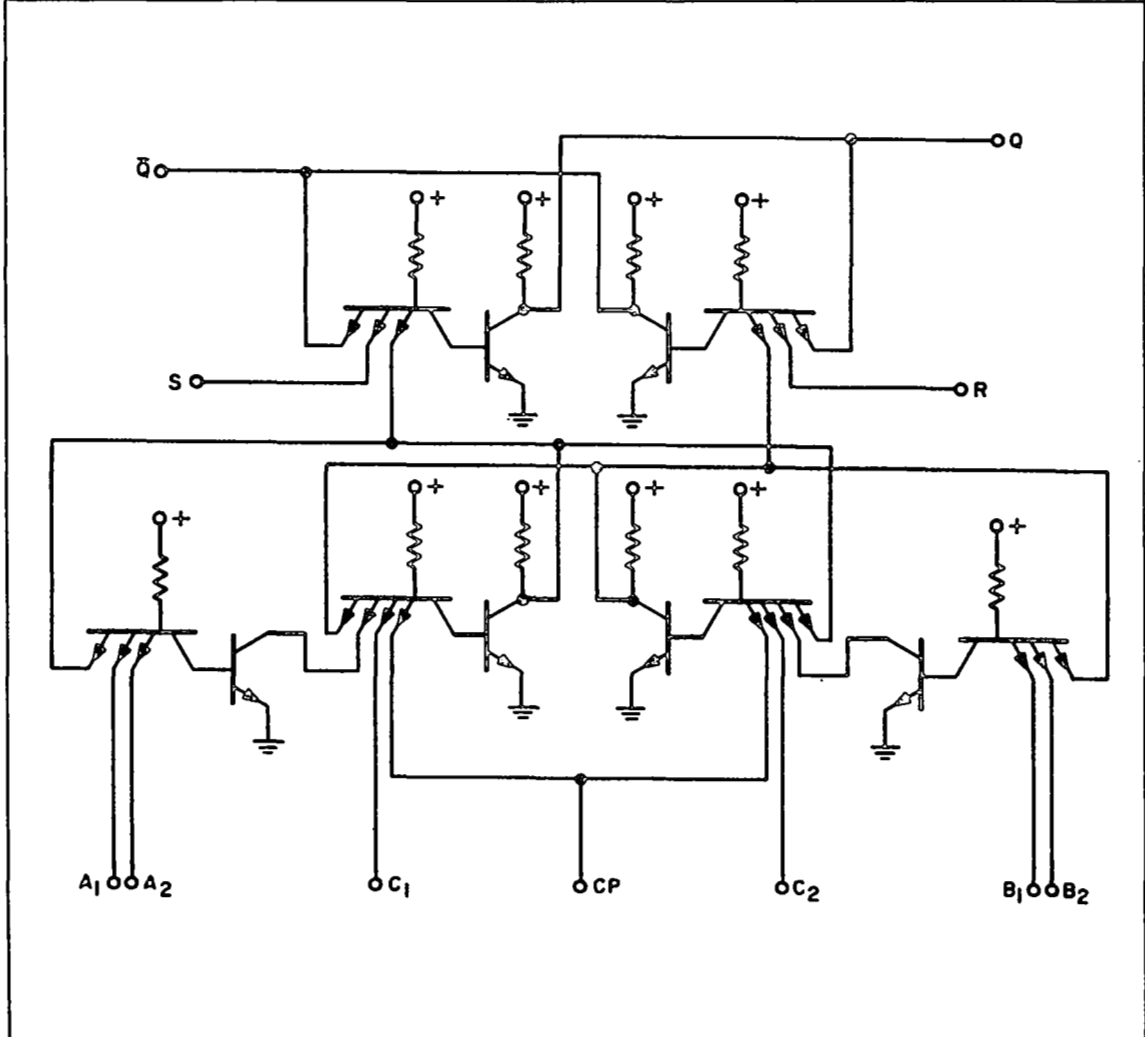
272



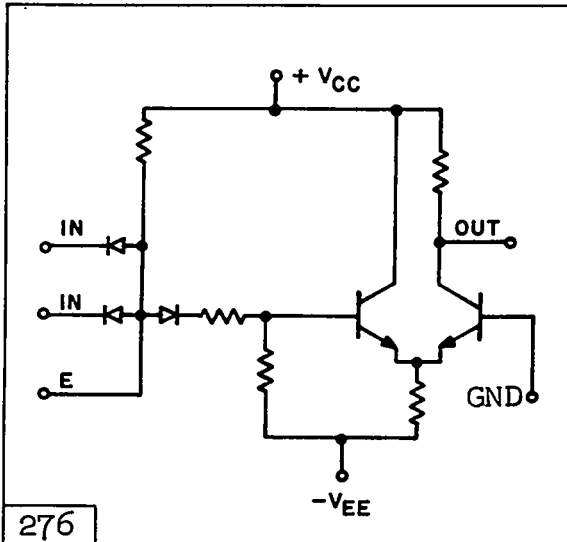
273



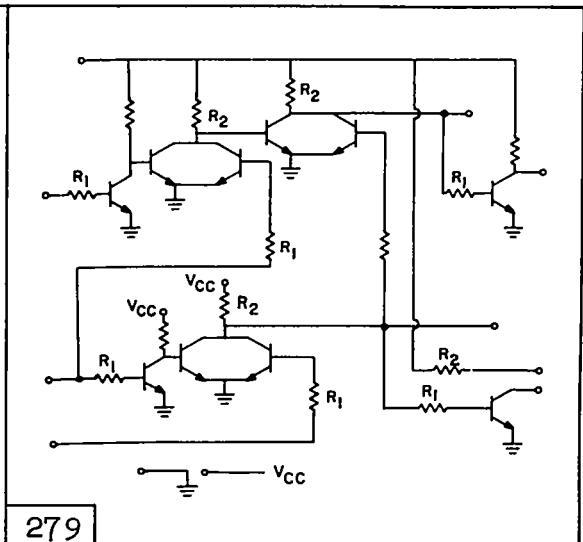
275



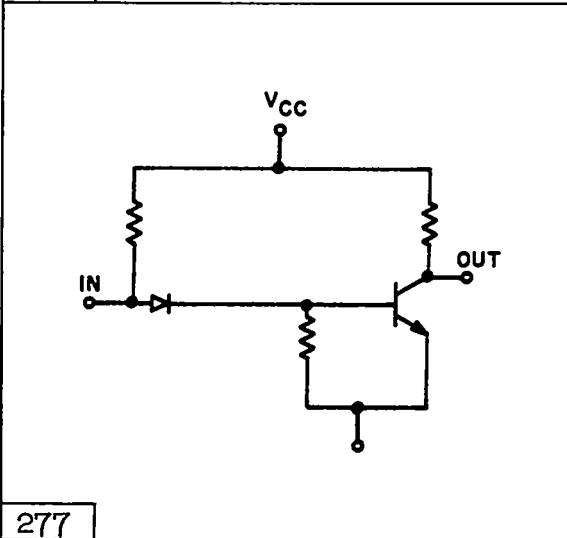
274



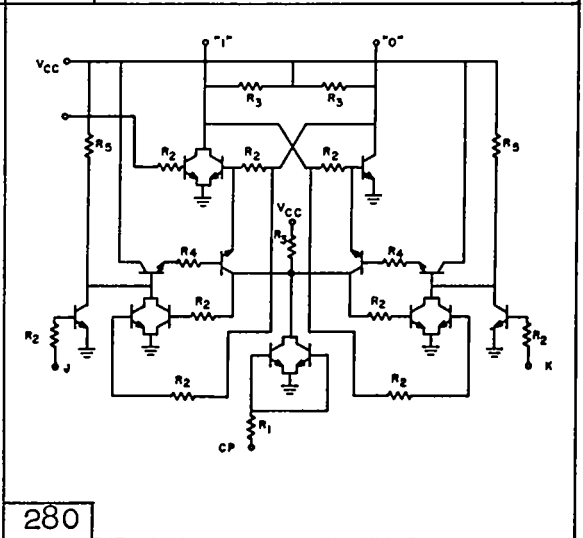
276



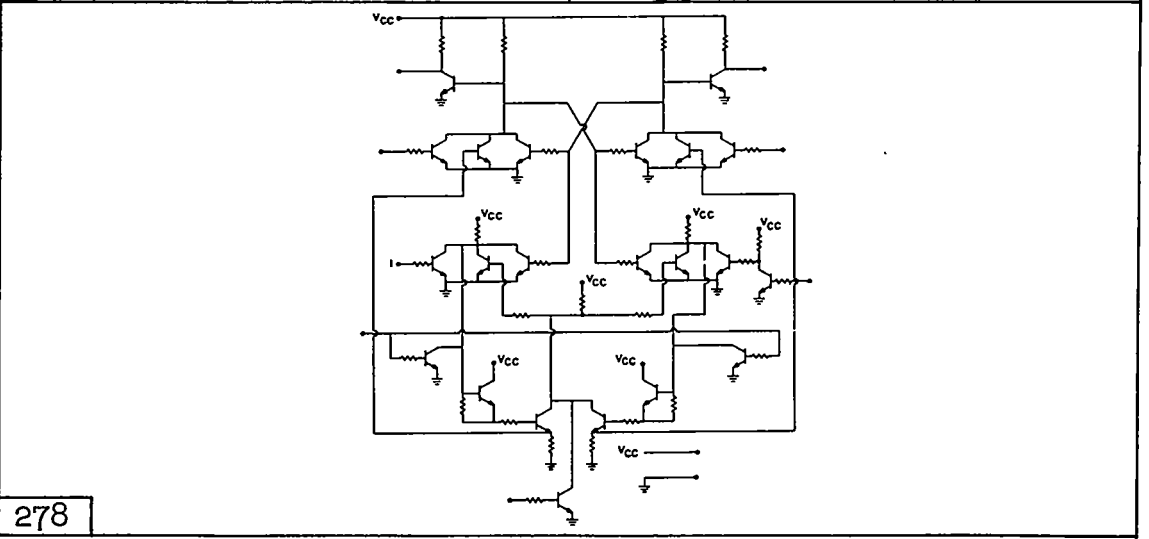
279



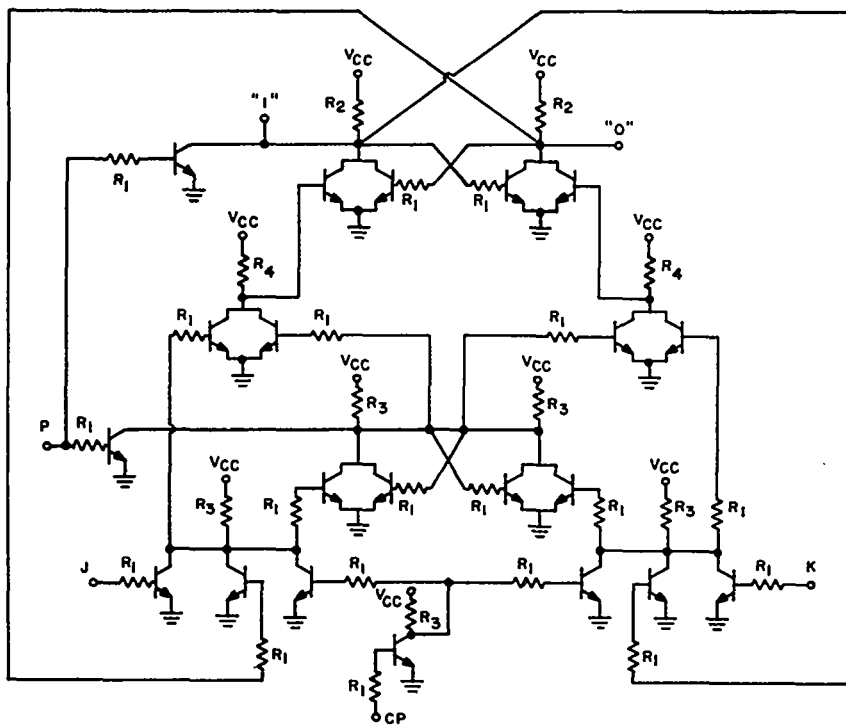
277



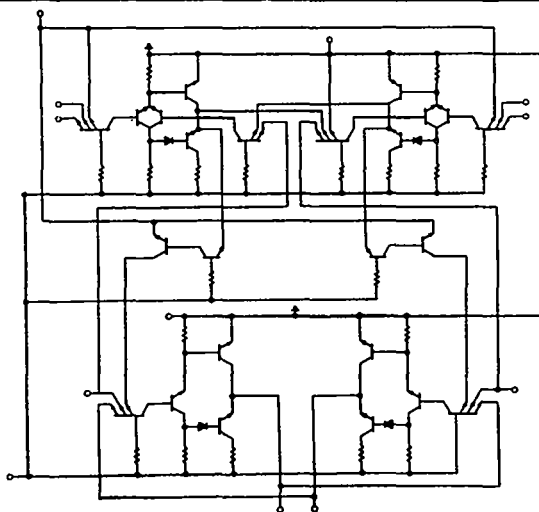
280



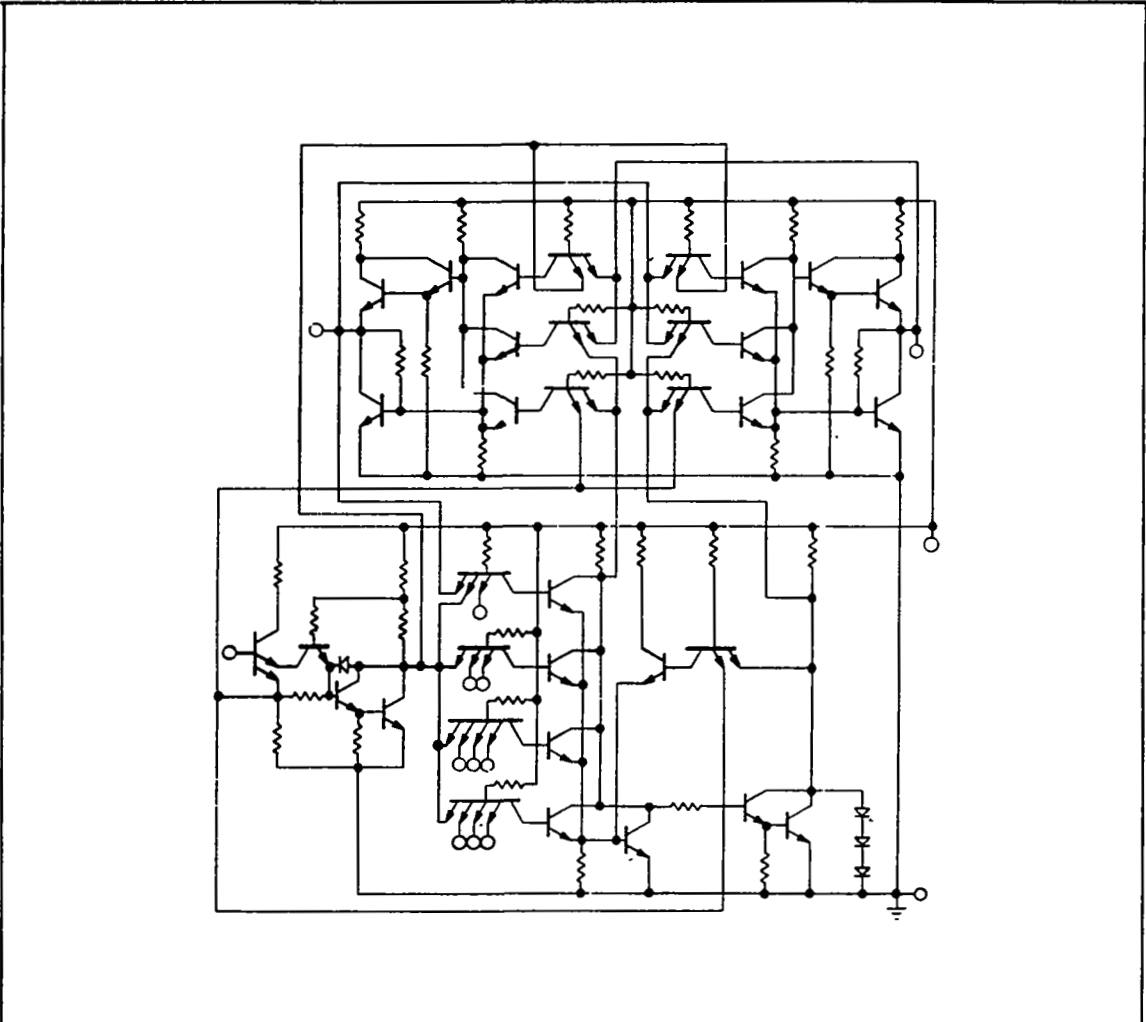
278



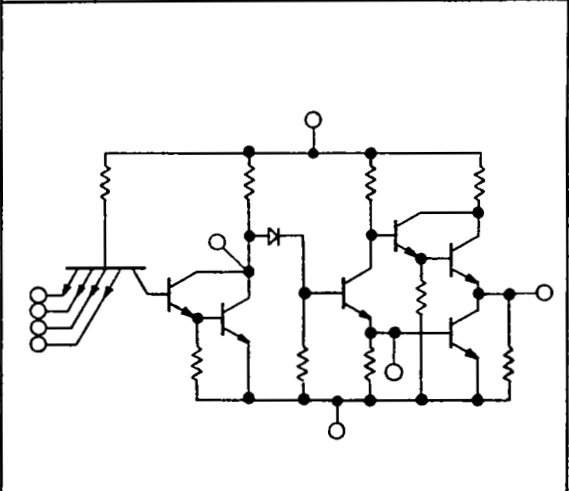
281



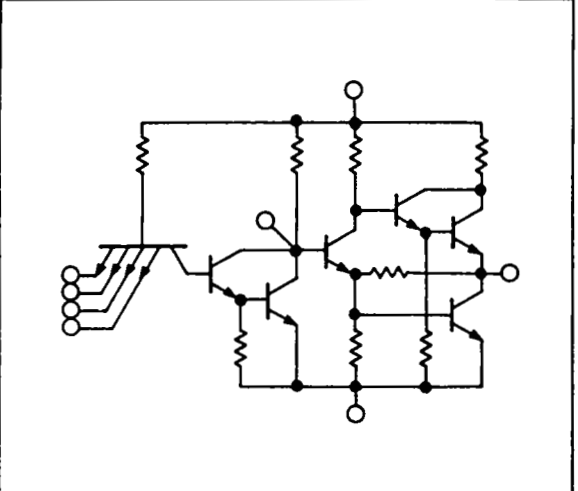
282



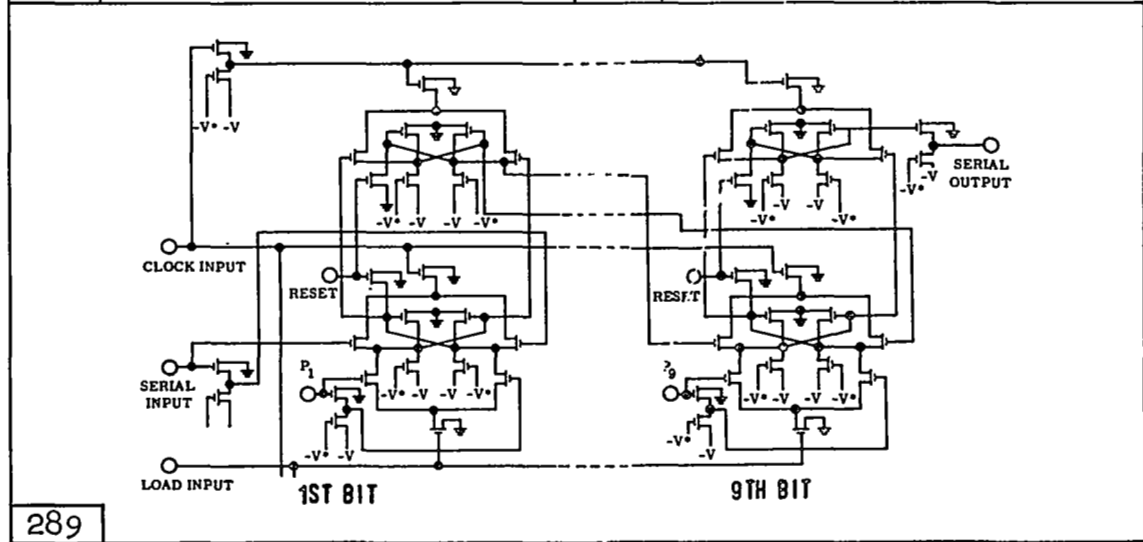
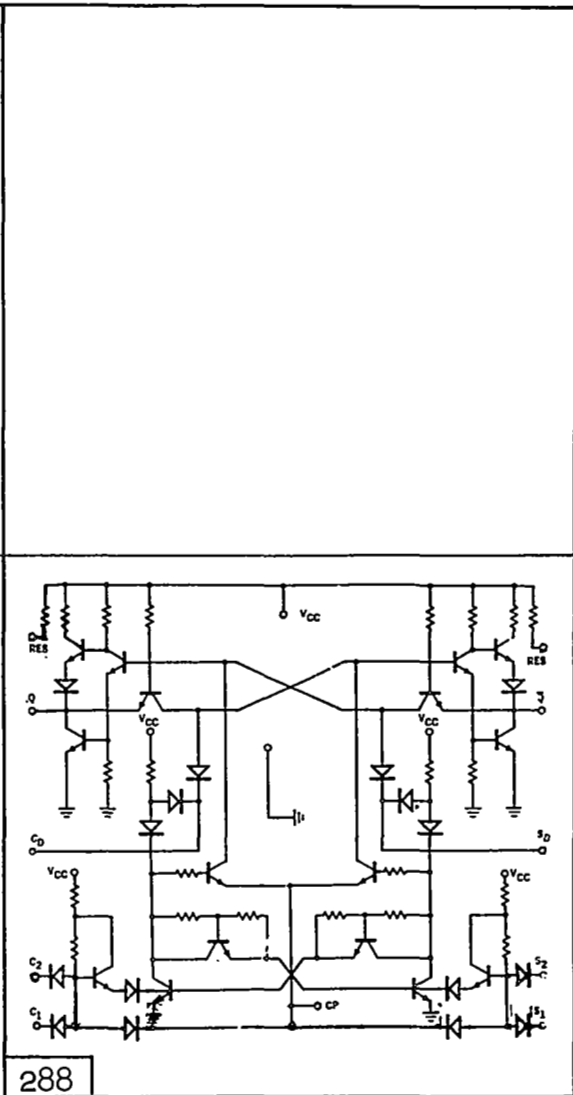
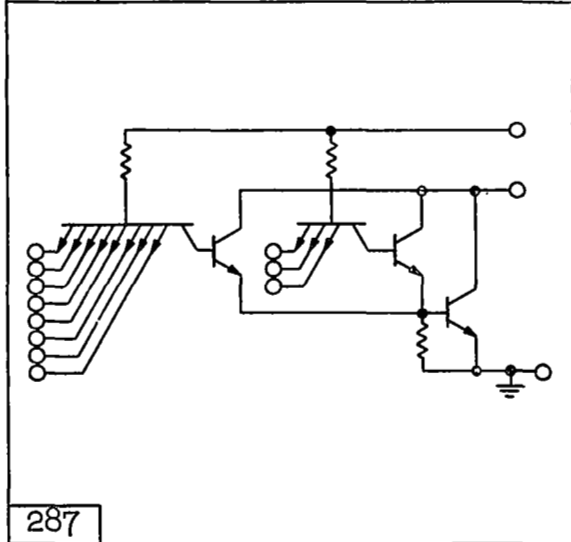
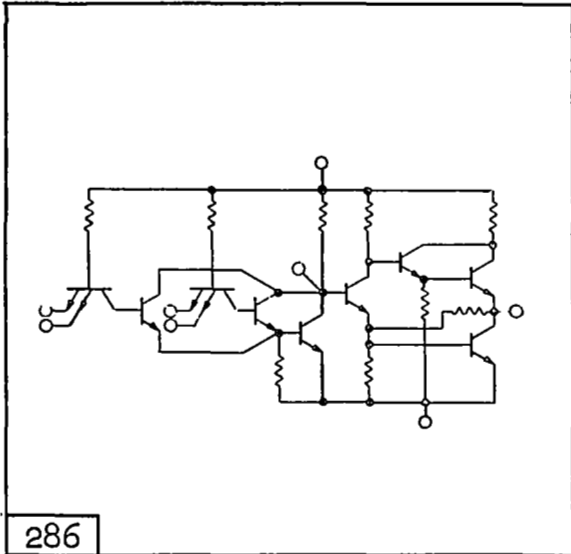
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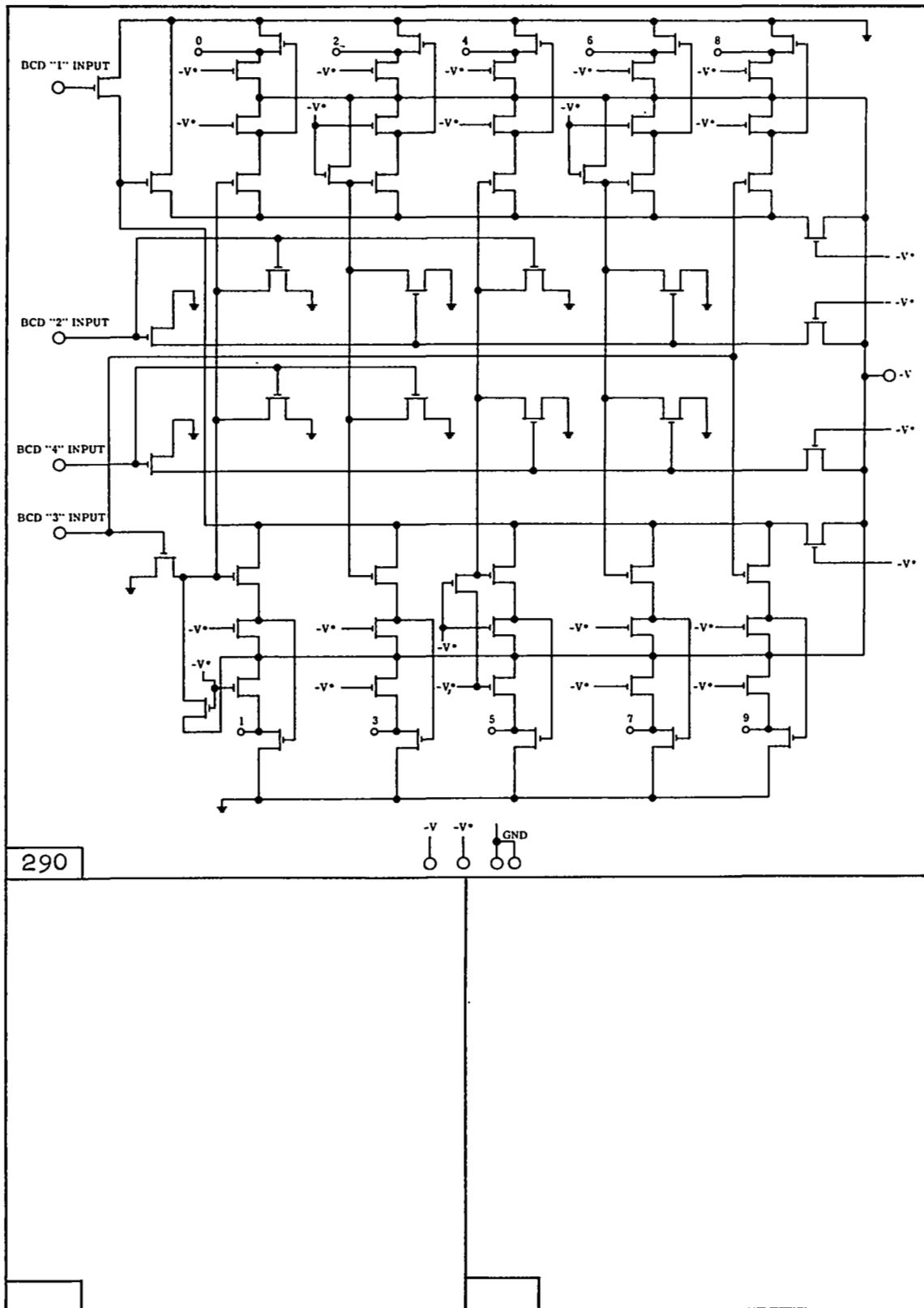


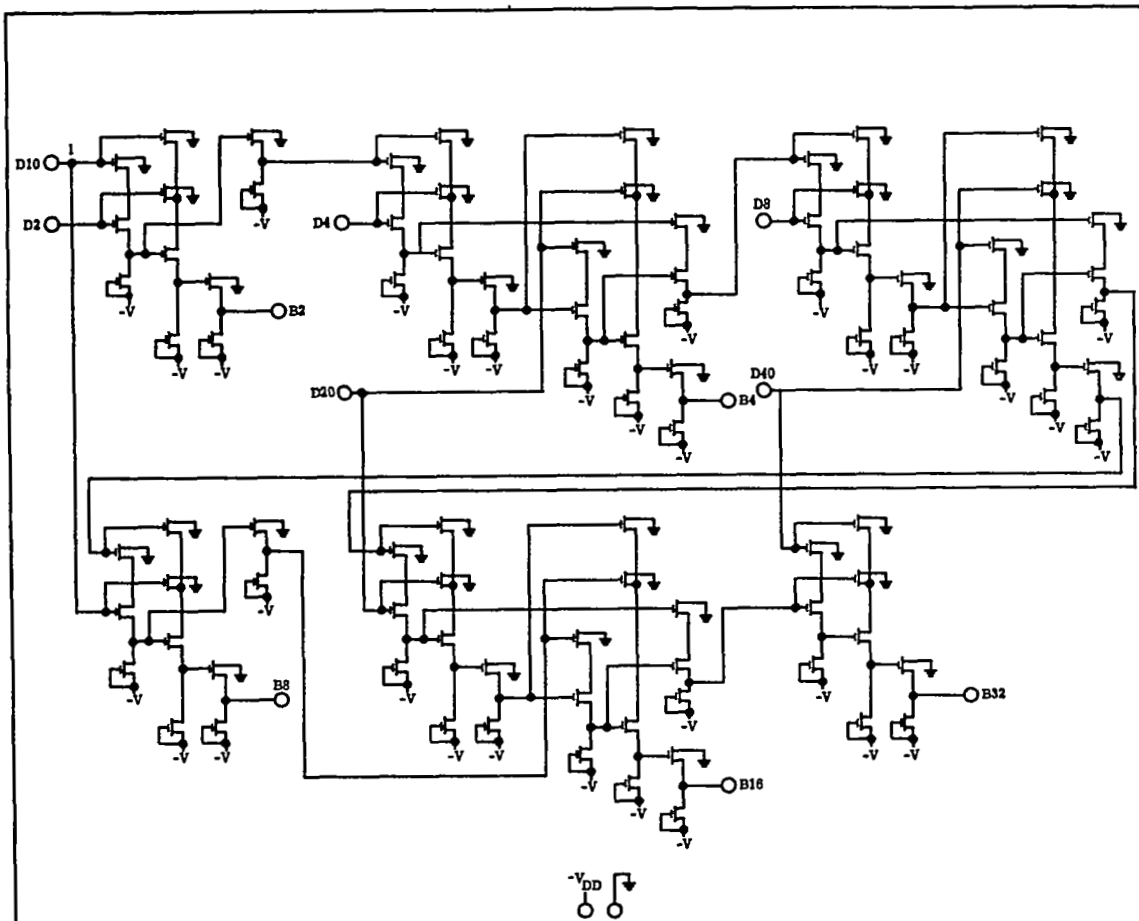
284



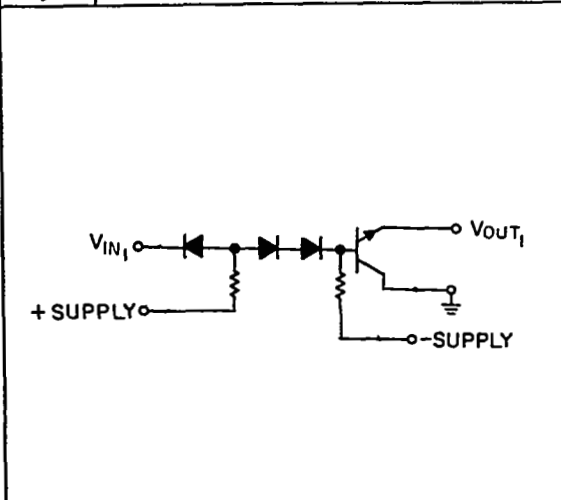
285



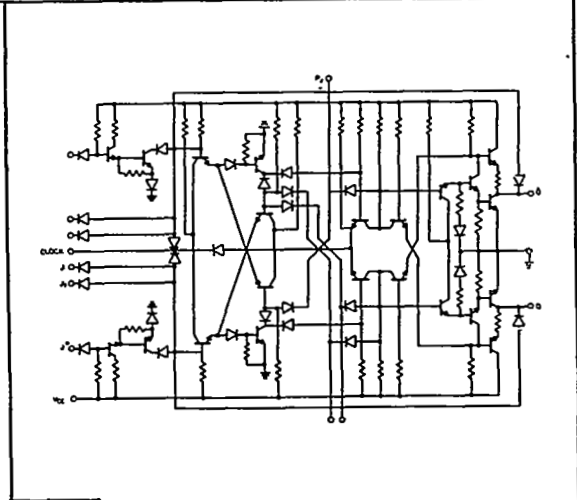




291

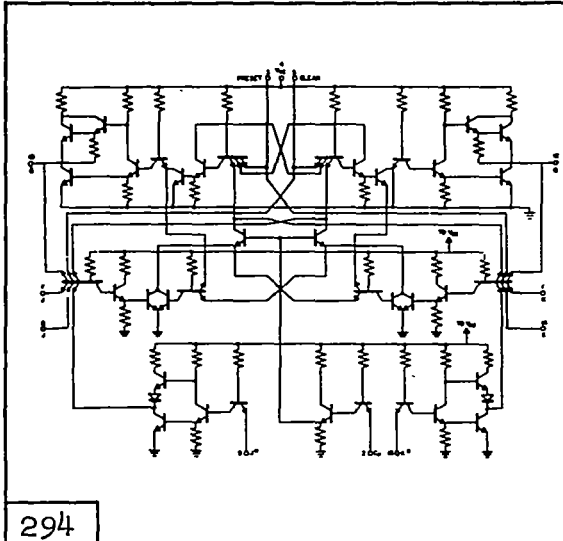


292

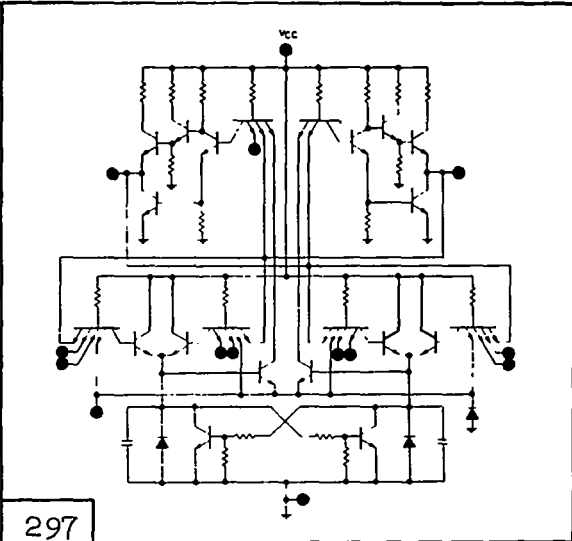


293

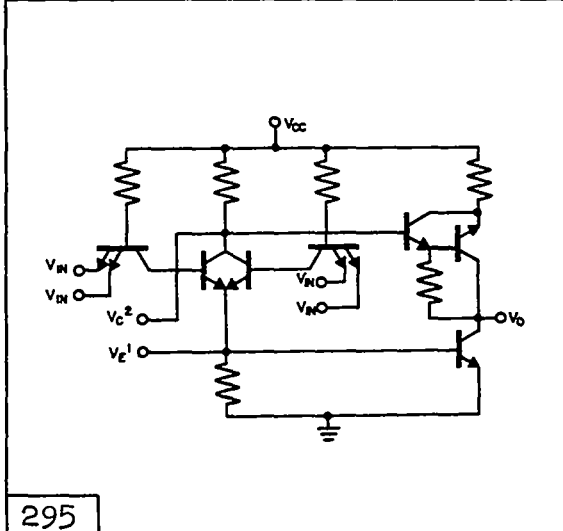




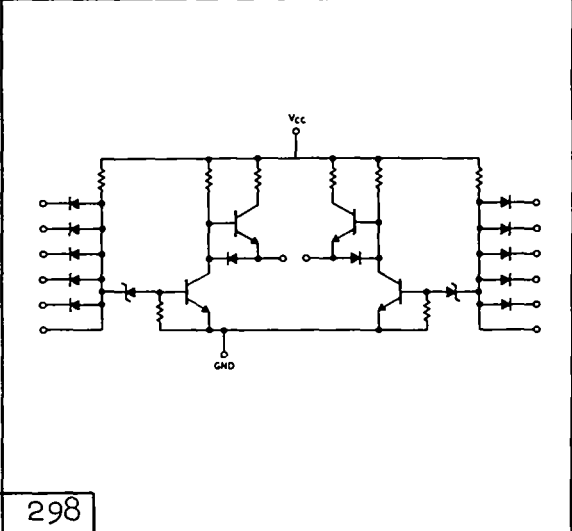
294



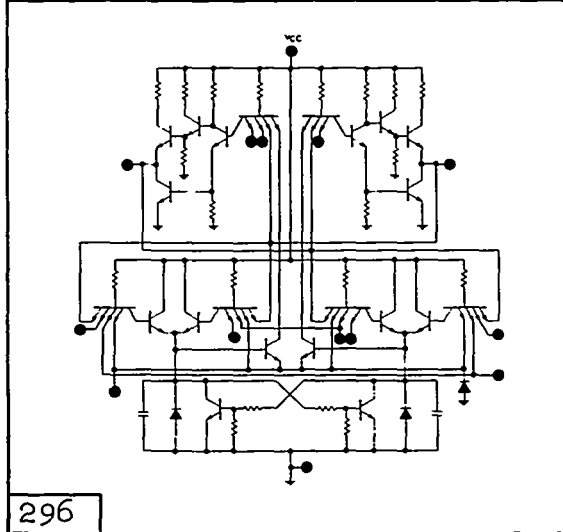
297



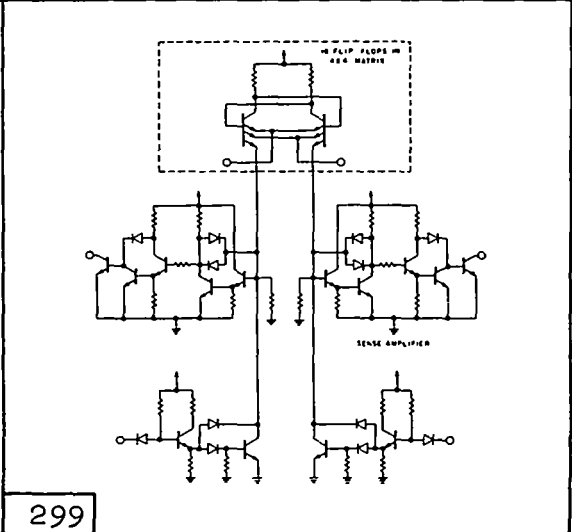
295



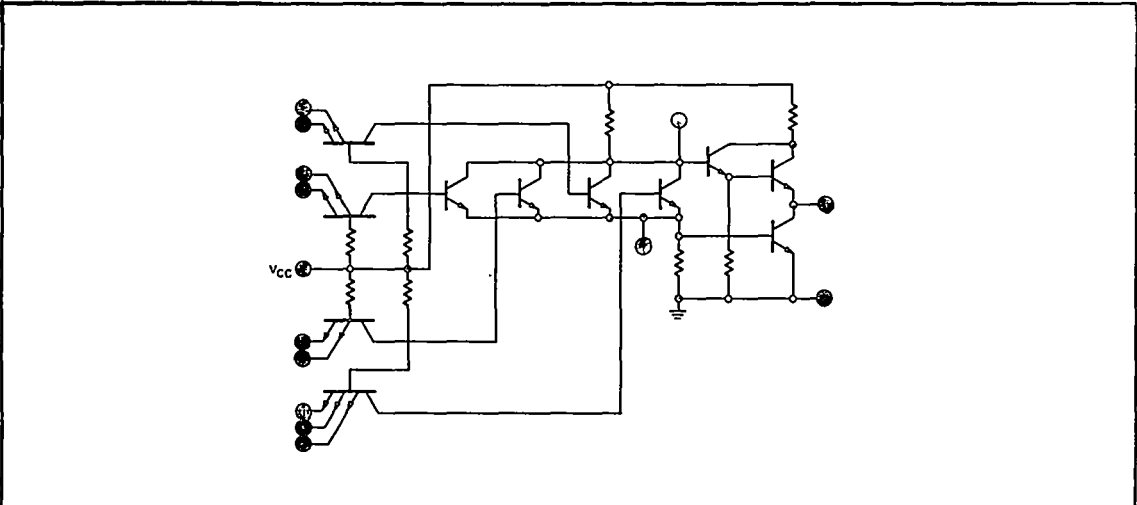
298



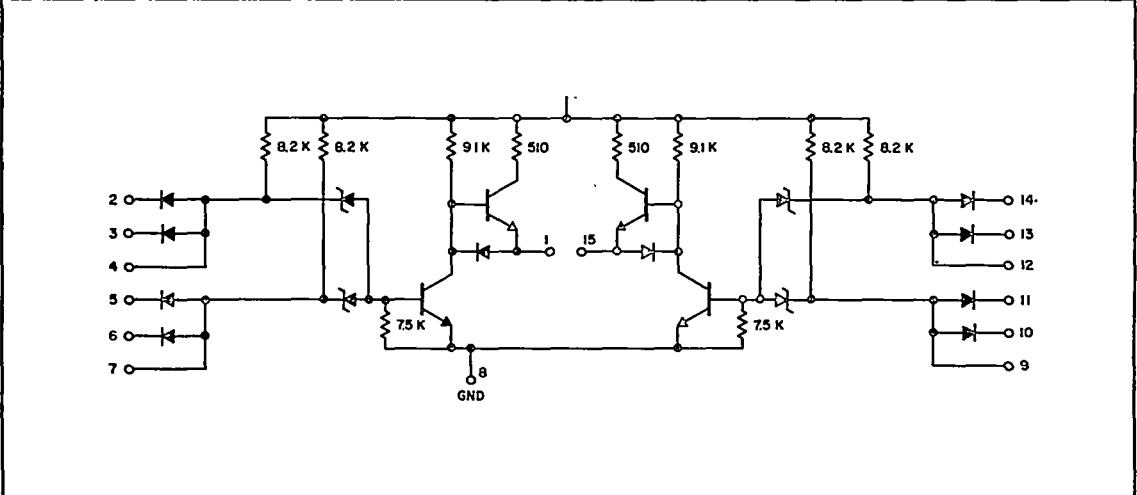
296



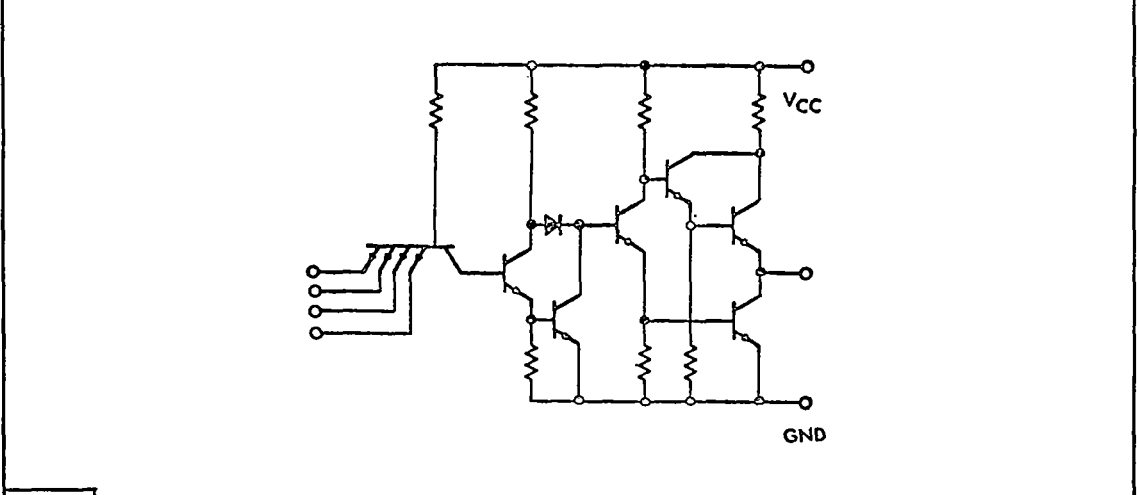
299



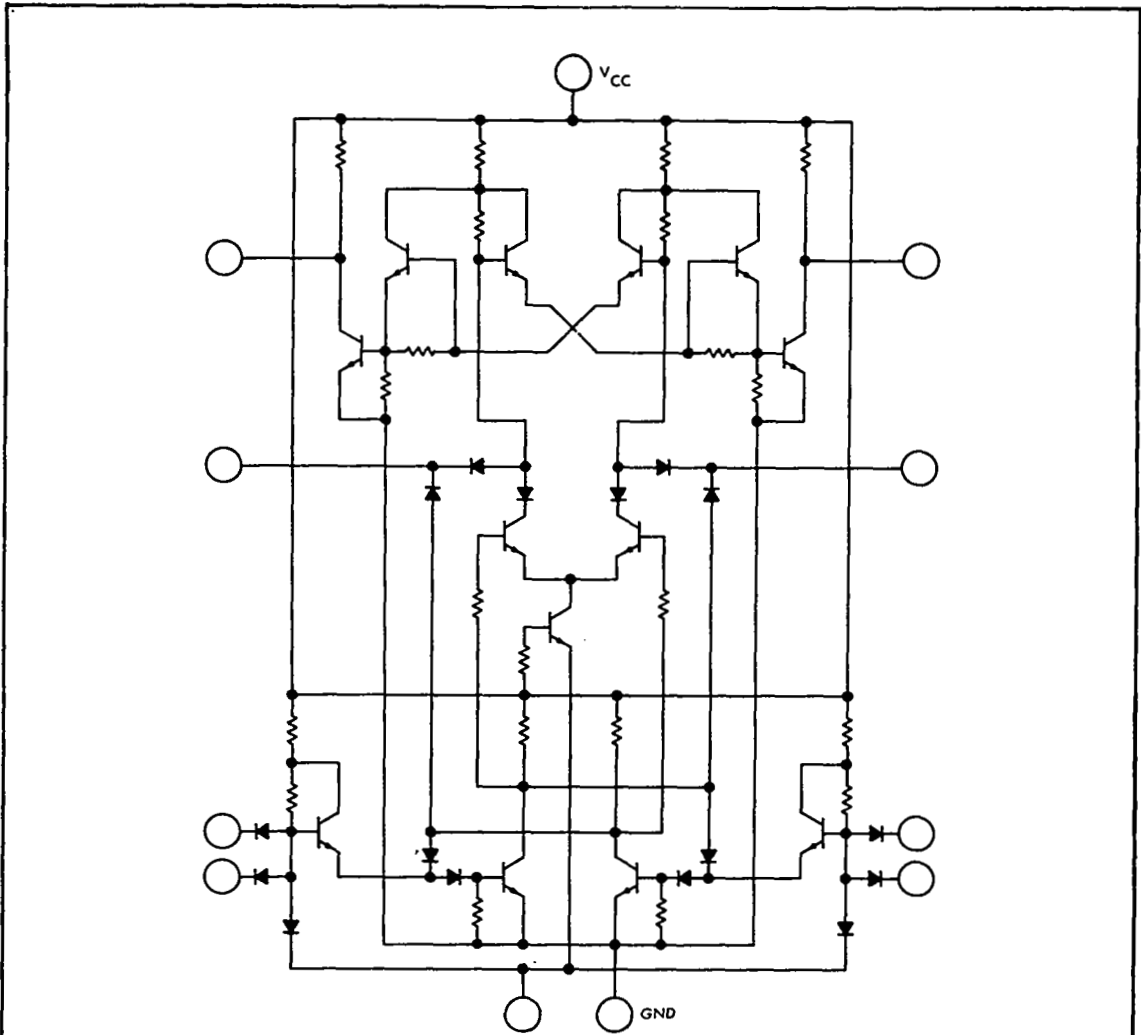
300



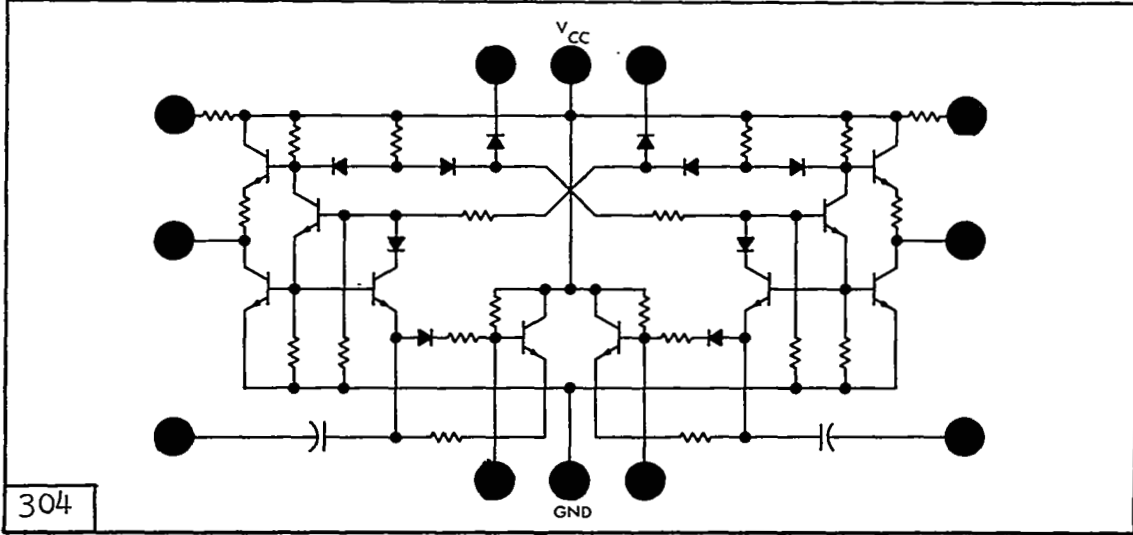
301



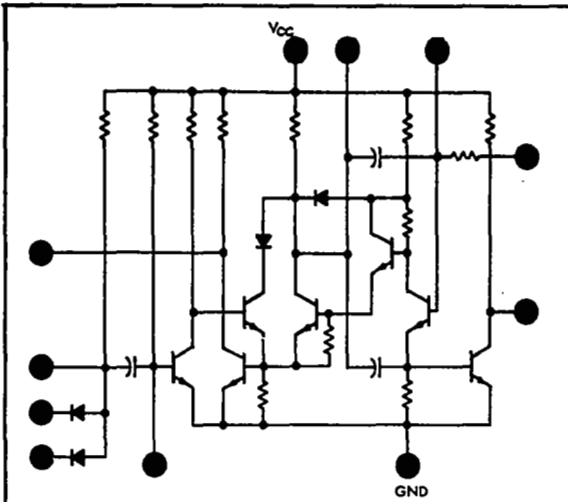
302



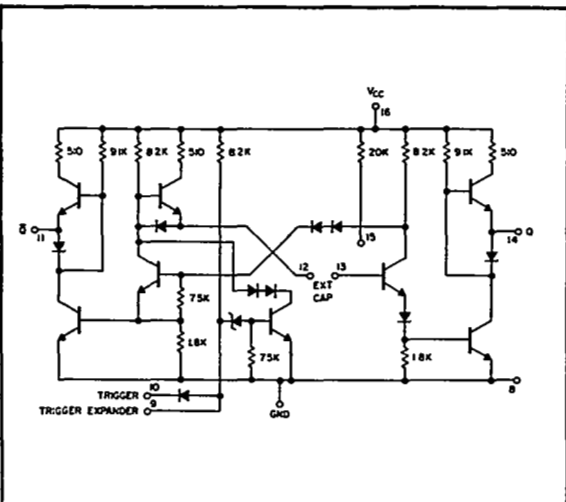
303



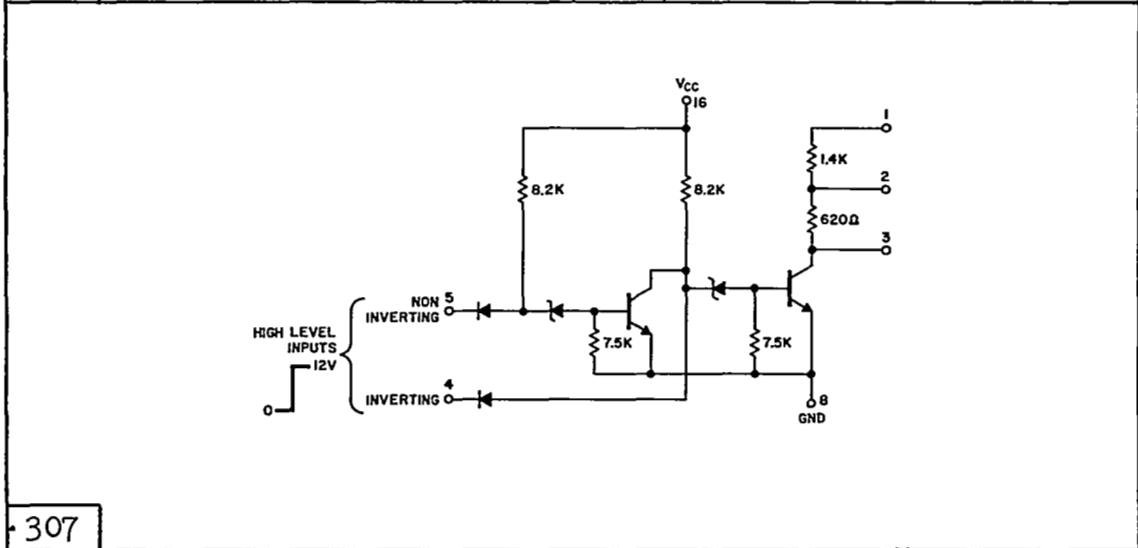
304



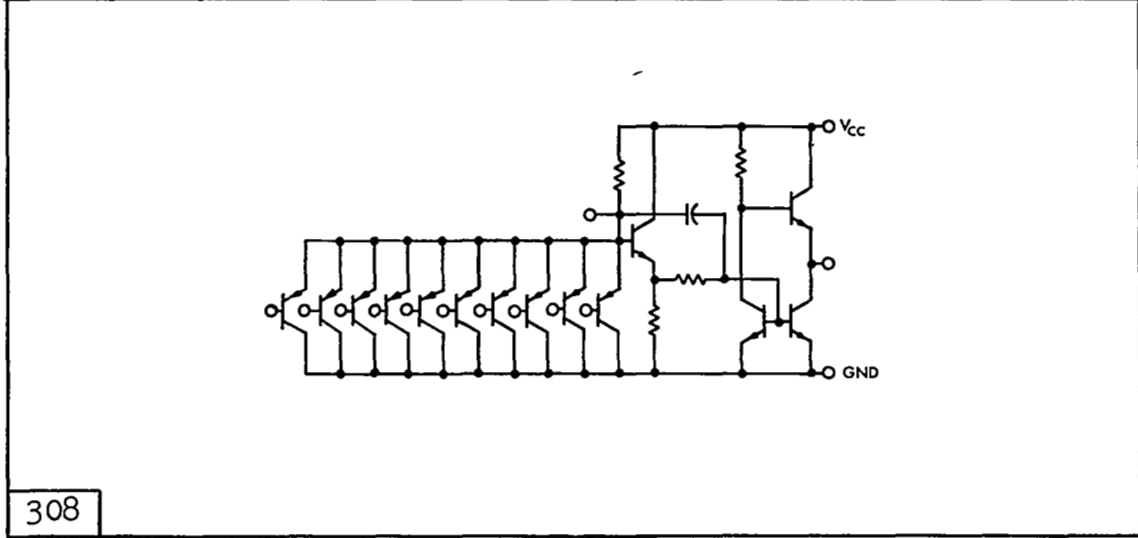
305



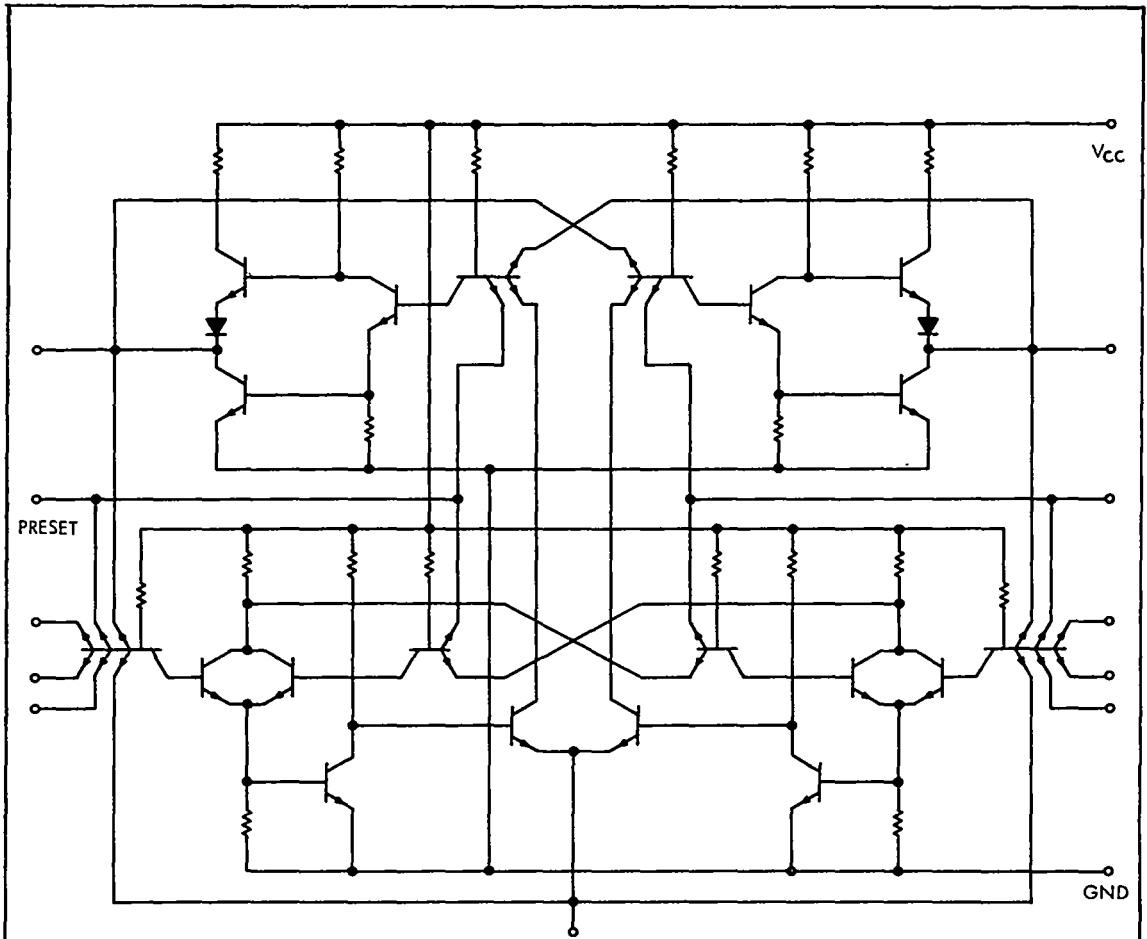
306



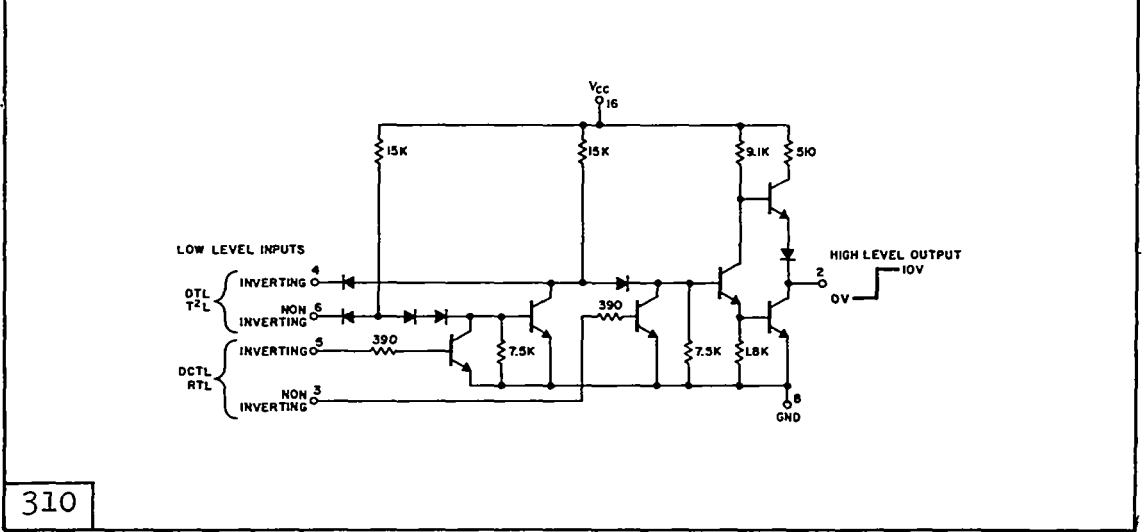
307



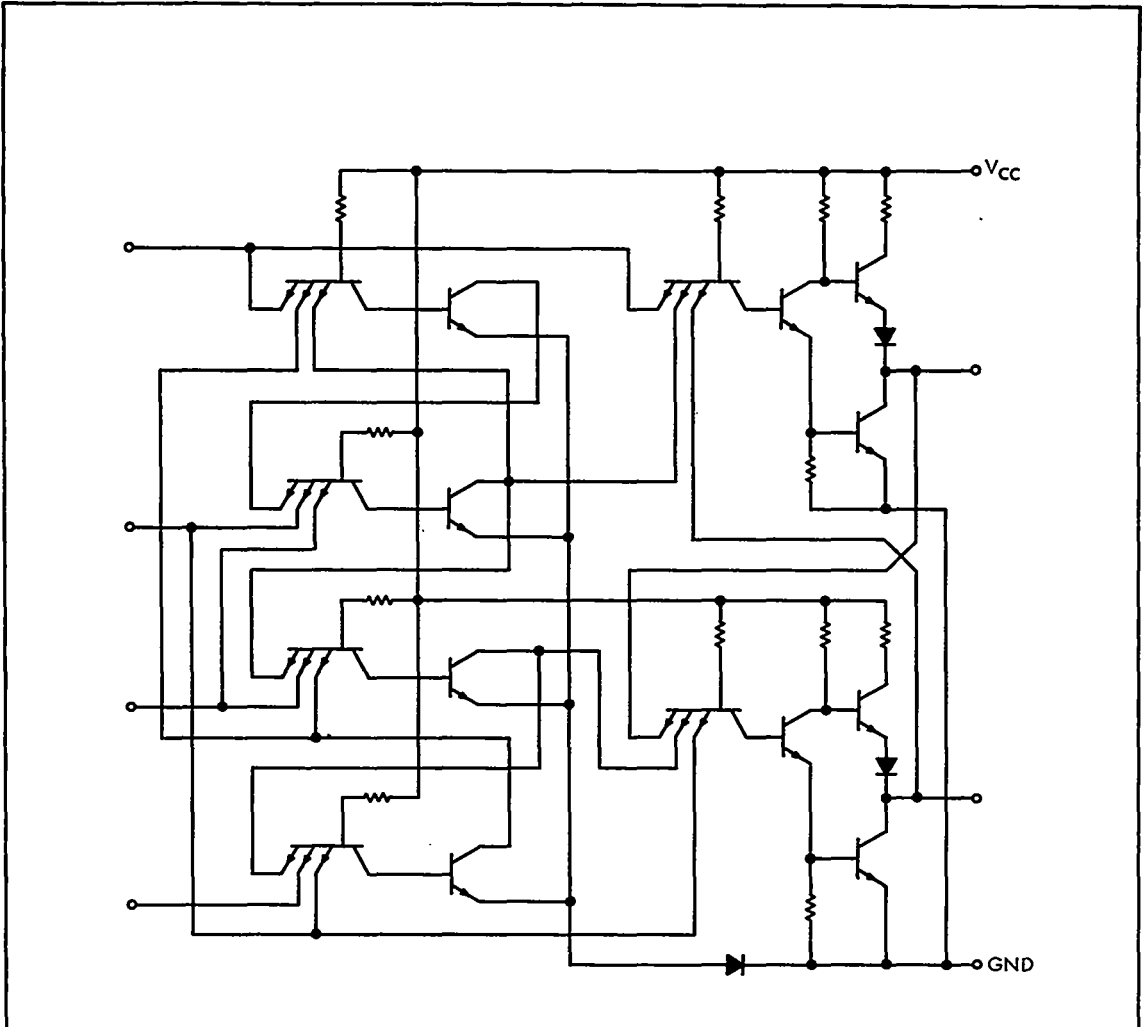
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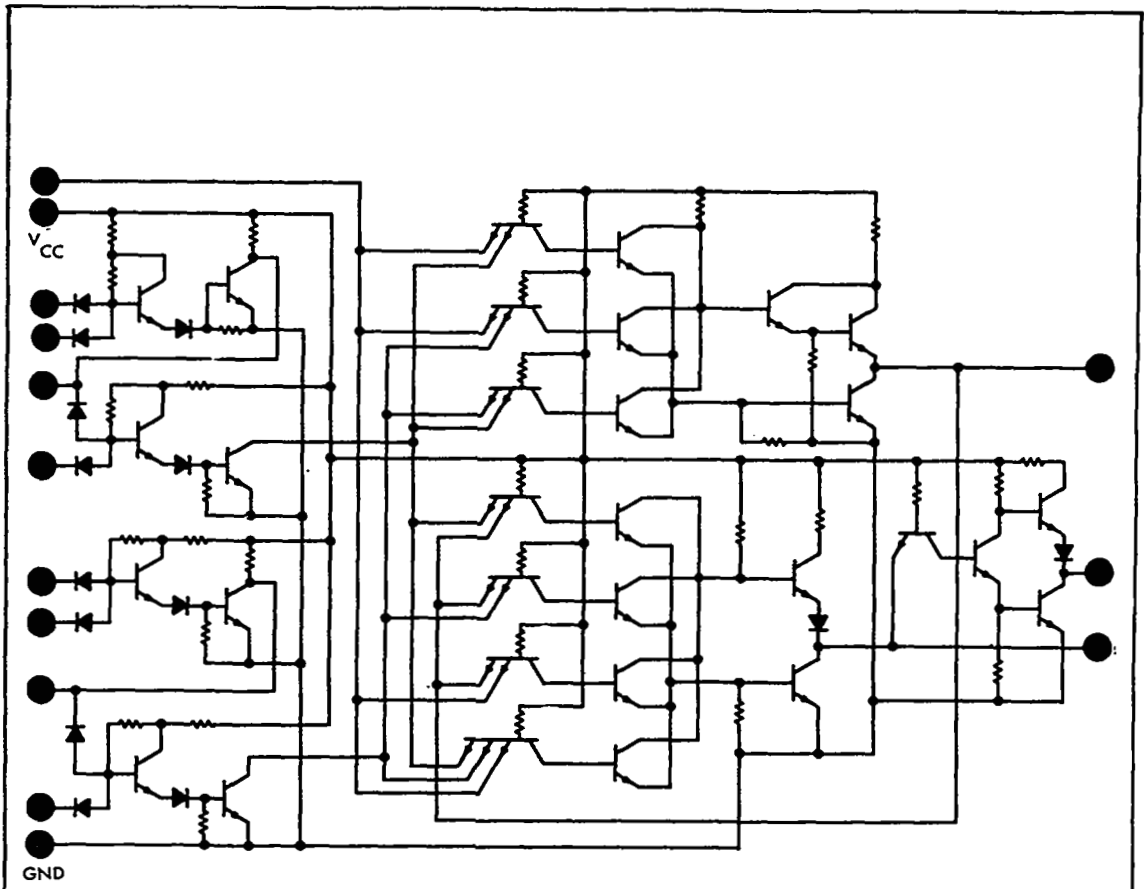
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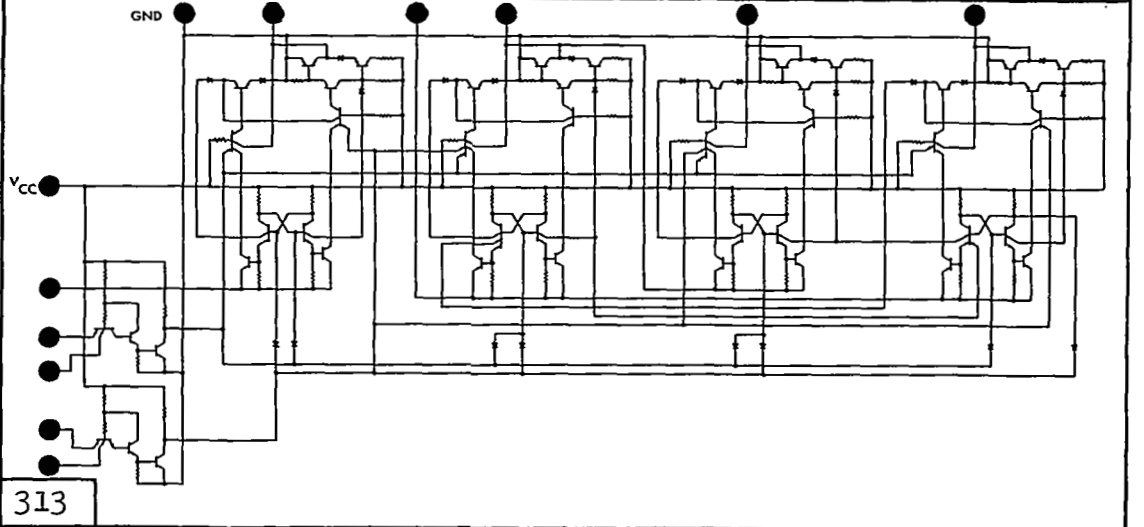
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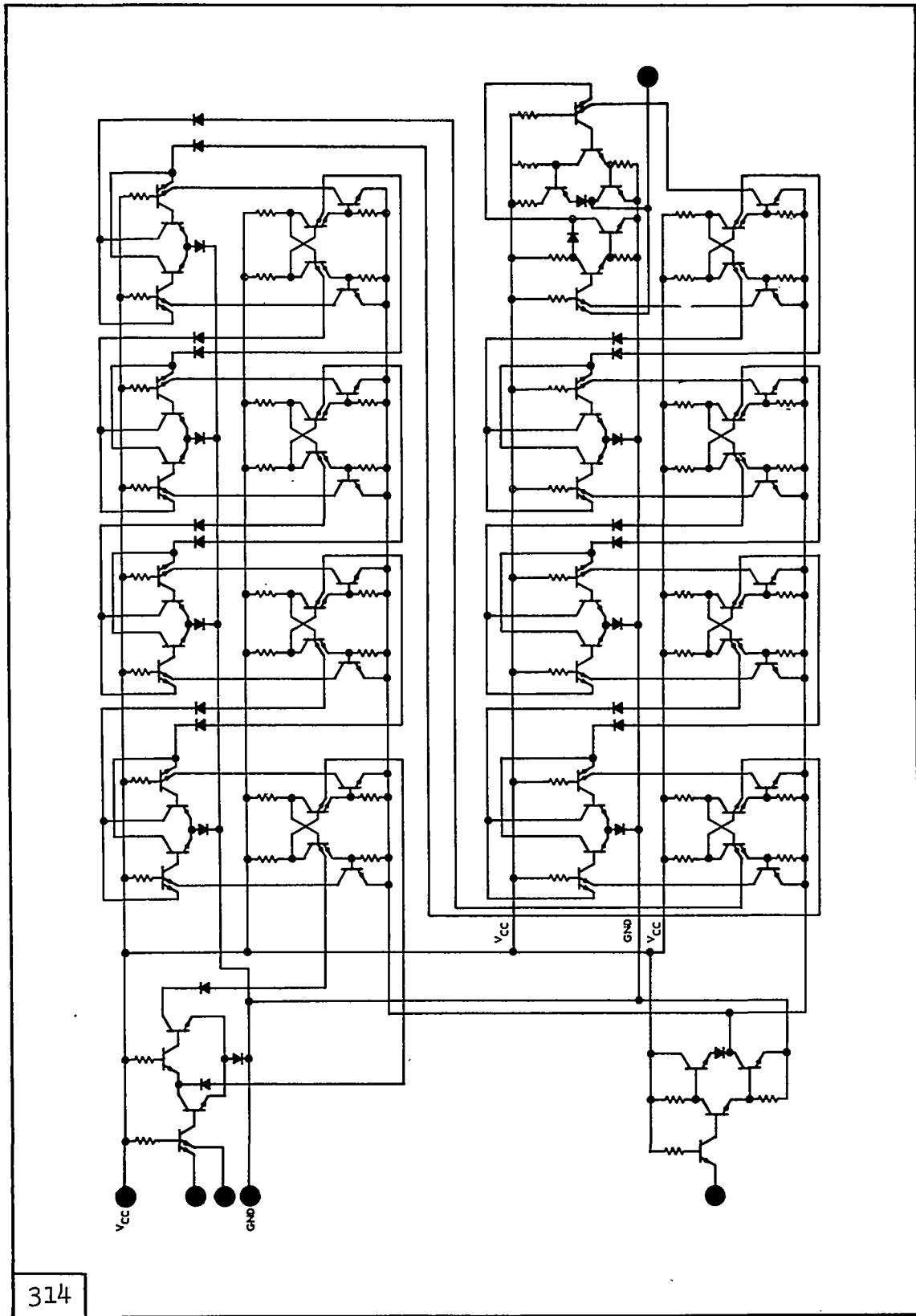
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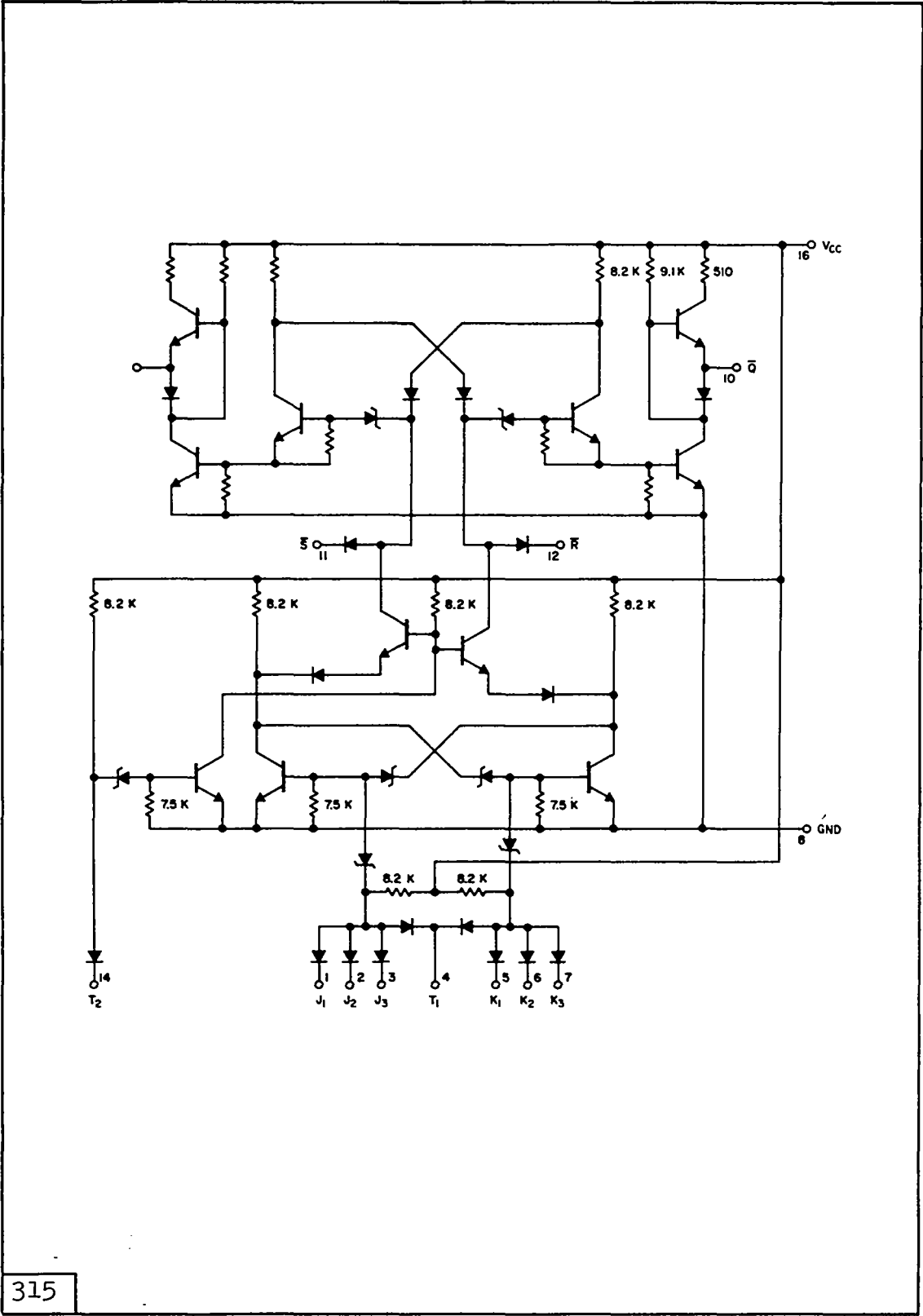


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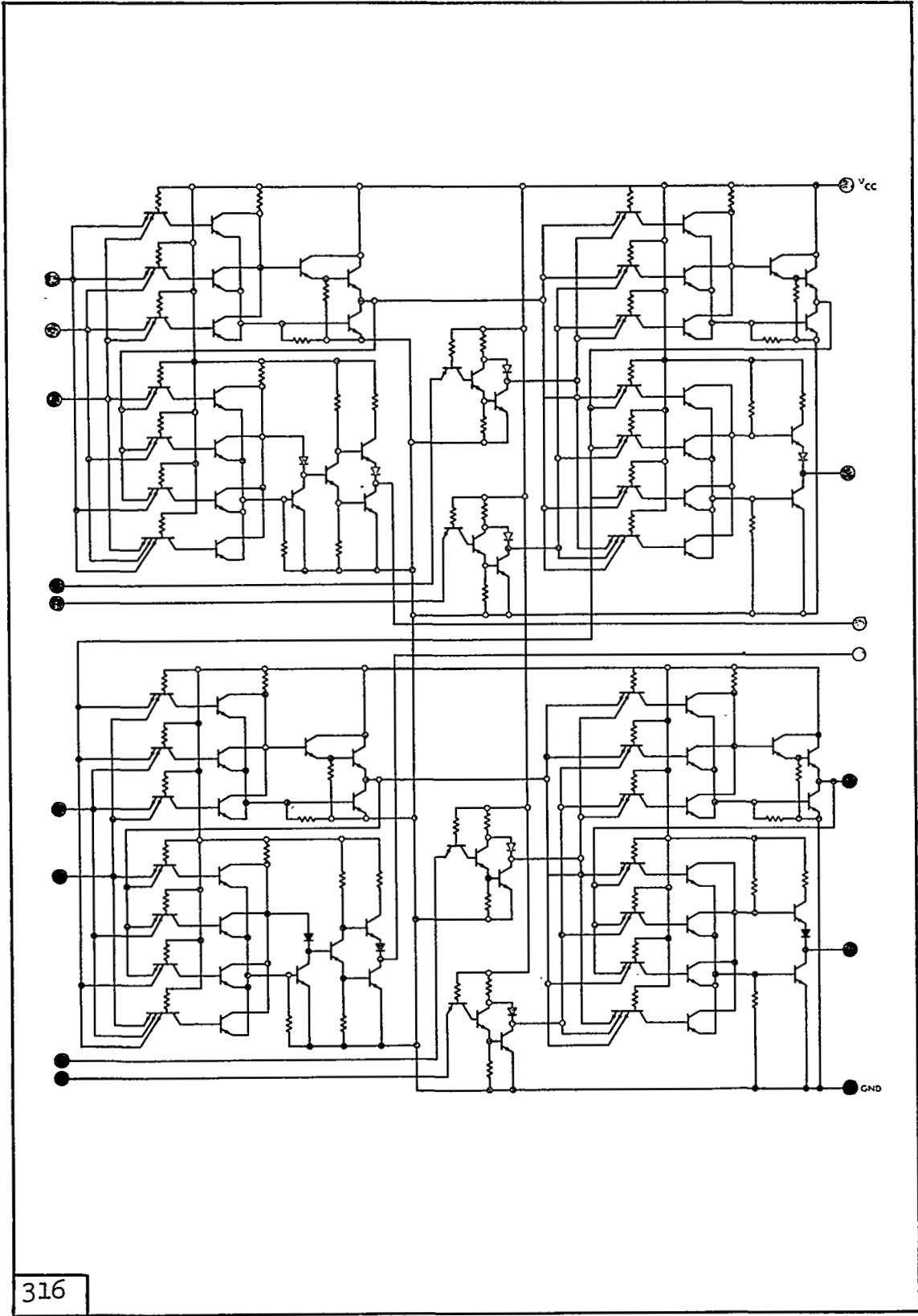


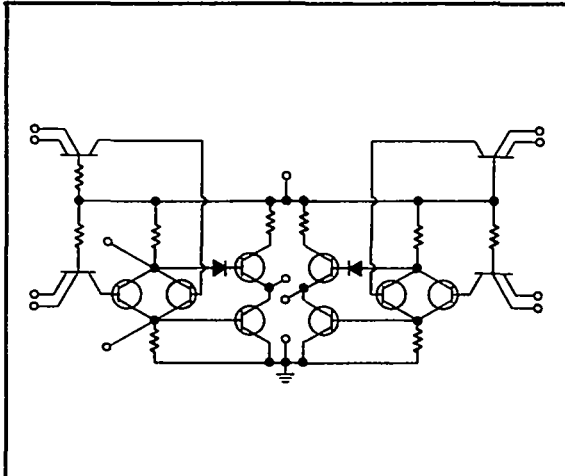
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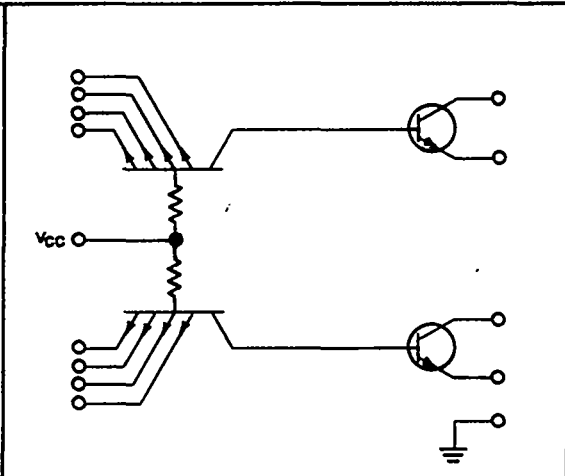


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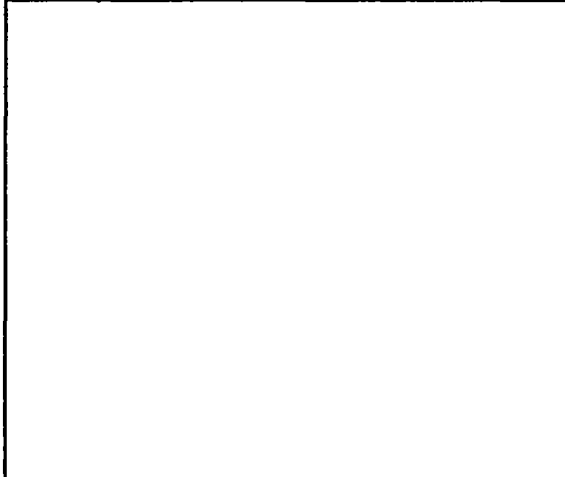




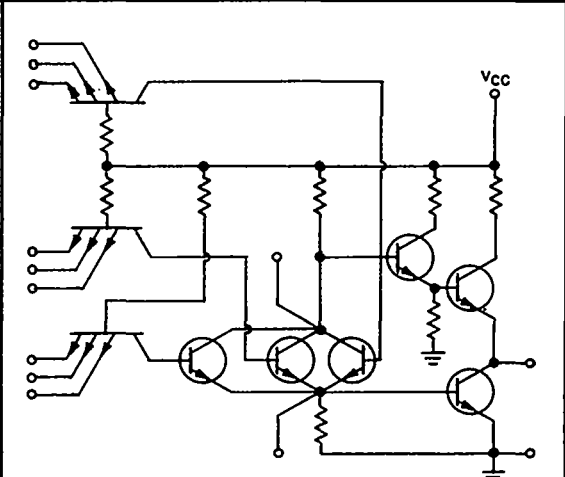
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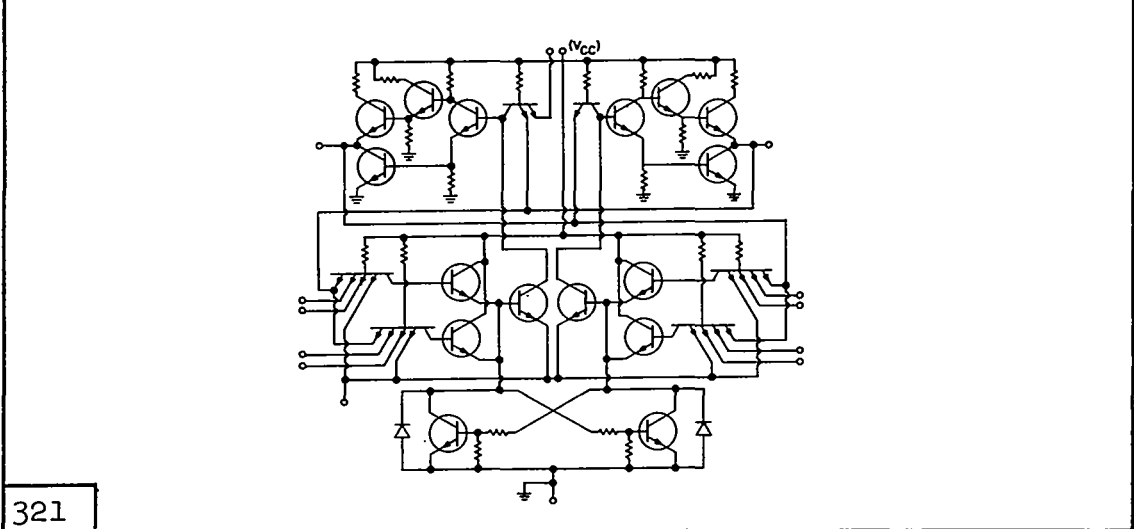
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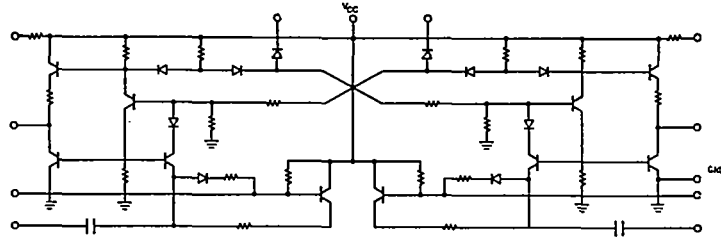
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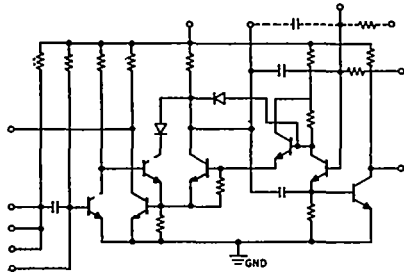
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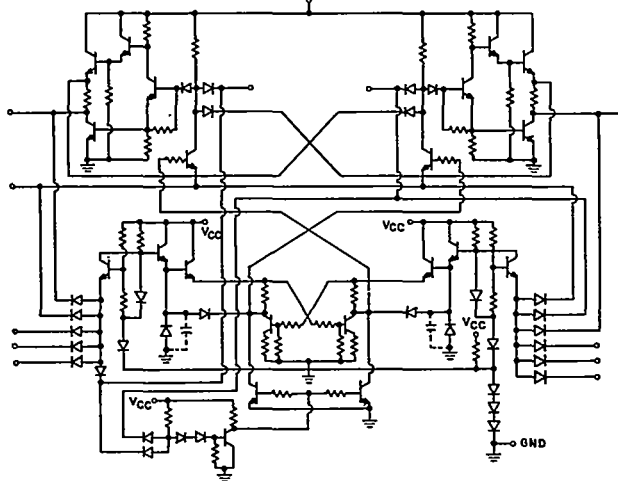


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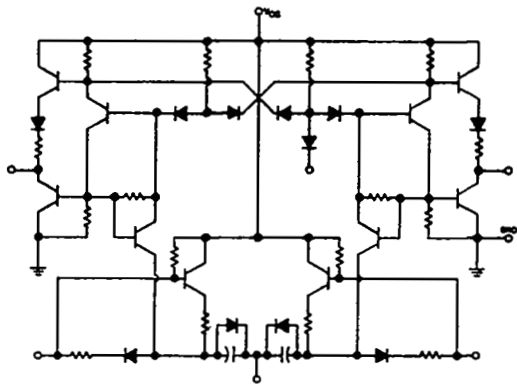


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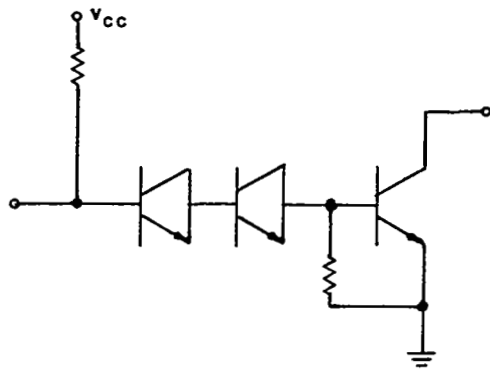


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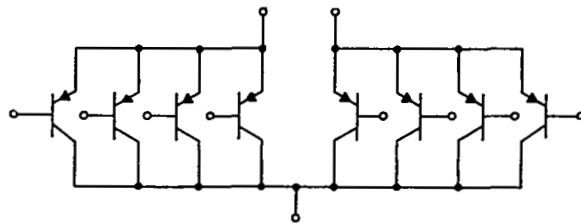
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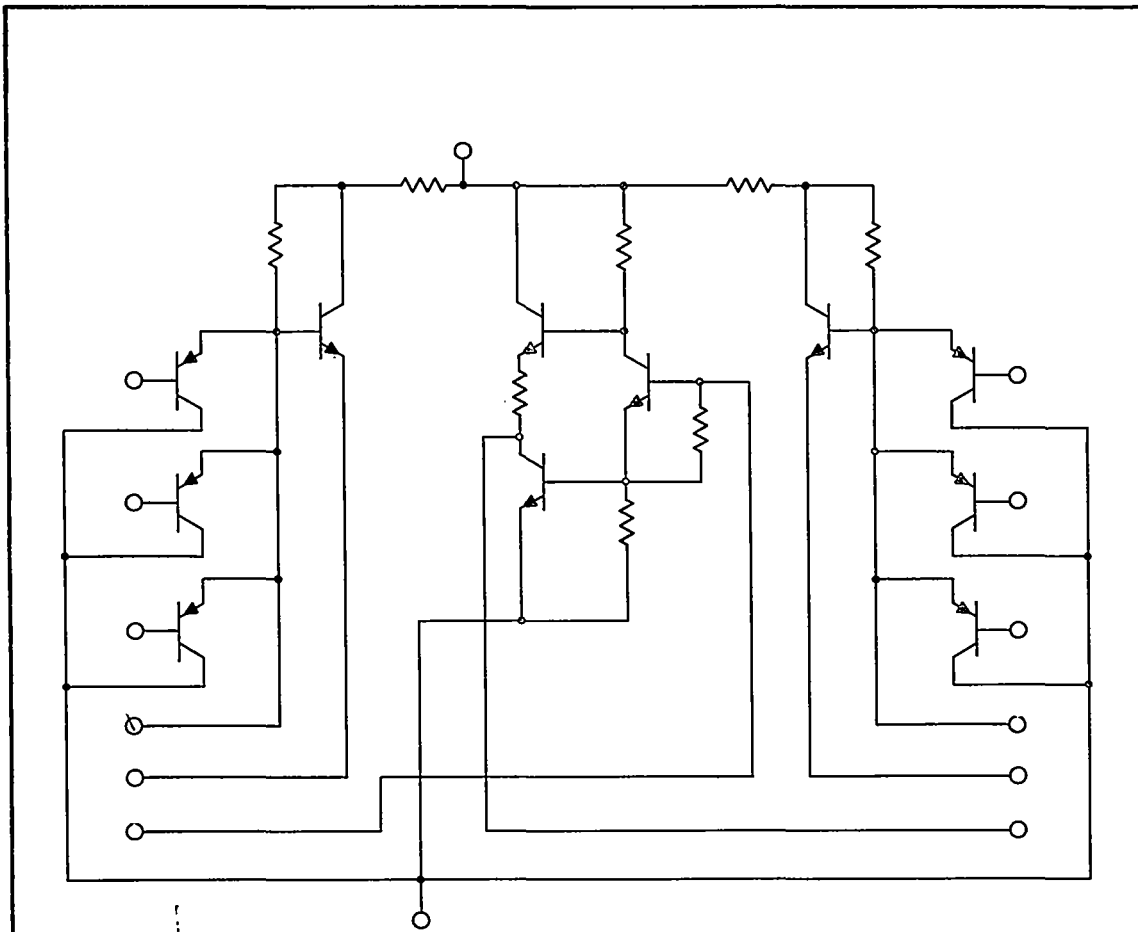


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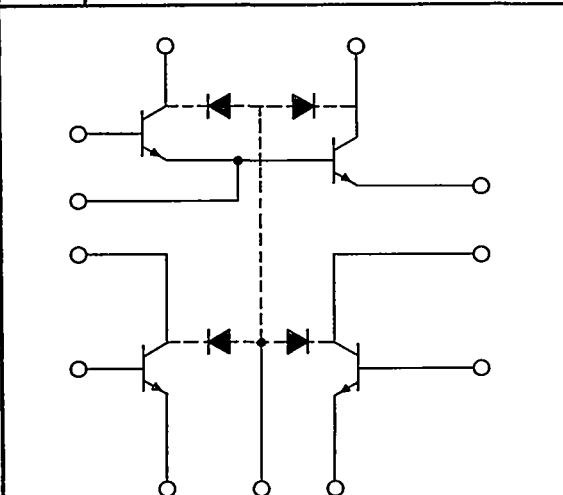
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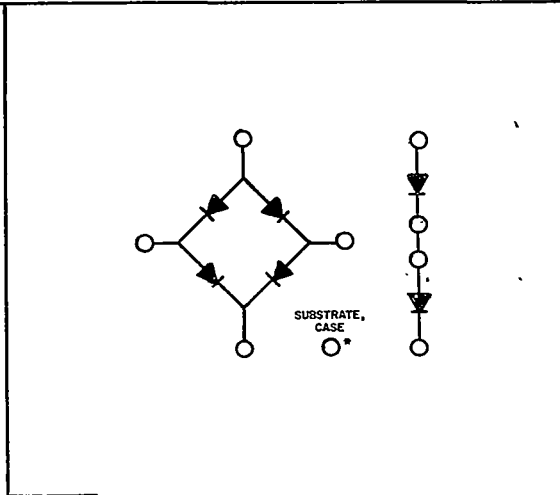
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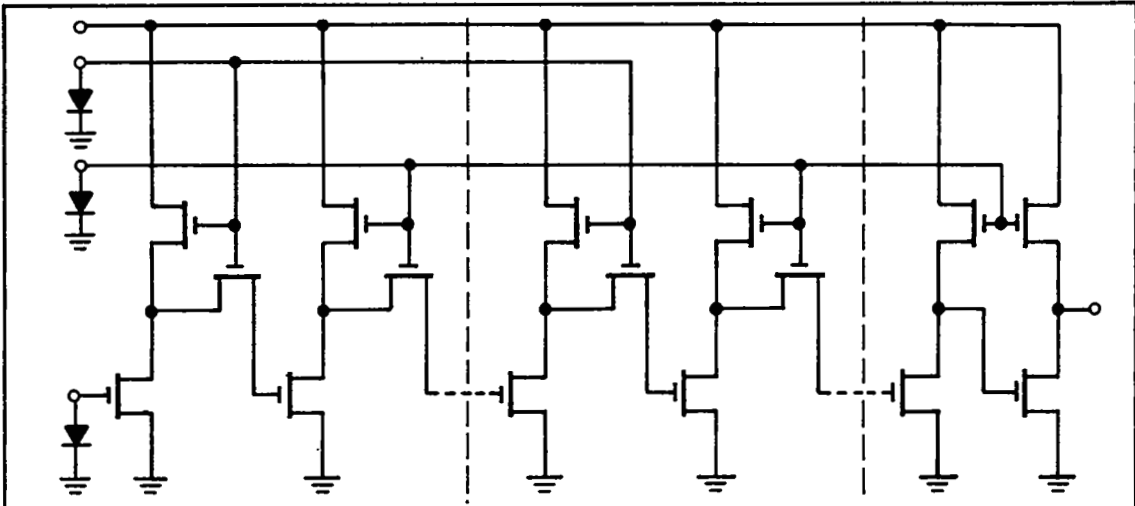
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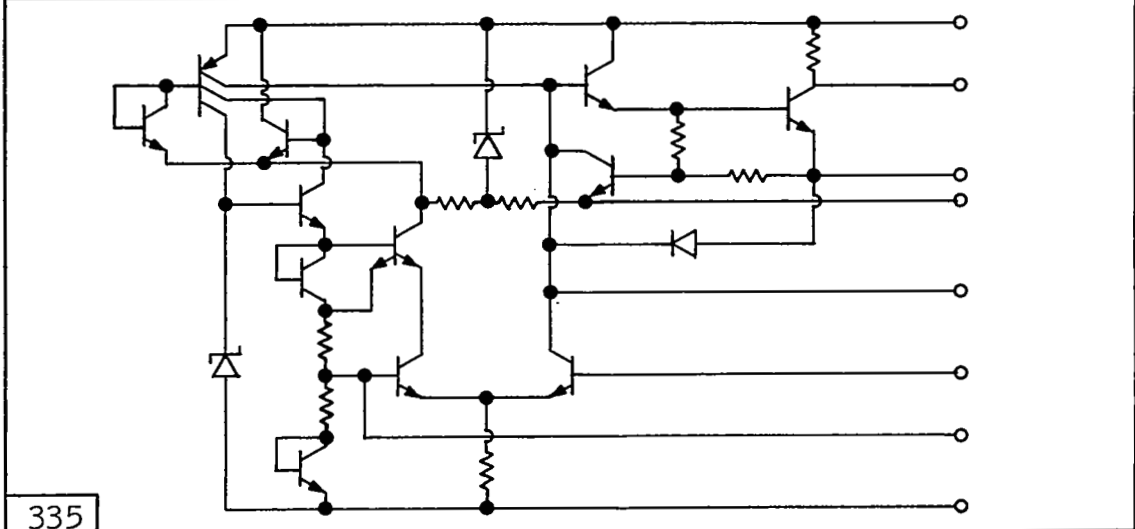
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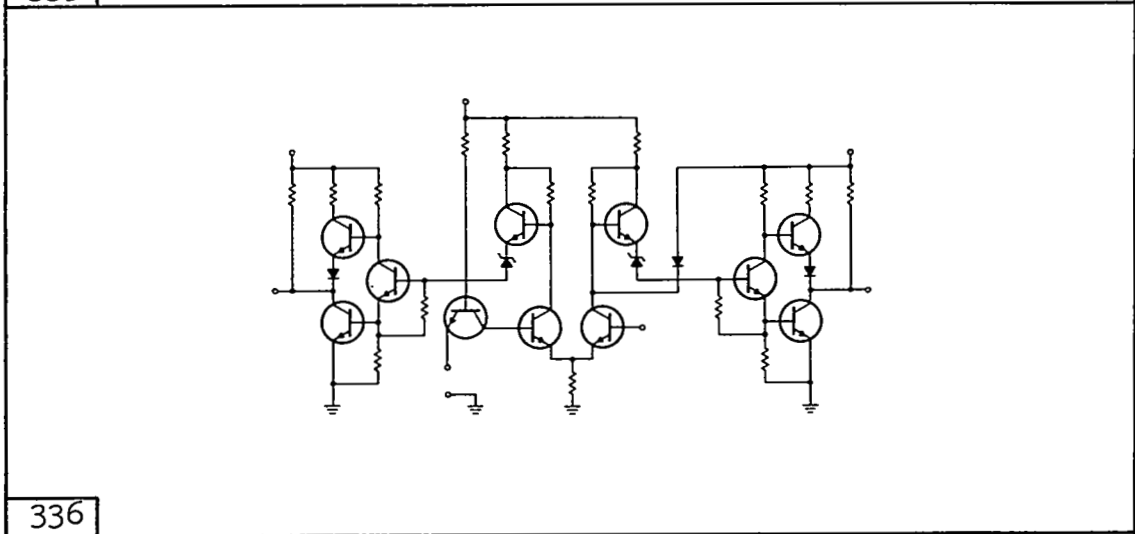
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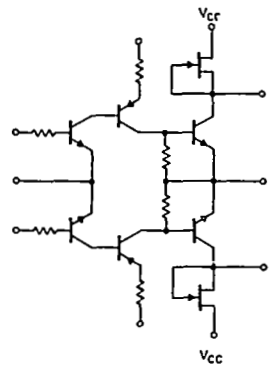
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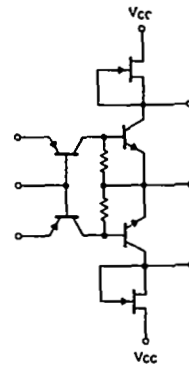
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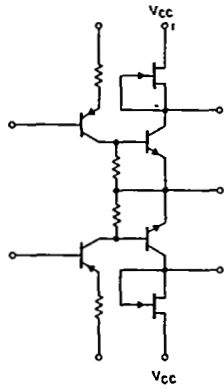
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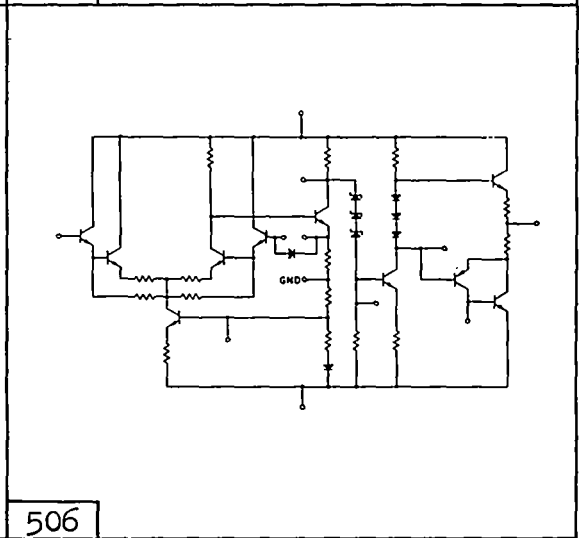
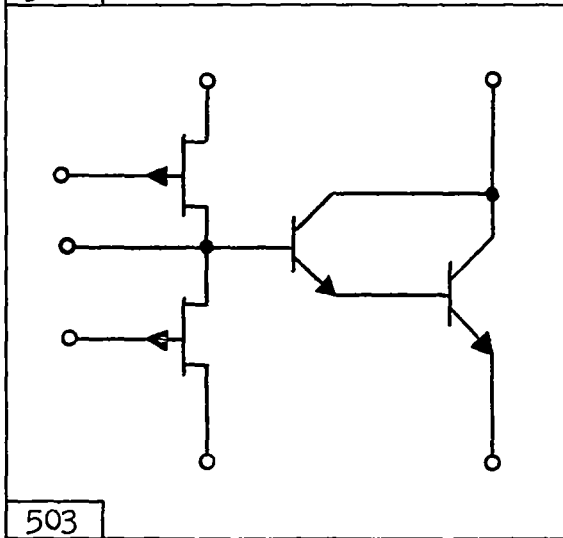
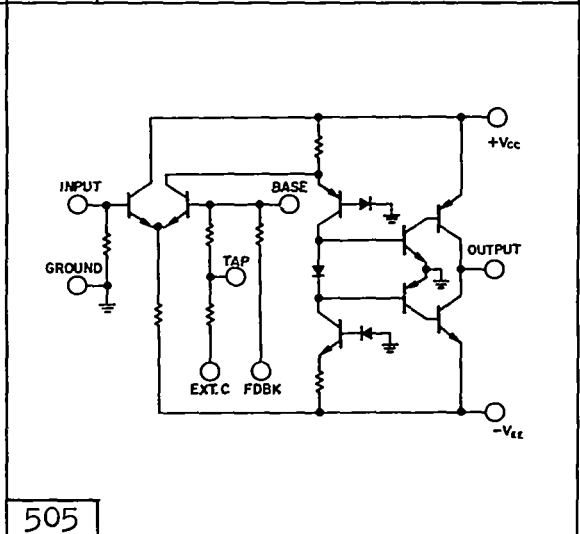
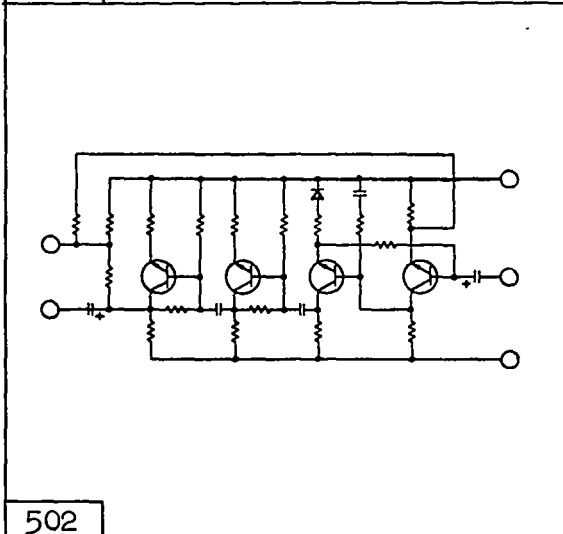
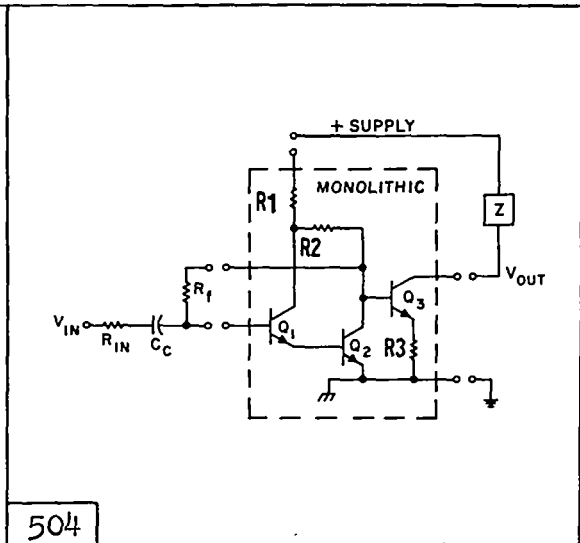
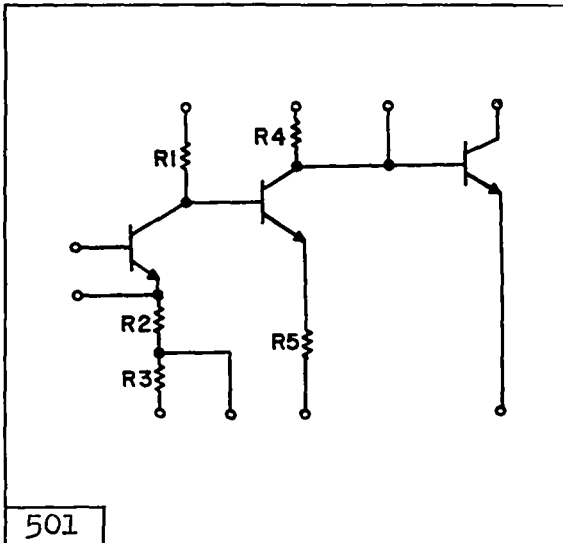


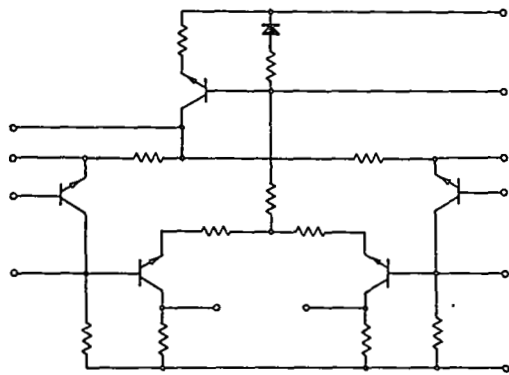
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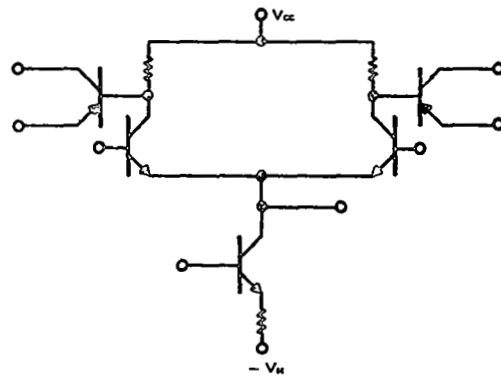
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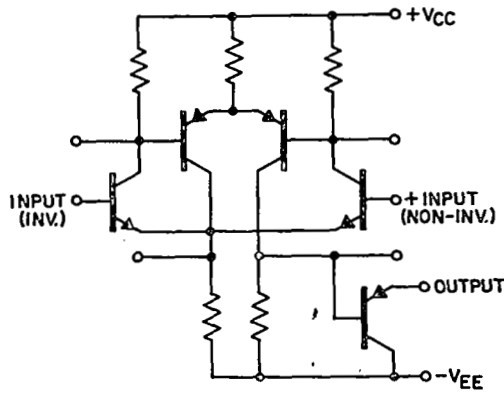




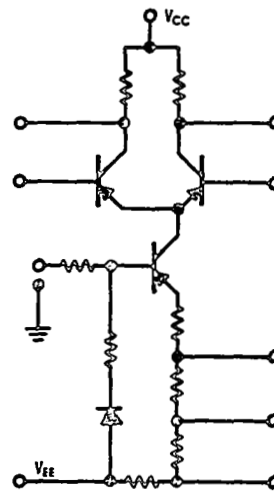
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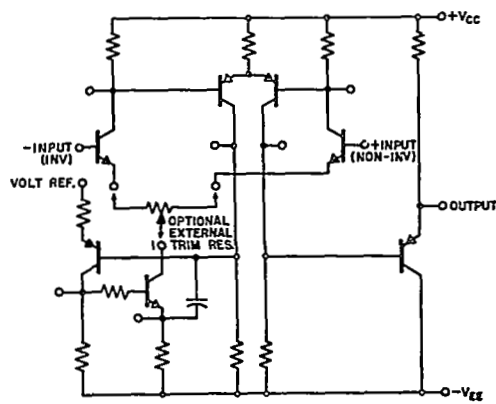
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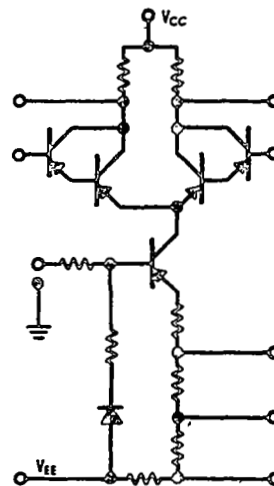
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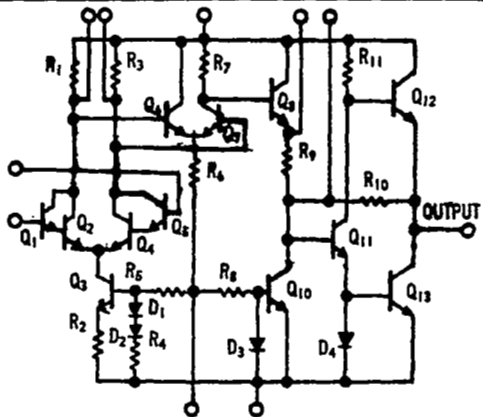
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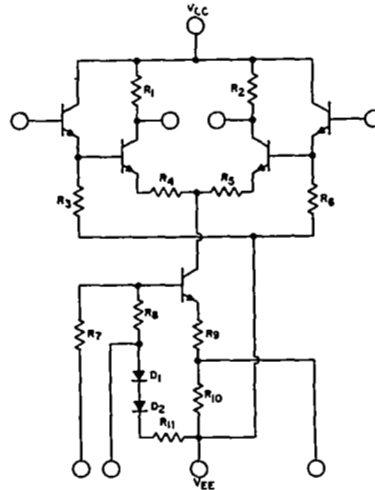


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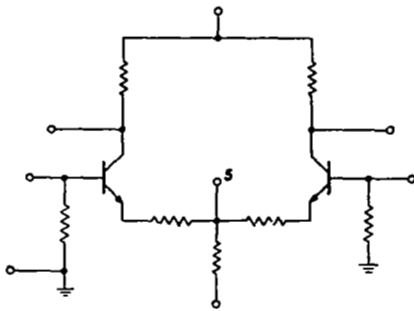


Note: Q1 and Q5 are omitted from MOTA MC1530. Inputs are to bases of Q2 and Q4.

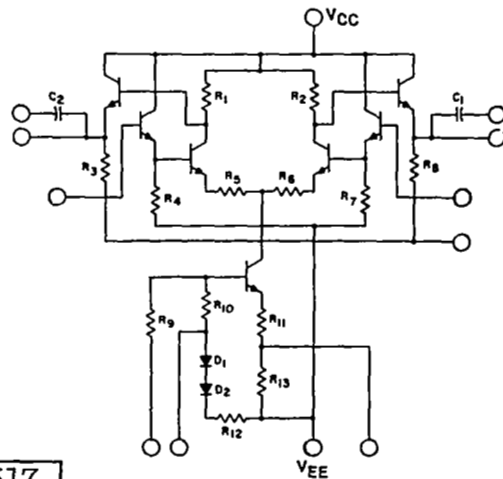
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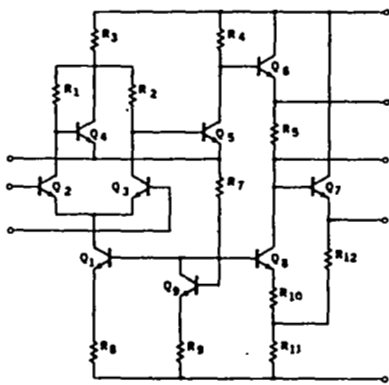
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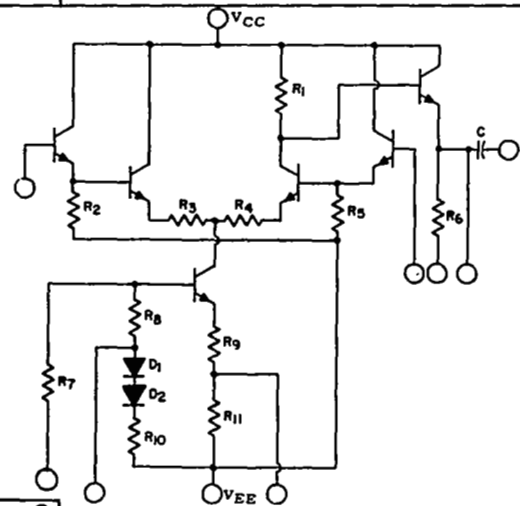
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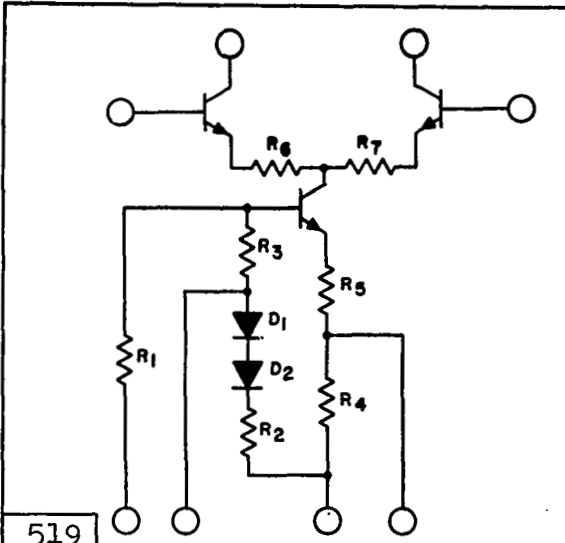
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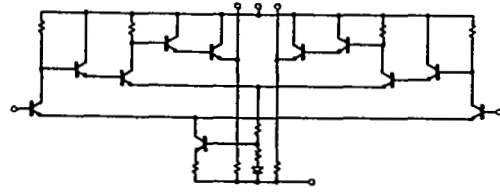
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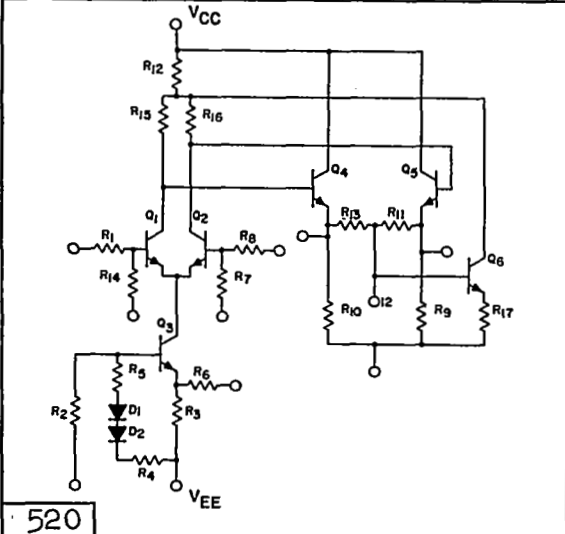
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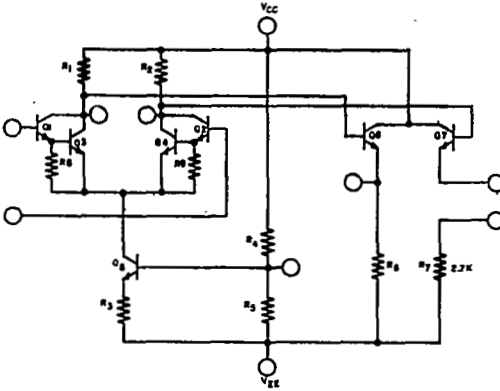
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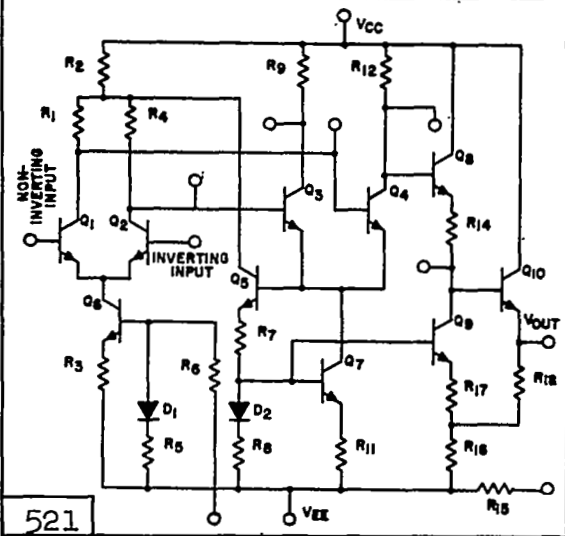
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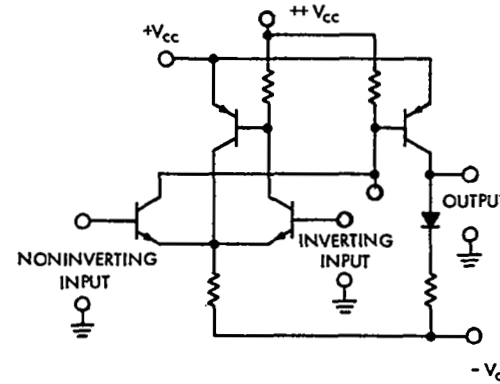
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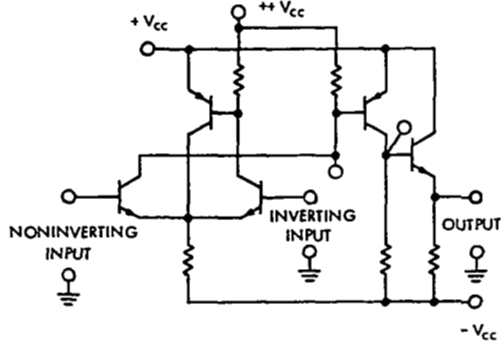
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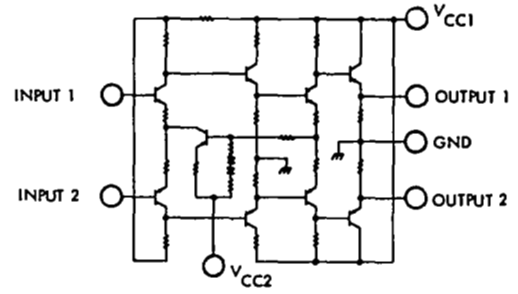
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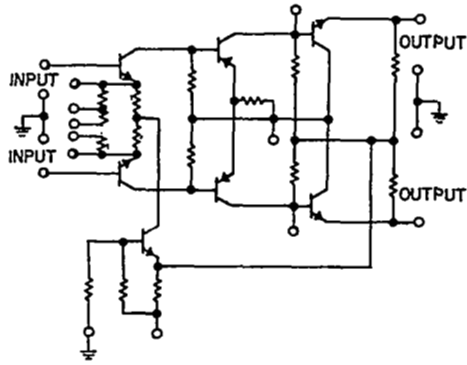
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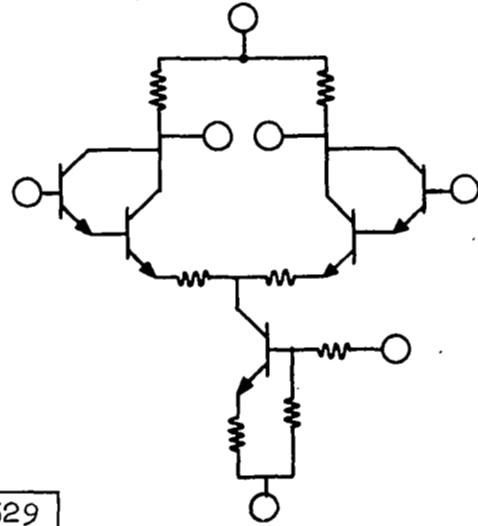
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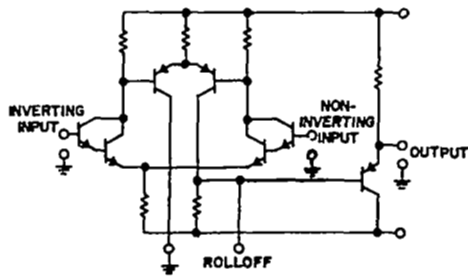
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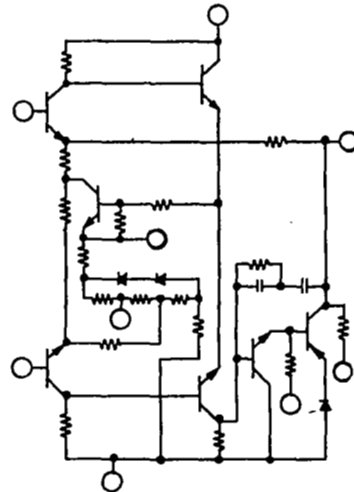
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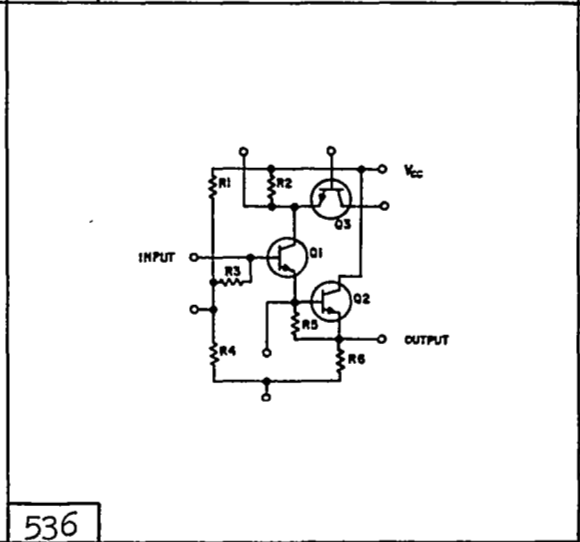
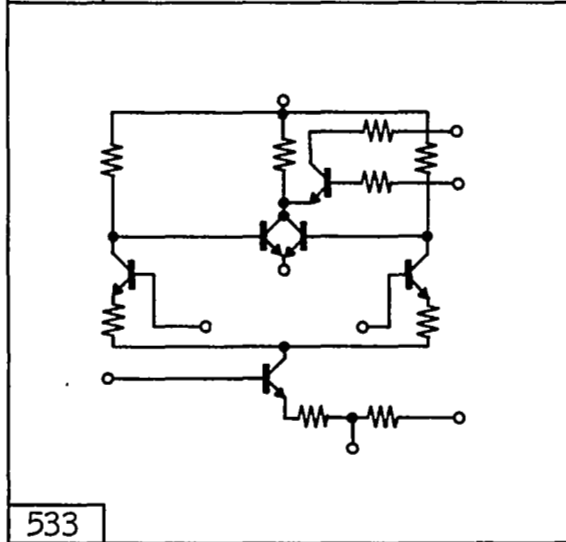
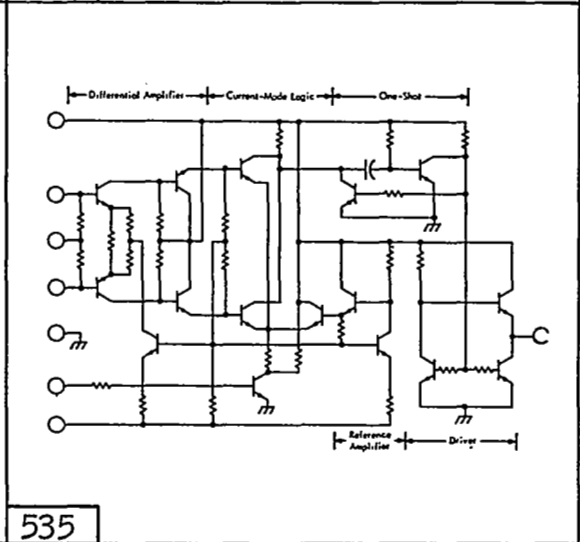
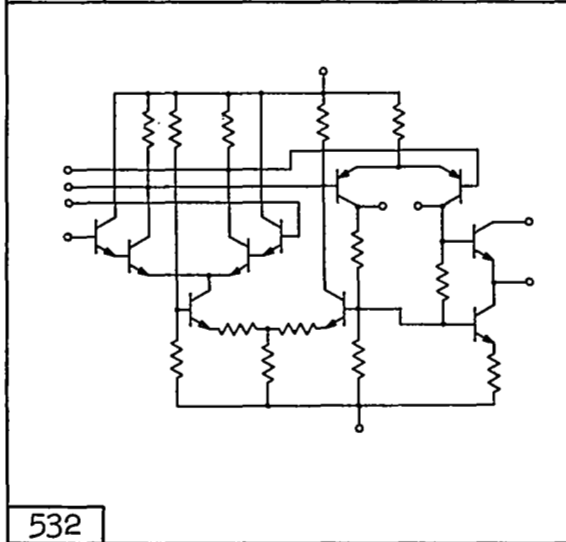
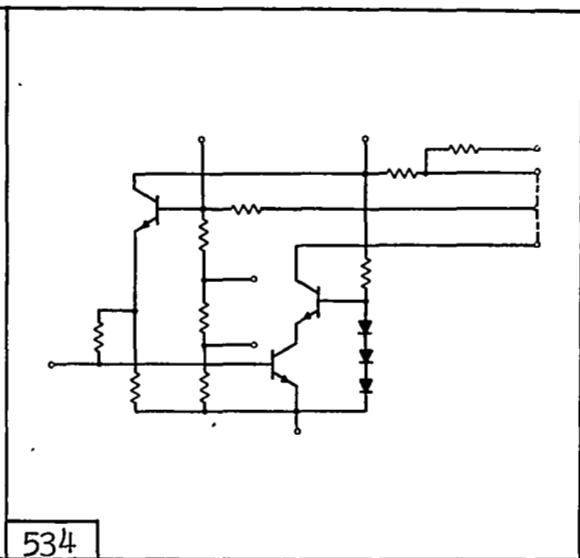
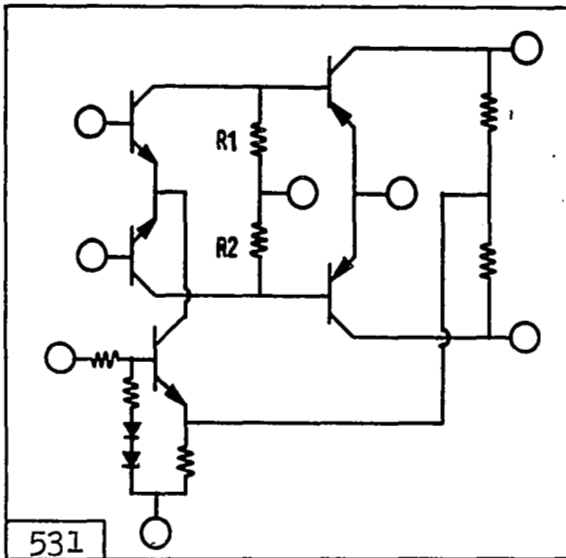
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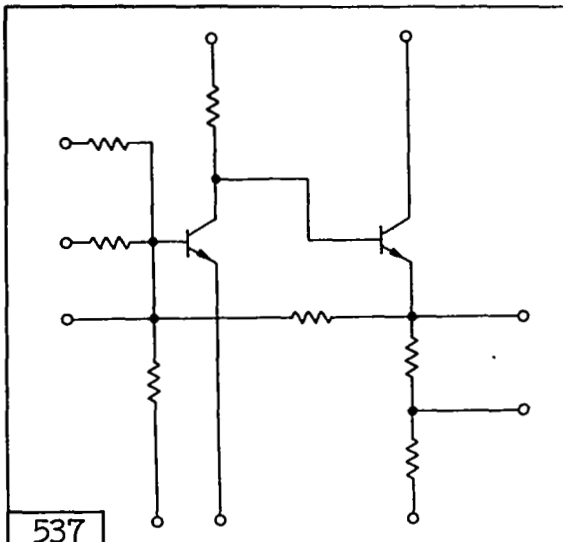


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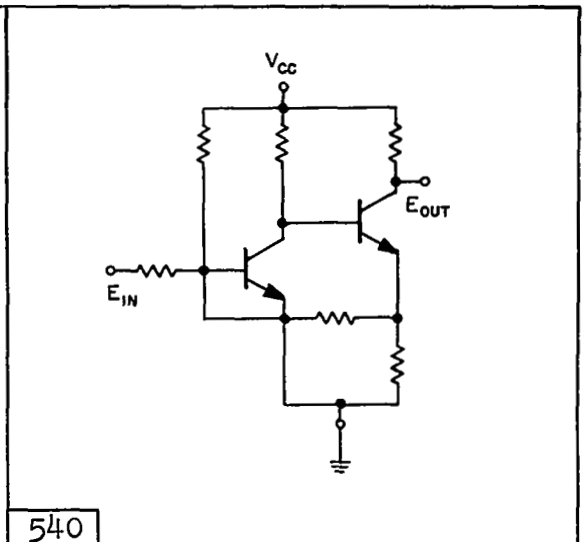


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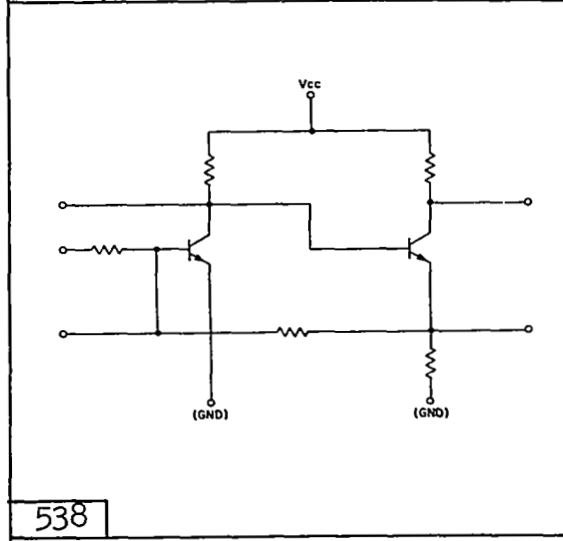




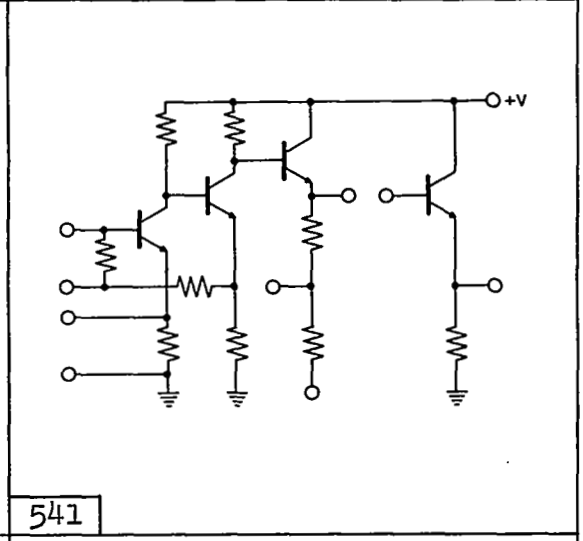
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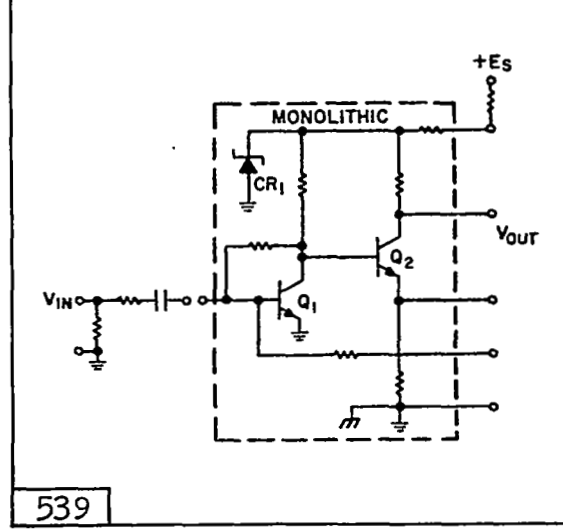
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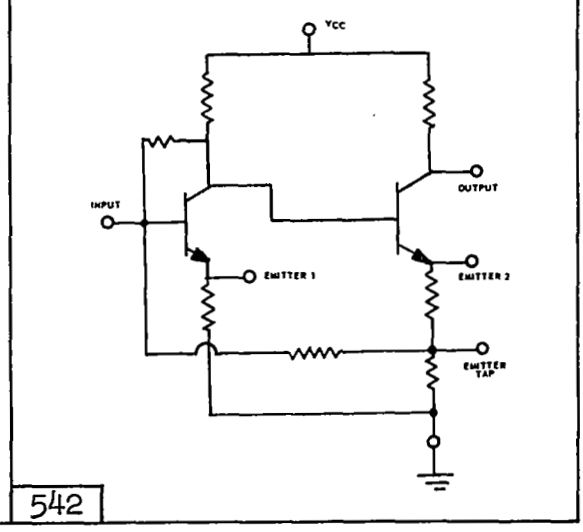
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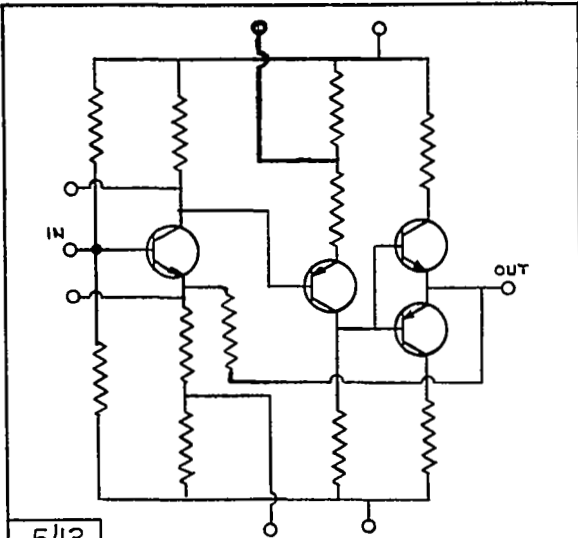
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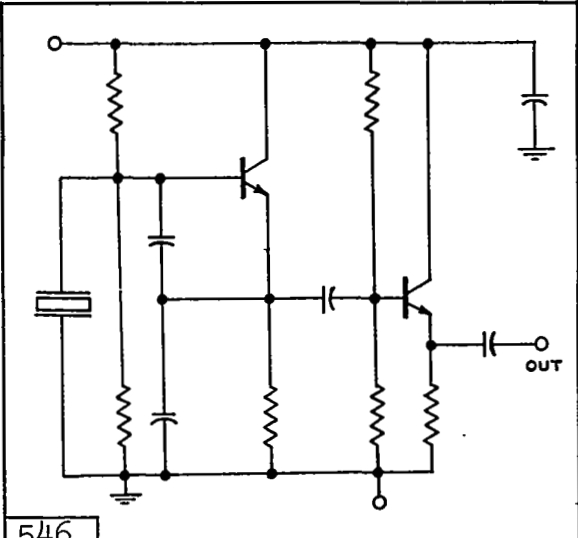
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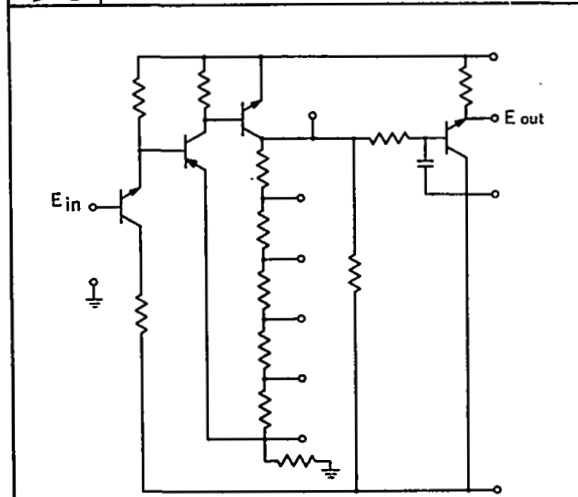
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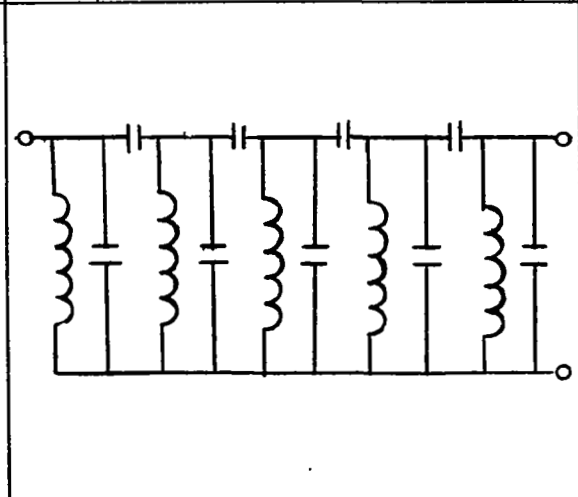
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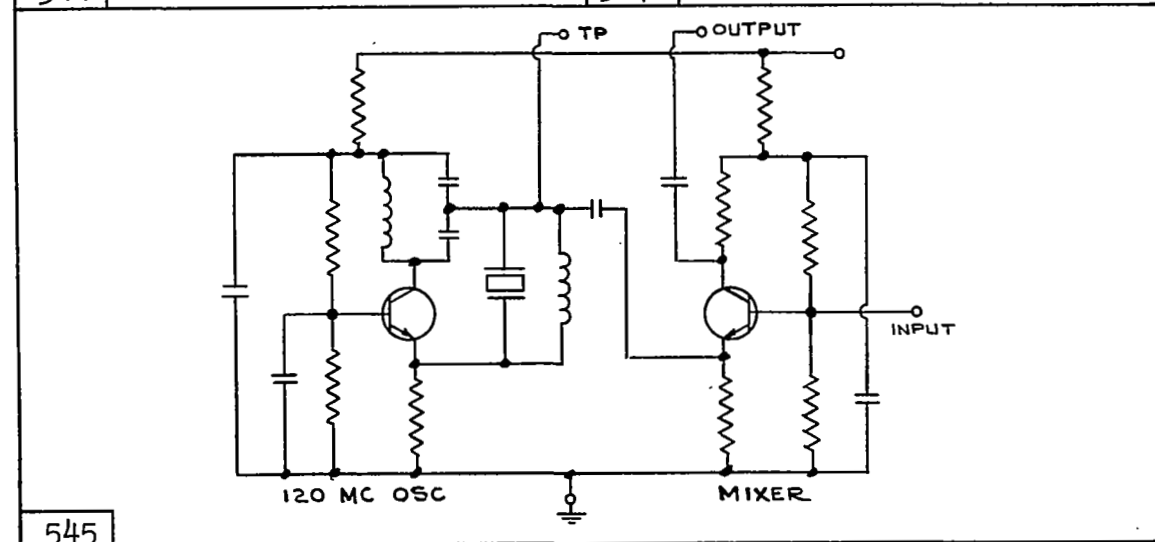
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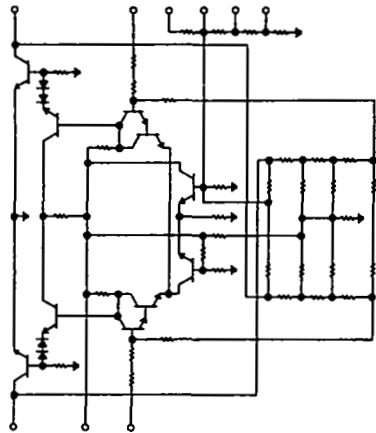


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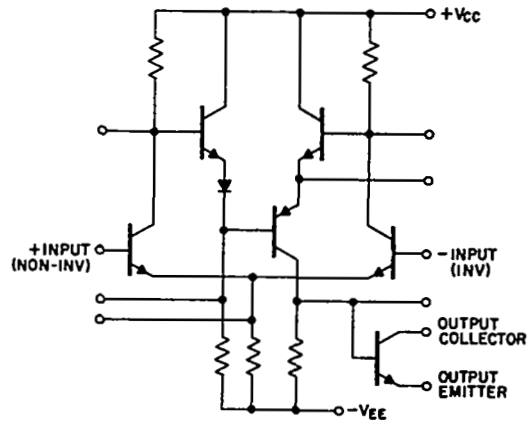


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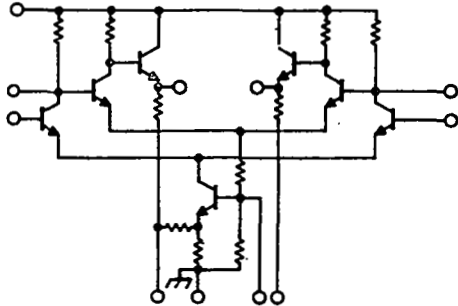




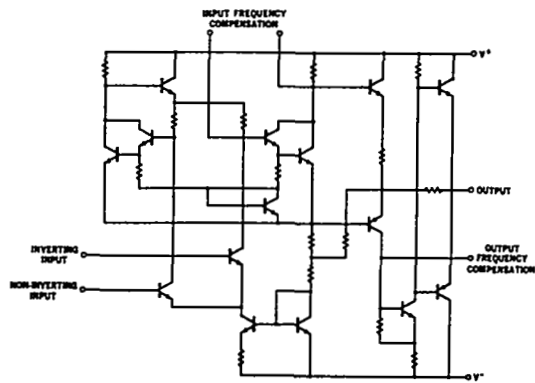
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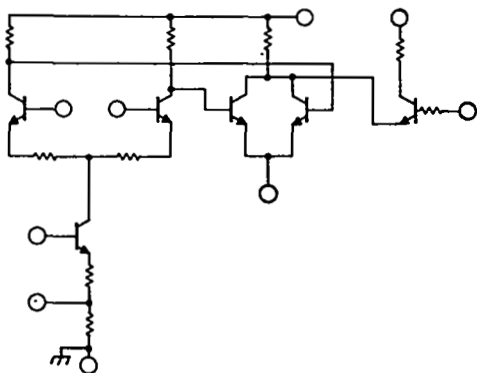
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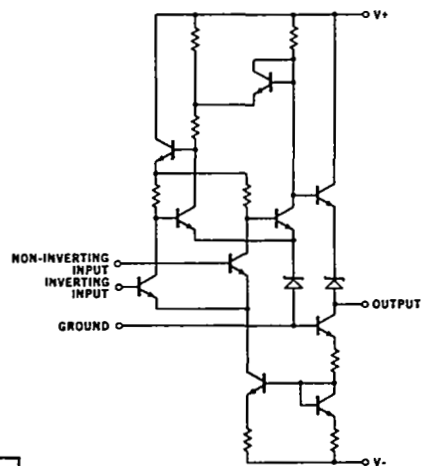
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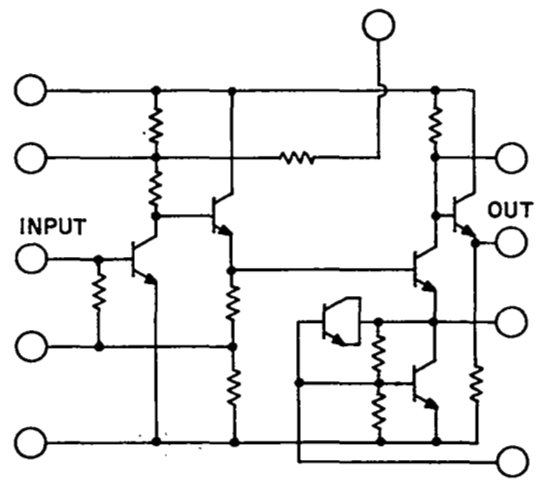
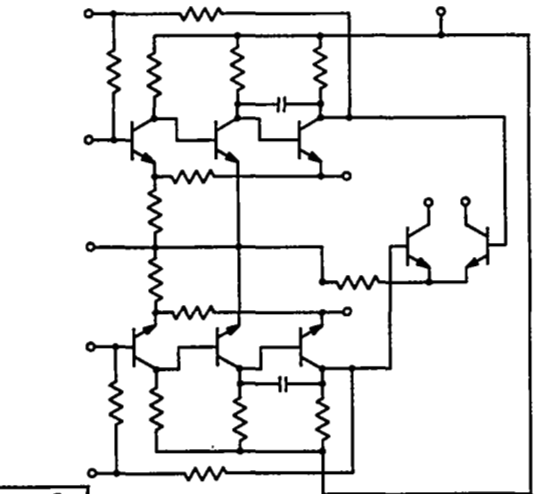
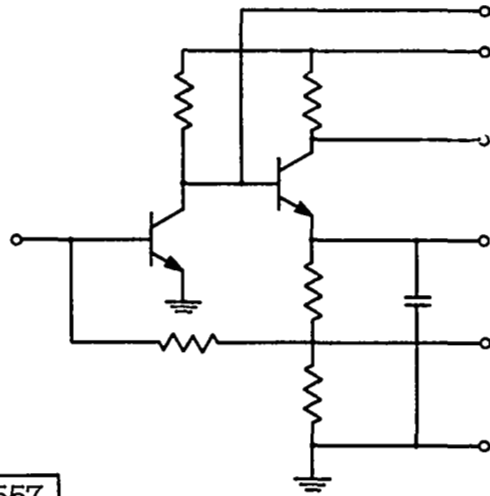
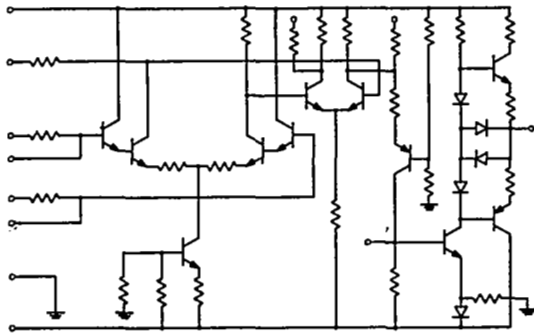
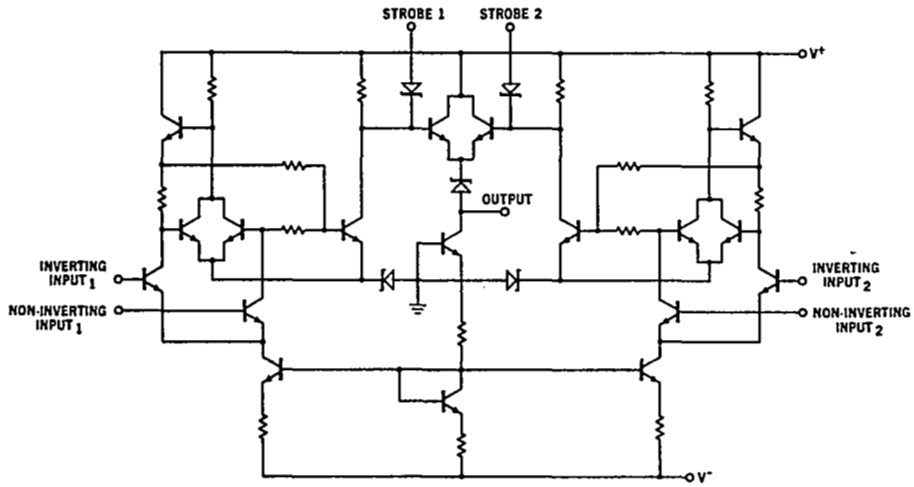
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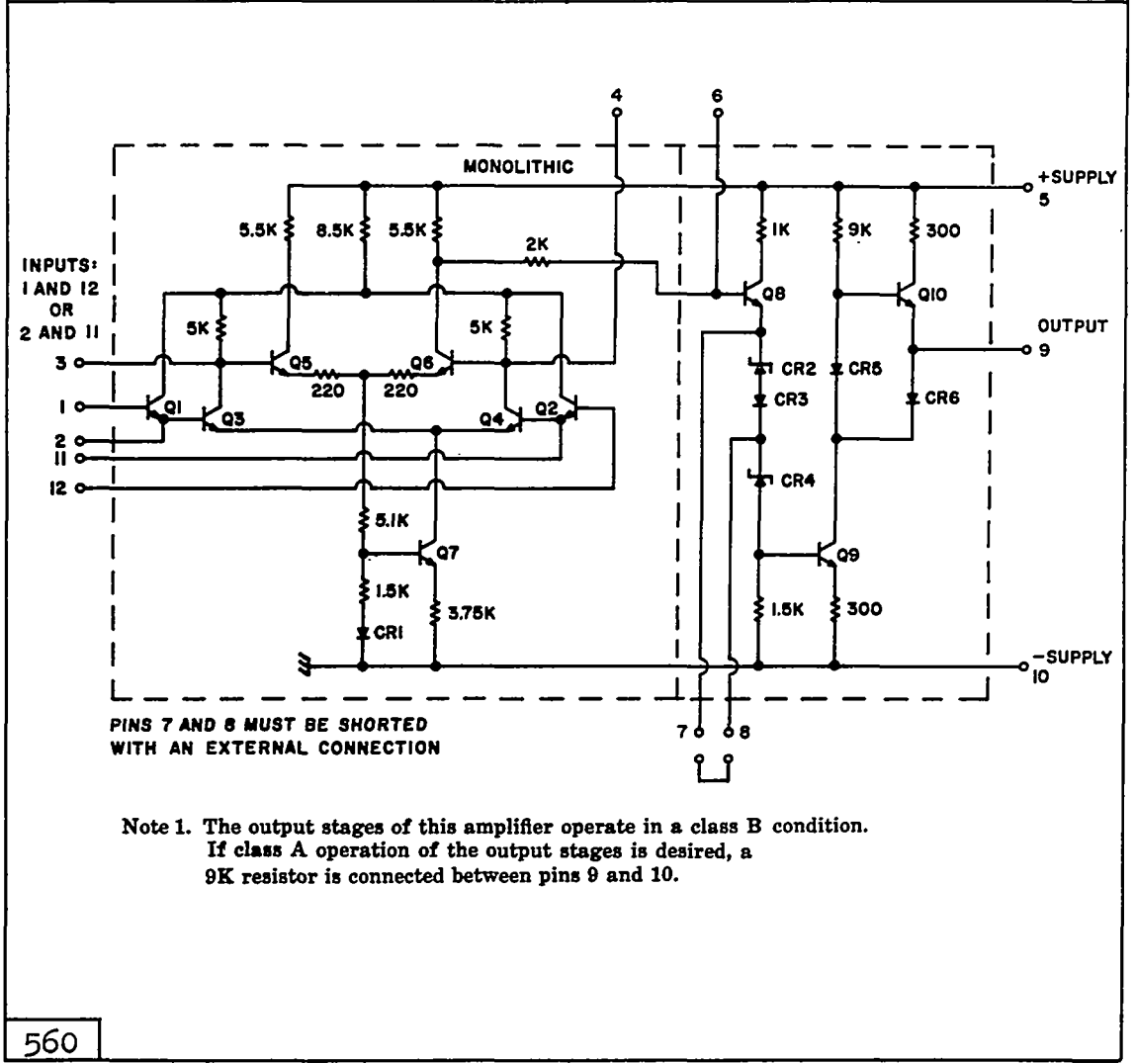
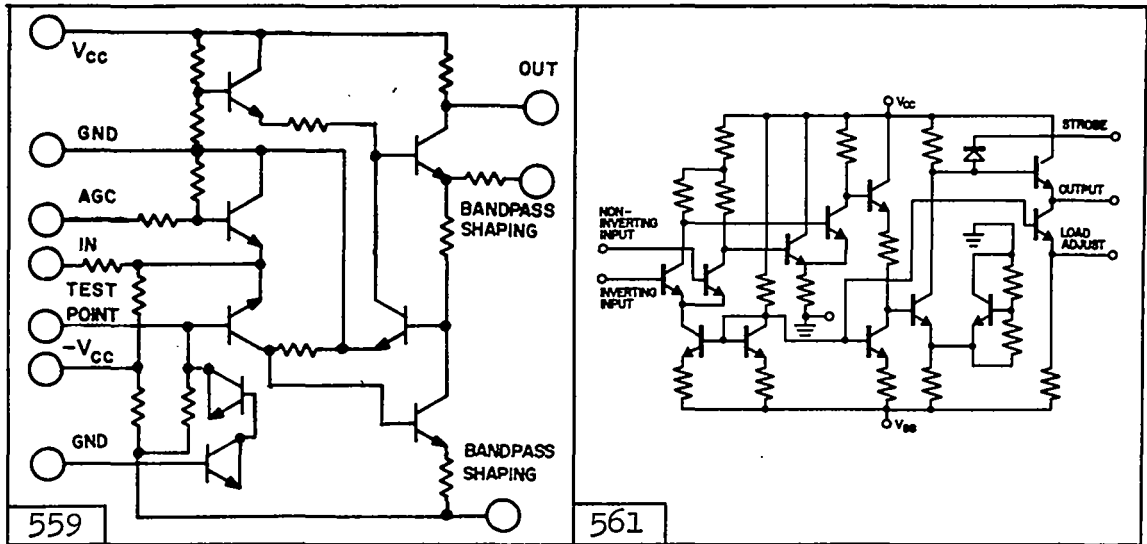


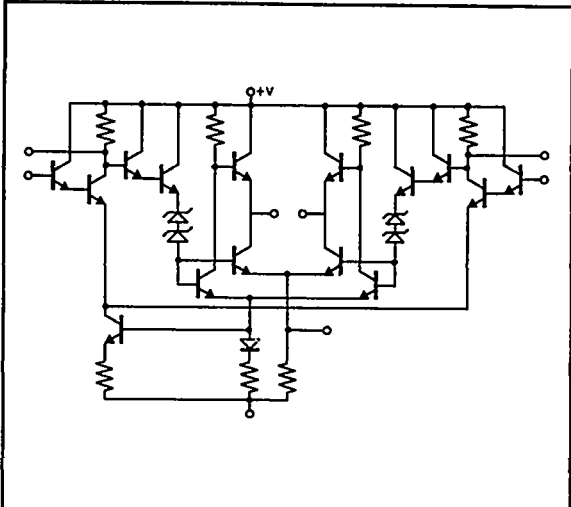
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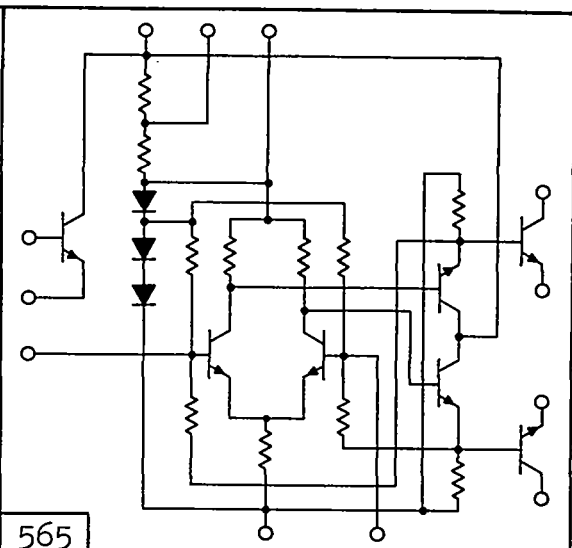
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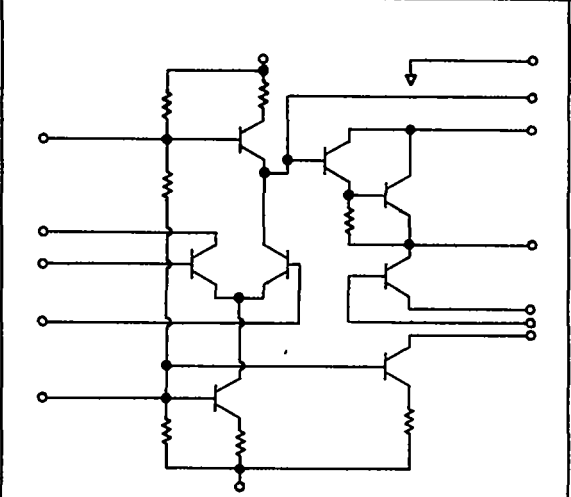




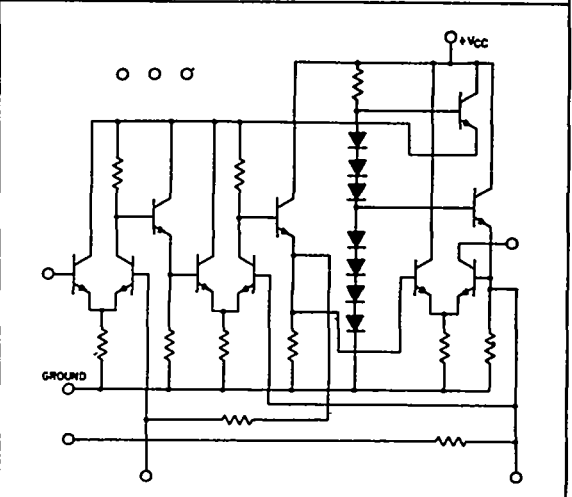
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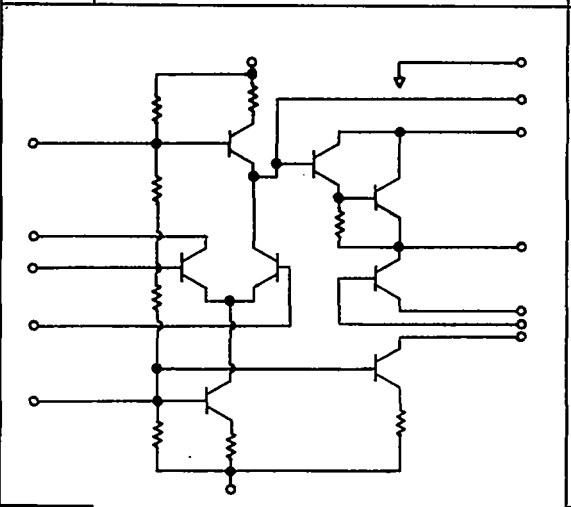
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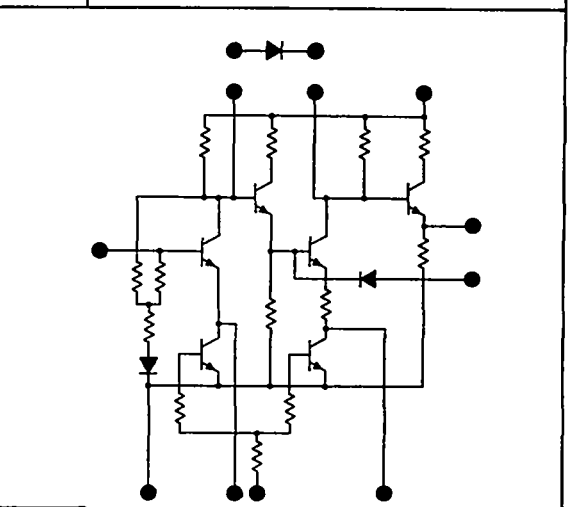
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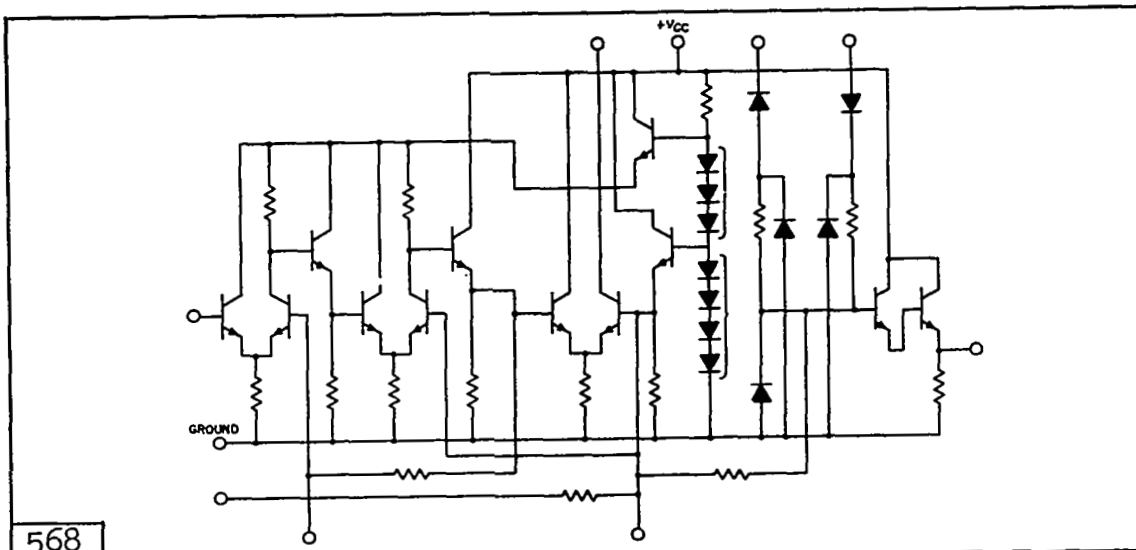
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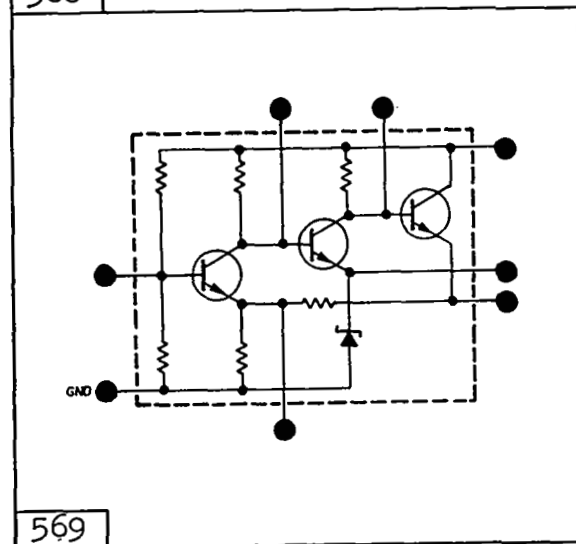
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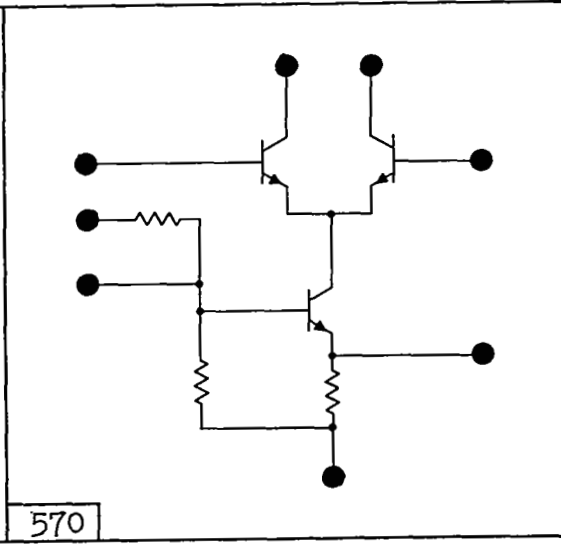
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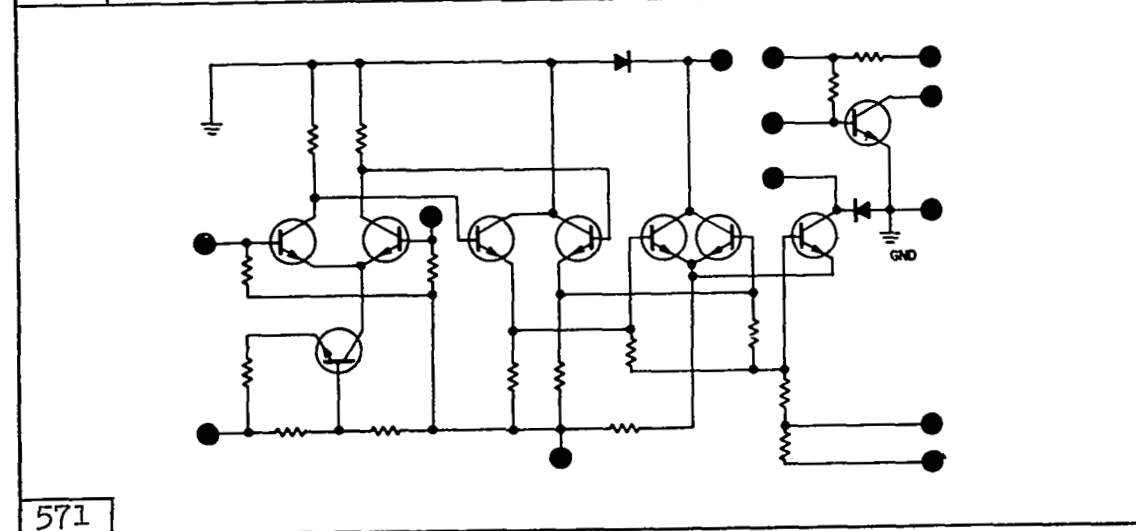
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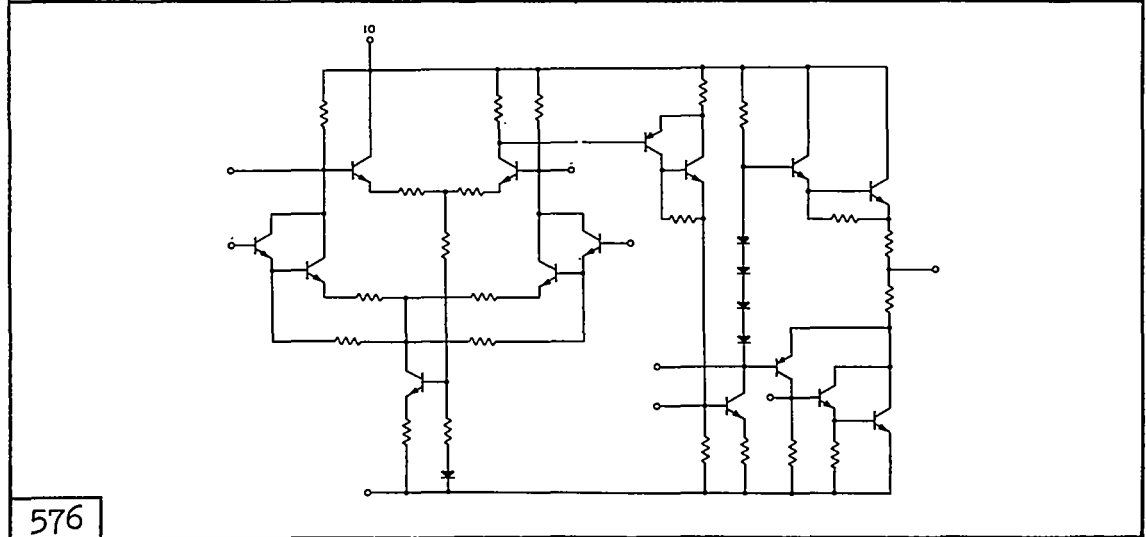
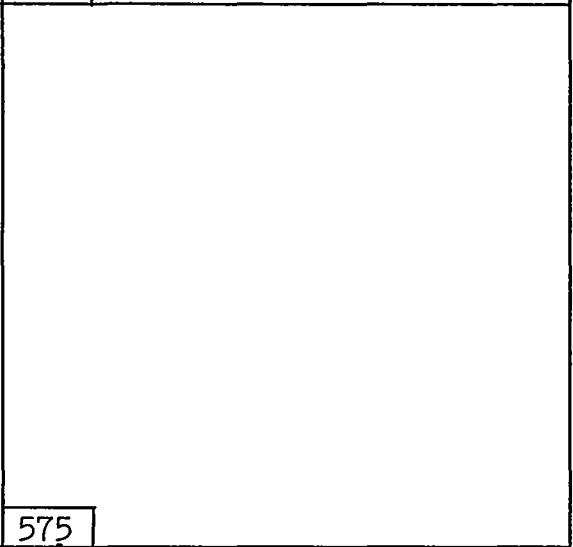
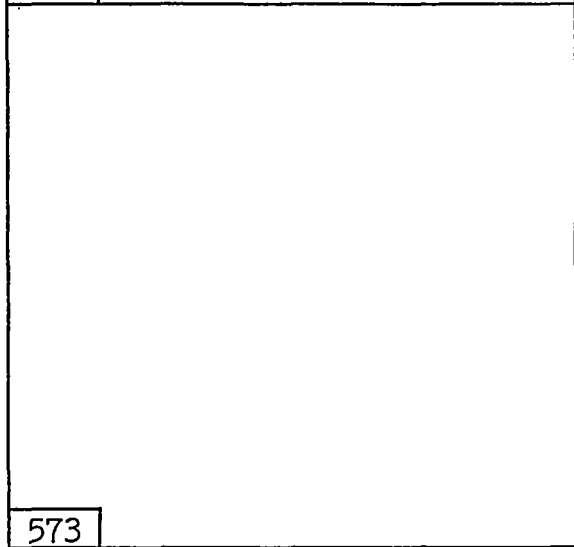
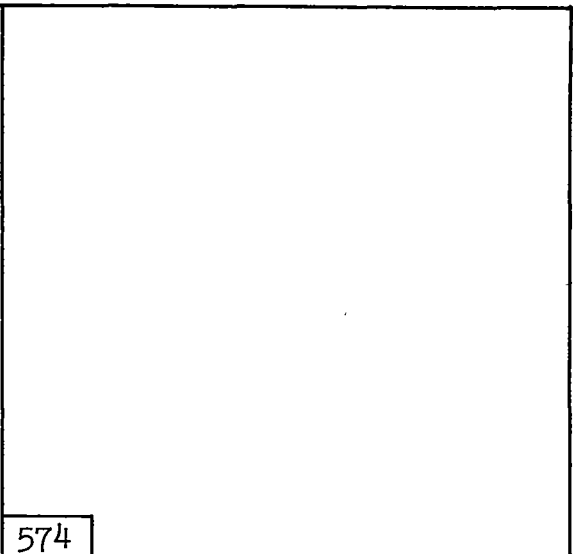
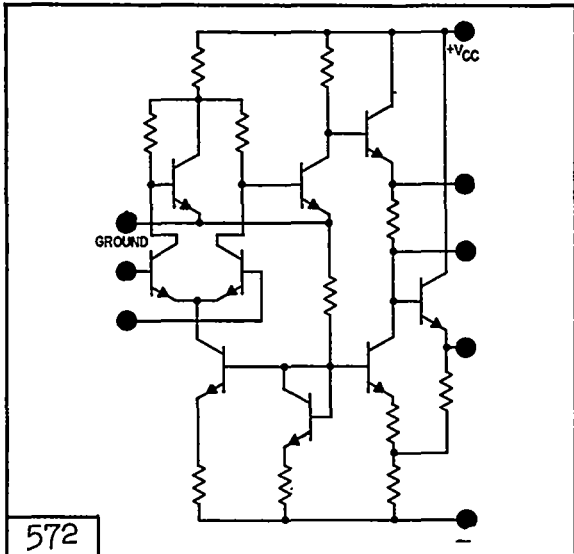
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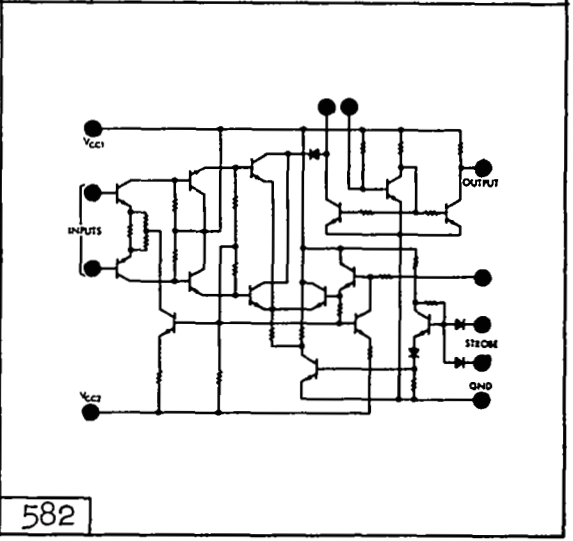
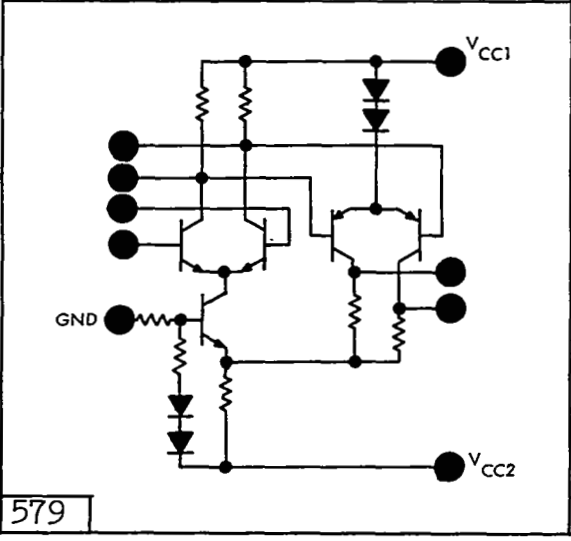
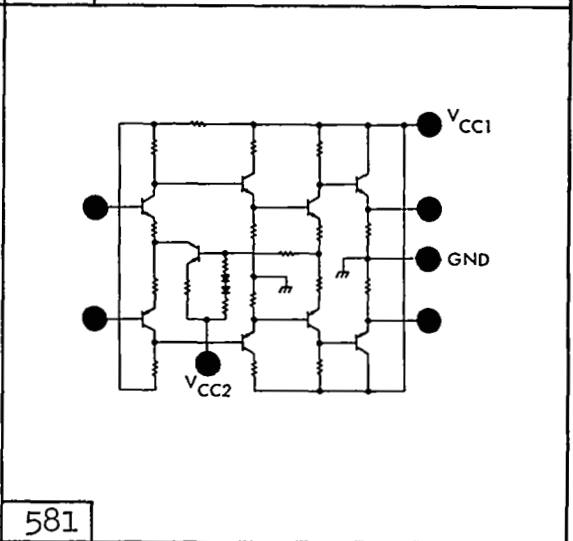
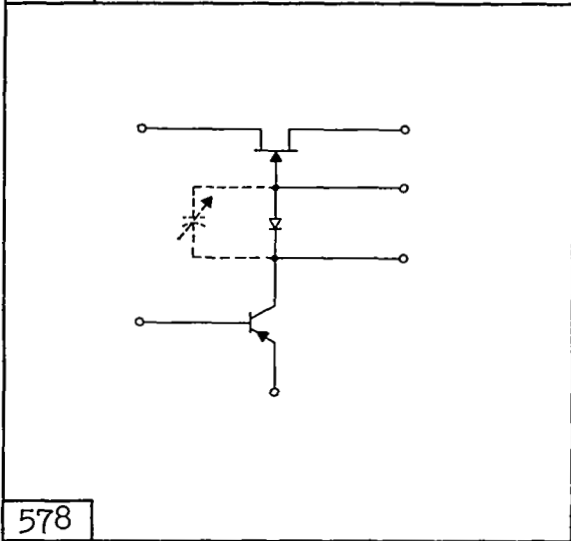
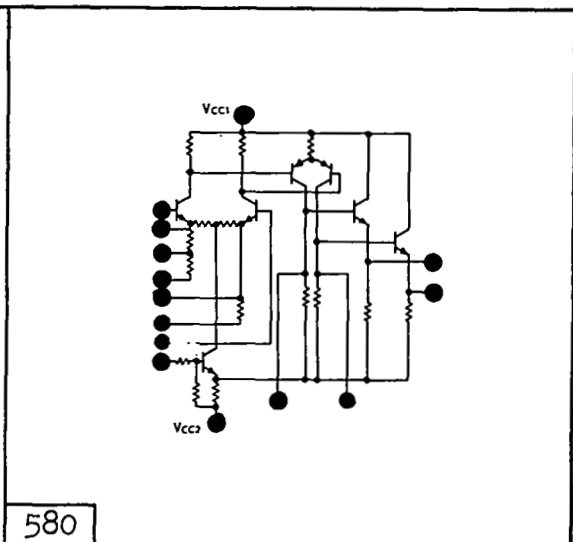
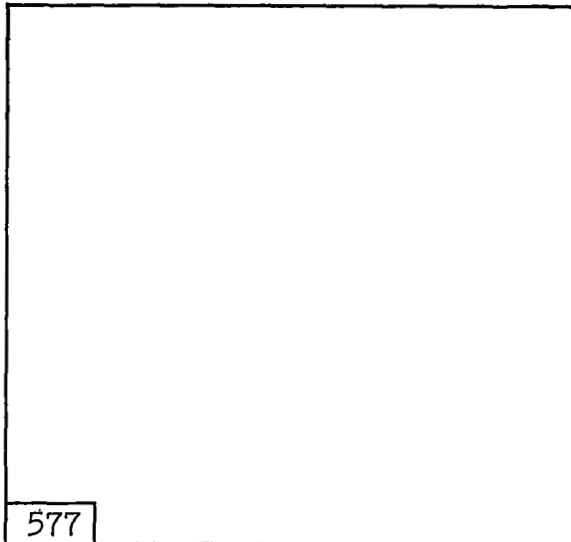


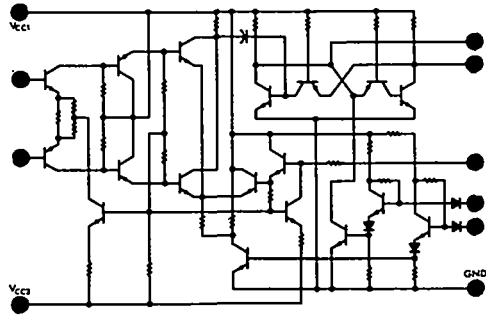
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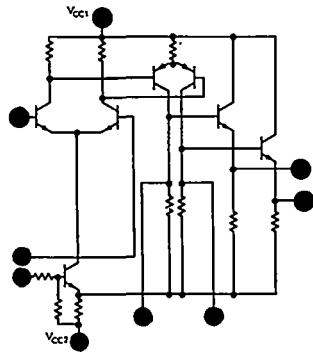
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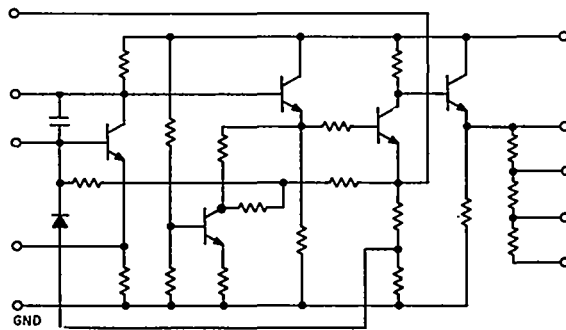




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## 2.6 Printout of Catalog

The complete catalog is presented in three sections -- Digital Circuits, Linear Circuits, and Digital Arrays. Each section is indexed by manufacturer's name, part number, page number, and line number.



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RCA	CD2152	23	31
RCA	CD2200	18	12
RCA	CD2201	19	20
RCA	CD2202	14	22
RCA	CD2203	13	6
RCA	CD2204	7	19
RCA	CD2205	1	44
SIGN	CS700	15	44
SIGN	CS701	15	43
SIGN	CS704	30	8
SIGN	CS705	3	29
SIGN	CS715	15	34
SIGN	CS716	15	35
SIGN	CS720	19	22
SIGN	CS721	20	37
SIGN	CS727	20	12
SIGN	CS729	29	45
SIGN	CS730	18	39
SIGN	LU300	7	13
SIGN	LU305	4	21
SIGN	LU306	3	26
SIGN	LU314	27	1
SIGN	LU315	24	47
SIGN	LU316	24	22
SIGN	LU320	11	20
SIGN	LU331	27	36
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SIGN	SE101	21	46
SIGN	SE102	21	23
SIGN	SE105	4	25
SIGN	SE110	21	22
SIGN	SE111	16	41
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SIGN	SE124	29	12
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SIGN	SE825	12	16
SIGN	SE840	5	40
SIGN	SE855	17	38
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SPRG	US-0721	7	11
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SW	SWF13	28	28
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SW	SWF22	29	25
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SW	SWG110	2	23
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SW	SWG113	2	24
SW	SWG120	22	47
SW	SWG121	23	1
SW	SWG122	22	46
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SW	SWG40	17	18
SW	SWG41	17	20
SW	SWG42	17	19
SW	SWG43	17	21
SW	SWG50	1	32
SW	SWG51	1	33
SW	SWG52	1	31
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SW	SW303	5	39
SW	SW304	30	43
SW	SW305	8	10
SW	SW306	23	17
SW	SW306	27	19
SW	SW307	23	18
SW	SW307	27	18
SW	SW308	11	83
SW	SW309	24	19
SW	SW310	24	17
SW	SW311	24	16
SW	SW930	18	16
SW	SW931	11	30
SW	SW932	18	18
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SW	SW945	11	31
SW	SW946	19	25
SW	SW948	10	48
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SYL	SF100	12	42
SYL	SF101	12	41
SYL	SF102	12	44
SYL	SF103	12	43
SYL	SF11	30	32
SYL	SF110	12	37
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SYL	SF12	30	31
SYL	SF120	12	46
SYL	SF121	12	45
SYL	SF122	12	39
SYL	SF123	12	40
SYL	SF13	30	29
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SYL	SF210	13	1
SYL	SF211	12	47
SYL	SF212	12	48
SYL	SF213	13	2
SYL	SF22	28	46
SYL	SF23	28	47
SYL	SF30	30	4
SYL	SF31	30	3
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SYL	SF52	11	25
SYL	SF53	11	24
SYL	SF60	10	21
SYL	SF61	10	22
SYL	SF62	10	20
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SYL	SG100	1	48
SYL	SG101	1	45
SYL	SG102	1	46
SYL	SG103	1	47
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SYL	SG111	2	18
SYL	SG112	2	19
SYL	SG113	2	20
SYL	SG120	22	41
SYL	SG121	22	39
SYL	SG122	22	43
SYL	SG123	22	42
SYL	SG130	17	31
SYL	SG131	17	32
SYL	SG132	17	28
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SYL	SG140	19	12
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SYL	SG170	7	37
SYL	SG171	27	41
SYL	SG172	27	42
SYL	SG172	7	38
SYL	SG173	27	43
SYL	SG180	7	23
SYL	SG181	7	22
SYL	SG182	7	21
SYL	SG183	7	20
SYL	SG190	20	6
SYL	SG191	20	4
SYL	SG192	20	5
SYL	SG193	20	3
SYL	SG200	15	14
SYL	SG201	15	15
SYL	SG202	15	16
SYL	SG203	15	17
SYL	SG210	2	28
SYL	SG211	2	25
SYL	SG212	2	27
SYL	SG213	2	26
SYL	SG220	19	36
SYL	SG221	19	38
SYL	SG222	19	35
SYL	SG223	19	37
SYL	SG230	2	45
SYL	SG230	6	39
SYL	SG231	2	47
SYL	SG232	2	44
SYL	SG232	6	38
SYL	SG233	2	46
SYL	SG240	17	30
SYL	SG241	17	24
SYL	SG242	17	23
SYL	SG243	17	29
SYL	SG250	1	40
SYL	SG251	1	41
SYL	SG252	1	39
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SYL	SG272	7	45
SYL	SG273	2	41
SYL	SG280	3	17
SYL	SG281	3	18
SYL	SG282	3	19
SYL	SG283	3	16
SYL	SG290	3	21
SYL	SG291	3	22
SYL	SG292	3	20
SYL	SG293	3	23
SYL	SG300	3	5
SYL	SG301	3	6
SYL	SG302	3	4
SYL	SG303	3	7
SYL	SG310	3	2
SYL	SG311	3	3
SYL	SG312	3	1
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SYL	SG40	17	5
SYL	SG41	16	44
SYL	SG42	16	48
SYL	SG43	17	7
SYL	SG50	1	29
SYL	SG51	1	28
SYL	SG52	1	27
SYL	SG53	1	26
SYL	SG60	22	18
SYL	SG61	22	17
SYL	SG62	22	20
SYL	SG63	22	28
SYL	SG70	1	22
SYL	SG71	1	23
SYL	SG72	1	24
SYL	SG73	1	25
SYL	SG80	4	8
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TI	SN14227	8	1
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TI	SN14324	15	21
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TI	SN14336	14	45
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TI	SN15932	15	9
TI	SN15933	6	30
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TI	SN512	26	46
TI	SN513	26	45
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TI	SN5331	20	34
TI	SN534	3	24
TI	SN535	9	15
TI	SN5360	19	16
TI	SN5370	6	24
TI	SN5380	14	2
TI	SN54H00	20	1
TI	SN54H20	18	35
TI	SN54H21	3	39
TI	SN54H71	9	34
TI	SN54H72	10	30
TI	SN54L00R	19	47
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TI	SN5400	14	24
TI	SN5410	20	29
TI	SN5410	14	25
TI	SN5420	17	8
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TI	SN5430	22	21
TI	SN5440	17	10
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TI	SN5451	6	22
TI	SN5453	6	5
TI	SN5454	5	20
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TI	SN7310	22	4
TI	SN7311	18	38
TI	SN732	7	5
TI	SN7320	8	7
TI	SN733	26	32
TI	SN7330	16	21
TI	SN7331	20	35
TI	SN734	5	24
TI	SN735	31	11
TI	SN7350	9	11
TI	SN7360	19	19
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TI	SN74H21	3	40
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TI	SN7410	20	36
TI	SN7420	17	13
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TI	SN7453	6	29
TI	SN7454	5	21
TI	SN7460	7	36
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TRAN	TFF3014	29	5
TRAN	TFF3031	29	35
TRAN	TFF3111	11	23
TRAN	TFF3112	11	21
TRAN	TFF3113	11	11
TRAN	TFF3114	11	10
TRAN	TFF3115	12	14
TRAN	TFF3116	12	11
TRAN	TFF3117	12	12
TRAN	TFF3118	12	10
TRAN	TFF3121	12	9
TRAN	TFF3122	12	7
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TRAN	TFF3124	12	6
TRAN	TFF3125	12	2
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TRAN	TFF3128	11	48
TRAN	TFF3131	10	26
TRAN	TFF3161	31	25
TRAN	TFF3162	31	26
TRAN	TFF3163	31	23
TRAN	TFF3164	31	24
TRAN	TFF3173	12	21
TRAN	TFF3174	12	22
TRAN	TFF3181	31	27
TRAN	TFF3182	31	28
TRAN	TFF3183	31	29
TRAN	TFF3184	31	30
TRAN	TFF3211	12	5
TRAN	TFF3212	12	4
TRAN	TFF3213	12	3
TRAN	TFF3214	12	13
TRAN	TFF3241	9	38
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TRAN	TFF3343	10	1
TRAN	TFF3344	10	3
TRAN	TFF3411	9	42
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TRAN	TFF3413	9	47
TRAN	TFF3414	9	45
TRAN	TFF3441	9	44
TRAN	TFF3442	9	41
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TRAN	TFF3444	9	40
TRAN	TFF3511	31	7
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TRAN	TFF3513	31	8
TRAN	TFF3514	30	20
TRAN	TNG3011	22	15
TRAN	TNG3012	22	19
TRAN	TNG3013	22	14
TRAN	TNG3014	22	16
TRAN	TNG3031	21	27
TRAN	TNG3041	22	34
TRAN	TNG3042	22	36
TRAN	TNG3043	22	37
TRAN	TNG3044	22	35
TRAN	TNG3051	23	3
TRAN	TNG3052	23	5
TRAN	TNG3053	23	6
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TRAN	TNG3111	17	6
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TRAN	TNG3113	16	47
TRAN	TNG3114	16	46
TRAN	TNG3131	15	27
TRAN	TNG3141	17	33
TRAN	TNG3142	17	36
TRAN	TNG3143	17	35
TRAN	TNG3144	17	34
TRAN	TNG3165	31	21
TRAN	TNG3166	31	22
TRAN	TNG3167	31	20
TRAN	TNG3168	31	19
TRAN	TNG3211	2	9
TRAN	TNG3212	2	10
TRAN	TNG3213	2	11
TRAN	TNG3214	2	12
TRAN	TNG3231	1	21

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MFR	MFRS PART NUMBER	PAGE NO.	LINE NO.
TRAN	TNG3241	2	16
TRAN	TNG3242	2	15
TRAN	TNG3243	2	13
TRAN	TNG3244	2	14
TRAN	TNG3251	2	29
TRAN	TNG3252	2	31
TRAN	TNG3253	2	30
TRAN	TNG3254	2	32
TRAN	TNG3281	27	44
TRAN	TNG3282	27	45
TRAN	TNG3283	27	46
TRAN	TNG3284	27	47
TRAN	TNG3311	21	1
TRAN	TNG3312	21	4
TRAN	TNG3313	21	3
TRAN	TNG3314	21	2
TRAN	TNG3331	21	29
TRAN	TNG3341	18	44
TRAN	TNG3341	20	17
TRAN	TNG3342	18	45
TRAN	TNG3342	20	18
TRAN	TNG3343	18	46
TRAN	TNG3343	20	19
TRAN	TNG3344	18	47
TRAN	TNG3344	20	20
TRAN	TNG3411	19	44
TRAN	TNG3412	19	43
TRAN	TNG3413	19	41
TRAN	TNG3414	19	42
TRAN	TNG3431	21	30
TRAN	TNG3511	7	29
TRAN	TNG3512	7	28
TRAN	TNG4011	7	46
TRAN	TNG4012	7	47
TRAN	TNG4031	8	5
TRAN	TNG4041	6	32
TRAN	TNG4042	6	33
TRAN	TNG4131	21	24
TRAN	TNG4211	1	17
TRAN	TNG4212	1	19
TRAN	TNG4213	1	20
TRAN	TNG4214	1	18
TRAN	TNG4241	5	42
TRAN	TNG4242	5	43
TRAN	TNG4243	5	44
TRAN	TNG4244	5	41
TRAN	TNG4251	1	13
TRAN	TNG4252	1	15

MFR	MFRS PART NUMBER	PAGE NO.	LINE NO.
TRAN	TNG4253	1	14
TRAN	TNG4254	1	16
TRAN	TNG4315	2	8
TRAN	TNG4316	2	6
TRAN	TNG4317	2	7
TRAN	TNG4318	2	5
TRAN	TNG4411	3	8
TRAN	TNG4412	3	14
TRAN	TNG4413	3	11
TRAN	TNG4414	3	15
TRAN	TNG4415	1	37
TRAN	TNG4416	1	36
TRAN	TNG4417	1	34
TRAN	TNG4418	1	35
TRAN	TNG4441	3	9
TRAN	TNG4442	3	12
TRAN	TNG4443	3	13
TRAN	TNG4444	3	10
TRAN	TNG4445	28	4
TRAN	TNG4446	28	6
TRAN	TNG4447	28	7
TRAN	TNG4448	28	5
TRAN	TNG4511	1	43
TRAN	TNG4512	1	42
TRAN	TNG4541	6	34
TRAN	TNG4542	6	35
TRAN	TNG4611	6	21
TRAN	TNG4612	6	19
TRAN	TNG4613	6	18
TRAN	TNG4614	6	20
TRAN	TNG5121	21	33
TRAN	TNG5122	21	35
TRAN	TNG5123	21	34
TRAN	TNG5124	21	32
TRAN	TNG5125	13	34
TRAN	TNG5126	13	35
TRAN	TNG5127	13	36
TRAN	TNG5128	13	37
TRAN	TNG5211	13	29
TRAN	TNG5212	13	26
TRAN	TNG5213	13	27
TRAN	TNG5214	13	28
TRAN	TNG5221	15	32
TRAN	TNG5222	15	31
TRAN	TNG5223	15	30
TRAN	TNG5224	15	33
TRAN	TNG5321	21	31
TRAN	TNG5321	13	18

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MFR	MFRS PART NUMBER	PAGE NO.	LINE NO.
TRAN	TNG5322	21	28
TRAN	TNG5322	13	19
TRAN	TNG5325	13	15
TRAN	TNG5326	13	14
TRAN	TNG5411	13	11
TRAN	TNG5412	13	10
TRAN	TNG5421	15	28
TRAN	TNG5421	13	16
TRAN	TNG5422	15	29
TRAN	TNG5422	13	17
TRAN	TNG5511	13	33
TRAN	TNG5512	13	30
TRAN	TNG5513	13	31
TRAN	TNG5514	13	32
TRAN	TNG5611	13	12
TRAN	TNG5612	13	13
TRAN	TNG6221	3	37
TRAN	TNG6222	3	43
TRAN	TNG6223	3	38
TRAN	TNG6224	3	42
TRAN	TNG6251	3	44
TRAN	TNG6252	3	47
TRAN	TNG6253	3	45
TRAN	TNG6254	3	46
TRAN	TNG6261	3	31
TRAN	TNG6262	3	35
TRAN	TNG6263	3	32
TRAN	TNG6264	3	36
TRAN	TNG6521	4	14
TRAN	TNG6522	4	16
TRAN	TNG6523	4	15
TRAN	TNG6524	4	17
TRAN	TNG7251	2	37
TRAN	TNG7252	1	11
TRAN	TNG7253	2	38
TRAN	TNG7254	2	36
TRAN	TNG7711	6	46
TRAN	TNG7712	6	44
TRAN	TNG7811	6	48
TRAN	TNG7812	6	45
TRAN	TNG7911	6	47
TRAN	TNG7912	7	35
VARO	8102	26	31
VARO	8105	28	44
VARO	8107	30	11
VARO	8200	29	13
VARO	8201	1	3
VARO	8202	1	2

MFR	MFRS PART NUMBER	PAGE NO.	LINE NO.
VARO	8203	14	6
VARO	8204	23	33
VARO	8204	27	34
VARO	8205	28	10
VARO	8207	4	3
VARO	8208	4	1
VARO	8209	4	4
VARO	8210	3	48
VARO	8213	5	6
VARO	8214	22	3
WMED	WC201	16	22
WMED	WC202	30	34
WMED	WC204	22	2
WMED	WC206	20	2
WMED	WC208	13	24
WMED	WC210	16	23
WMED	WC211	17	25
WMED	WC212	30	37
WMED	WC213	29	29
WMED	WC214	22	8
WMED	WC215	13	8
WMED	WC216	20	47
WMED	WC221	16	31
WMED	WC224	23	2
WMED	WC226	20	16
WMED	WC231	18	32
WMED	WC236	20	48
WMED	WC241	17	26
WMED	WC246	19	39
WMED	WC261	18	31
WMED	WC266	19	40
WMED	WC286	9	20
WMED	WC296	9	21
WMED	WM201	16	19
WMED	WM202	30	33
WMED	WM204	22	1
WMED	WM206	20	14
WMED	WM208	13	22
WMED	WM210	16	6
WMED	WM211	17	9
WMED	WM212	30	36
WMED	WM213	29	15
WMED	WM214	22	7
WMED	WM215	13	5
WMED	WM216	20	31
WMED	WM221	16	29
WMED	WM224	22	44
WMED	WM225	11	44

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MFR	MFRS PART NUMBER	PAGE NO.	LINE NO.
WMED	WM226	20	15
WMED	WM231	18	6
WMED	WM234	22	45
WMED	WM236	20	32
WMED	WM241	17	11
WMED	WM246	19	15
WMED	WM261	18	7
WMED	WM266	19	17
WMED	WM286	9	18
WMED	WM296	9	17
WMED	WM503	11	22
WMED	WM506	20	30
WMED	WM510	18	40
WMED	WM556	20	33
WMED	WM701	17	12
WMED	WM704	22	22
WMED	WS150	13	23
WMED	WS151	5	19
WMED	WS371	23	12
WMED	WS371	27	13
WMED	WS374	23	32
WMED	WS374	27	33
WMED	WS810	2	33
WMED	WS811	16	20
WMED	WS812	2	35
WMED	WS813	1	10
WMED	WS814	2	34
WMED	WS815	13	21
WMED	WS817	16	7
WMED	WS840	14	17

INDEX OF DIGITAL CIRCUIT PRINTOUT (continued)

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T C H	TYPE LOG IC	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PNR DLS MW	FAN- OUT	INPUT THRESHOLD VOLTS		NOISE IMMU- NITY VOLTS	DELAY NANO- SECS	OPER- ATING SPEED MHZ	OUTPUT LEVEL		PACK- AGE TYPE	SCHE- MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
AMP, OPTOELECTRONIC, PLSE	TI	SNX1304			-55	125		6.0	20					250				T	
AMPLIFIER, DUAL PULSE	VARO	8202	E	DYL	-55	125	C	3.0	-3.0	17I	4	.50	3.00	10		.50	3.50	72	101
AMPLIFIER, PULSE	VARO	8201	E	DYL	-55	125	C	3.0	-3.0	17I	4	.50	3.00	10		.50	3.50	72	101
ANALOG GATE DRIVER	SILX	D113F	A		-55	125		-20.0	10.0									F	339
ANALOG GATE DRIVER	SILX	D120F	A		-55	125		-20.0	10.0									F	338
ANALOG GATE DRIVER	SILX	D121F	A		-55	125		-20.0	10.0									F	339
ANALOG GATE DRIVER	SILX	D119F	A		-55	125		-20.0	10.0									F	337
ANALOG GATE DRIVER	SILX	D111F	A		-55	125		-20.0	10.0									F	337
ANALOG GATE DRIVER	SILX	D112F	A		-55	125		-20.0	10.0									F	338
AND-NAND, DUAL 1-2 INPUT	WHED	HS813	A	DYL	0	125		4.0	10	10	1.70	1.75	.25		.45	2.50	S	102	
AND-NAND, DUAL 2-2 INP EX	TRAN	TNG7252	B	TTL	0	75		5.0	40	15	1.20	1.80	.80	* 18	.40	3.10	47,H	286	
AND-NAND, 4 INPUT	HEPC	640702	E	DYL	-55	125		6.0	-3.0	5				10	.60	60			
AND-NOR, DUAL 2-3 INP EX	TRAN	TNG4251	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 18	.45	2.40	47,H	105	
AND-NOR, DUAL 2-3 INP EX	TRAN	TNG4253	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 18	.45	2.40	47,H	105	
AND-NOR, DUAL 2-3 INP EX	TRAN	TNG4252	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 18	.45	2.40	47,H	105	
AND-NOR, DUAL 2-3 INP EX	TRAN	TNG4254	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 18	.45	2.40	47,H	105	
AND-NOR, DUAL 2-3 INPUT	TRAN	TNG4211	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 18	.45	2.40	47,H	105	
AND-NOR, DUAL 2-3 INPUT	TRAN	TNG4214	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 18	.45	2.40	47,H	105	
AND-NOR, DUAL 2-3 INPUT	TRAN	TNG4212	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 18	.45	2.40	47,H	105	
AND-NOR, DUAL 2-3 INPUT	TRAN	TNG4213	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 18	.45	2.40	47,H	105	
AND-NOR, 2-2 INPUT	TRAN	TNG3231	B	TTL	15	55		5.0		7	1.00	2.00	.50	* 25	.50	2.50	47,H	105	
AND-NOR, 2-2-2 INPUT EX	SYL	SG70	A	TTL	-55	125		5.0	20	15	1.20	1.70	.90	12	20	.40	3.20	H,G	317
AND-NOR, 2-2-2 INPUT EX	SYL	SG71	A	TTL	-55	125		5.0	20	7	1.20	1.70	.90	12	20	.40	3.20	H,G	317
AND-NOR, 2-2-2 INPUT EX	SYL	SG72	A	TTL	0	75		5.0	20	12	1.20	1.80	.90	12	20	.40	3.10	H,G	317
AND-NOR, 2-2-2 INPUT EX	SYL	SG73	A	TTL	0	75		5.0	20	6	1.20	1.80	.90	12	20	.40	3.10	H,G	317
AND-NOR, 2-2-2-3 INP EX	SYL	SG53	B	TTL	0	75		5.0	30	6	1.20	1.80	.80	12	20	.40	3.10	G,H	105
AND-NOR, 2-2-2-3 INP EX	SYL	SG52	B	TTL	0	75		5.0	30	12	1.20	1.80	.80	12	20	.40	3.10	G,H	105
AND-NOR, 2-2-2-3 INP EX	SYL	SG51	B	TTL	-55	125		5.0	30	7	1.20	1.70	.80	12	20	.40	3.20	G,H	105
AND-NOR, 2-2-2-3 INP EX	SYL	SG50	B	TTL	-55	125		5.0	30	15	1.20	1.70	.80	12	20	.40	3.20	G,H	105
AND-NOR, 2-2-2-3 INP EX	SW	SWG53	A	TTL	0	75		5.0	20	6				14	20		19,C	105	
AND-NOR, 2-2-2-3 INP EX	SW	SWG52	A	TTL	0	75		5.0	20	12				14	20		19,C	105	
AND-NOR, 2-2-2-3 INP EX	SW	SWG50	A	TTL	-55	125		5.0	20	15				14	20		19,C	105	
AND-NOR, 2-2-2-3 INP EX	SW	SWG51	A	TTL	-55	125		5.0	20	7				14	20		19,C	105	
AND-NOR, 2-2-2-3 INP EX	TRAN	TNG4417	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 18	.45	2.40	47,H	105	
AND-NOR, 2-2-2-3 INP EX	TRAN	TNG4418	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 18	.45	2.40	47,H	105	
AND-NOR, 2-2-2-3 INP EX	TRAN	TNG4416	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 18	.45	2.40	47,H	105	
AND-NOR, 2-2-2-3 INP EX	TRAN	TNG4415	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 18	.45	2.40	47,H	105	
AND-NOR, 2-2-2-3 INP EX	SYL	SG253	B	TTL	0	75		5.0	43	5	1.10	1.70	.75	8		.45	3.00	G,H	272
AND-NOR, 2-2-2-3 INP EX	SYL	SG252	B	TTL	0	75		5.0	43	9	1.10	1.70	.75	8		.45	3.00	G,H	272
AND-NOR, 2-2-2-3 INP EX	SYL	SG250	B	TTL	-55	125		5.0	43	11	1.10	1.70	.75	8		.45	3.00	G,H	272
AND-NOR, 2-2-2-3 INP EX	SYL	SG251	B	TTL	-55	125		5.0	43	6	1.10	1.70	.75	8		.45	3.00	G,H	272
AND-NOR, 2-2-3-3 INPUT	TRAN	TNG4512	B	TTL	0	75		5.0			1.20	1.70		* 18			47,H	258	
AND-NOR, 2-2-3-3 INPUT	TRAN	TNG4511	B	TTL	-55	125		5.0			1.20	1.70		* 18			47,H	258	
AND-NOR, 3-3 INPUT EX	RCA	CD2205	A	DYL	-55	125		4.0	5	* 6	.85	1.80	.60	70	.25	3.23	82	331	
AND-NOR, 3-3-3 INPUT EX	SYL	SG101	B	TTL	-55	125		5.0	60	7	1.20	1.70	.80	12		.40	3.20	G,H	105
AND-NOR, 3-3-3 INPUT EX	SYL	SG102	B	TTL	0	75		5.0	23	12	1.20	1.80	.80	12	20	.40	3.10	G,H	105
AND-NOR, 3-3-3 INPUT EX	SYL	SG103	B	TTL	0	75		5.0	23	6	1.20	1.80	.80	12	20	.40	3.10	G,H	105
AND-NOR, 3-3-3 INPUT EX	SYL	SG100	B	TTL	-55	125		5.0	60	15	1.20	1.70	.80	12		.40	3.20	G,H	105

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CIRCUIT DESCRIPTION	MFR	HFRS PART NUMBER	T E C	TYPE OF LOG-IC	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PWR DIS MW	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
AND-NOR,3-3-3 INPUT EX	SW	SWG102	A	TTL	0	75		5.0	25	12				15	20			19,C	105
AND-NOR,3-3-3 INPUT EX	SW	SWG101	A	TTL	-55	125		5.0	25	7				15	20			19,C	105
AND-NOR,3-3-3 INPUT EX	SW	SWG100	A	TTL	-55	125		5.0	25	15				15	20			19,C	105
AND-NOR,3-3-3 INPUT EX	SW	SWG103	A	TTL	0	75		5.0	25	6				15	20			19,C	105
AND-NOR,3-3-3 INPUT EX	TRAN	TNG4318	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	105
AND-NOR,3-3-3 INPUT EX	TRAN	TNG4316	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	105
AND-NOR,3-3-3 INPUT EX	TRAN	TNG4317	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	105
AND-NOR,3-3-3 INPUT EX	TRAN	TNG4315	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	105
AND-NOR,4-4 INPUT	TRAN	TNG3211	B	TTL	-55	125		5.0		* 20	1.20	1.70	.70	* 18		.45	2.40	47,H	105
AND-NOR,4-4 INPUT	TRAN	TNG3212	B	TTL	0	75		5.0		* 20	1.20	1.70	.70	* 18		.45	2.40	47,H	105
AND-NOR,4-4 INPUT	TRAN	TNG3213	B	TTL	-55	125		5.0		* 7	1.20	1.70	.70	* 18		.45	2.40	47,H	105
AND-NOR,4-4 INPUT	TRAN	TNG3214	B	TTL	0	75		5.0		* 7	1.20	1.70	.70	* 18		.45	2.40	47,H	105
AND-NOR,4-4 INPUT	TRAN	TNG3243	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 10		.45	2.40	47,H	105
AND-NOR,4-4 INPUT	TRAN	TNG3244	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 10		.45	2.40	47,H	105
AND-NOR,4-4 INPUT	TRAN	TNG3242	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 10		.45	2.40	47,H	105
AND-NOR,4-4 INPUT	TRAN	TNG3241	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 10		.45	2.40	47,H	105
AND-NOR,4-4 INPUT EX	SYL	SG110	B	TTL	-55	125		5.0	20	15	1.20	1.70	.80	* 12	20	.40	3.20	6,H	105
AND-NOR,4-4 INPUT EX	SYL	SG111	B	TTL	-55	125		5.0	20	7	1.20	1.70	.80	* 12	20	.40	3.20	6,H	105
AND-NOR,4-4 INPUT EX	SYL	SG112	B	TTL	0	75		5.0	20	12	1.20	1.80	.80	* 12	20	.40	3.10	6,H	105
AND-NOR,4-4 INPUT EX	SYL	SG113	B	TTL	0	75		5.0	20	6	1.20	1.80	.80	* 12	20	.40	3.10	6,H	105
AND-NOR,4-4 INPUT EX	SW	SWG112	A	TTL	0	75		5.0	20	12				13	20			19,C	105
AND-NOR,4-4 INPUT EX	SW	SWG111	A	TTL	-55	125		5.0	20	7				13	20			19,C	105
AND-NOR,4-4 INPUT EX	SW	SWG110	A	TTL	-55	125		5.0	20	15				13	20			19,C	105
AND-NOR,4-4 INPUT EX	SW	SWG113	A	TTL	0	75		5.0	20	6				13	20			19,C	105
AND-NOR,4-4 INPUT EX	SYL	SG211	B	TTL	-55	125		5.0	30	6	1.10	1.70	.65	7		.45	3.00	6,H	272
AND-NOR,4-4 INPUT EX	SYL	SG213	B	TTL	0	75		5.0	30	5	1.10	1.70	.65	7		.45	3.00	6,H	272
AND-NOR,4-4 INPUT EX	SYL	SG212	B	TTL	0	75		5.0	30	9	1.10	1.70	.65	7		.45	3.00	6,H	272
AND-NOR,4-4 INPUT EX	SYL	SG210	B	TTL	-55	125		5.0	30	11	1.10	1.70	.65	7		.45	3.00	6,H	272
AND-NOR,4-4 INPUT EX	TRAN	TNG3251	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	105
AND-NOR,4-4 INPUT EX	TRAN	TNG3253	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	105
AND-NOR,4-4 INPUT EX	TRAN	TNG3252	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	105
AND-NOR,4-4 INPUT EX	TRAN	TNG3254	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	105
AND-OR-NAND,1-2-2-2 INP	WMED	WS810	A	DTL	0	125		4.0	*20	10	.70	1.75	.25	* 50		.45	2.50	S	107
AND-OR-NAND,2-2-2 INPUT	WMED	WS814	A	DTL	0	125		4.0	20	10	.70	1.75	.25	* 50		.45	2.50	S	106
AND-OR-NAND,2-2-3 INPUT	WMED	WS812	A	DTL	0	125		4.0	*15	10	.70	1.75	.25	* 50		.45	2.50	S	107
AND-OR,DUAL 2-2 INP EX	TRAN	TNG7254	B	TTL	0	75		5.0	40	7	1.20	1.80	.80	* 18		.40	3.10	47,H	286
AND/NAND DUAL 2-2 INP EX	TRAN	TNG7251	B	TTL	-55	125		5.0		15			1.00	18		.40	3.10		
AND/NAND DUAL 2-2 INP EX	TRAN	TNG7253	B	TTL	-55	125		5.0		7			1.00	18		.40	3.10		
AND/NAND/NOR,5 INPUT EX	TI	SN531	F	DTL	-55	125		3.5	18	* 10	.80	1.70		25		.30	2.20	74	105
AND/NOR DUAL 4 INPUT EX	SYL	SG270	A	TTL	-55	125		5.0	14		1.20	1.70		1				H,C	319
AND/NOR DUAL 4 INPUT EX	SYL	SG273	A	TTL	0	75		5.0	14		1.10	1.80		1				H,C	319
AND/NOR DUAL 4 INPUT EX	SYL	SG271	A	TTL	-55	125		5.0	14		1.20	1.70		1				H,C	319
AND/NOR DUAL 4 INPUT EX	SYL	SG272	A	TTL	0	75		5.0	14		1.10	1.80		1				H,C	319
AND/NOR QUAD 2 INPUT EX	SYL	SG233	A	TTL	0	75		5.0	28		1.10	1.80						H,C	258
AND/NOR QUAD 2 INPUT EX	SYL	SG230	A	TTL	-55	125		5.0	28		1.10	1.70						H,C	258
AND/NOR QUAD 2 INPUT EX	SYL	SG233	A	TTL	0	75		5.0	28		1.10	1.80						H,C	258
AND/NOR QUAD 2 INPUT EX	SYL	SG231	A	TTL	-55	125		5.0	28		1.10	1.70						H,C	258
AND/NOR 2-OUTPUT 2-2 INP	SYL	SG313	A	TTL	0	75		5.0	29	5	1.10	1.80	1.00	6		.40	3.00	H,C	272

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T C LOG-IC	TYPE	OPER TEMP		SUPPLY VOLTAGE		PWR DIS HW	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
AND/NOR 2-OUTPUT 2-2INP	SYL	SG312	A	TTL	0	75		5.0	29	9	1.10	1.80	1.00	6		.40	3.00	H,G	272
AND/NOR 2-OUTPUT 2-2INP	SYL	SG310	A	TTL	-55	125		5.0	29	11	1.10	1.70	1.00	6		.40	3.10	H,G	272
AND/NOR 2-OUTPUT 2-2INP	SYL	SG311	A	TTL	-55	125		5.0	29	6	1.10	1.70	1.00	6		.40	3.10	H,G	272
AND/NOR 3-3 INPUT EX	SYL	SG302	A	TTL	0	75		5.0	36	9	1.10	1.80	1.00	6		.40	3.00	H,G	320
AND/NOR 3-3 INPUT EX	SYL	SG300	A	TTL	-55	125		5.0	36	11	1.10	1.70	1.00	6		.40	3.10	H,G	320
AND/NOR 3-3 INPUT EX	SYL	SG301	A	TTL	-55	125		5.0	36	6	1.10	1.70	1.00	6		.40	3.10	H,G	320
AND/NOR 3-3 INPUT EX	SYL	SG303	A	TTL	0	75		5.0	36	5	1.10	1.80	1.00	6		.40	3.00	H,G	320
AND/NOR, 2-2, 2-3 INPUT	TRAN	TNG4411	B	TTL	-55	125		5.0		15						.45	3.10		
AND/NOR, 2-2, 2-3 INPUT	TRAN	TNG4441	B	TTL	-55	125		5.0		15						.45	3.10		
AND/NOR, 2-2, 2-3 INPUT	TRAN	TNG4444	B	TTL	0	75		5.0		7						.45	3.10		
AND/NOR, 2-2, 2-3 INPUT	TRAN	TNG4413	B	TTL	-55	125		5.0		7						.45	3.10		
AND/NOR, 2-2, 2-3 INPUT	TRAN	TNG4442	B	TTL	0	75		5.0		15						.45	3.10		
AND/NOR, 2-2, 2-3 INPUT	TRAN	TNG4443	B	TTL	-55	125		5.0		7						.45	3.10		
AND/NOR, 2-2, 2-3 INPUT	TRAN	TNG4412	B	TTL	0	75		5.0		15						.45	3.10		
AND/NOR, 2-2, 2-3 INPUT	TRAN	TNG4414	B	TTL	0	75		5.0		7						.45	3.10		
AND/OR DUAL 4 INPUT	SYL	SG283	A	TTL	0	75		5.0	38	6	1.20	1.70	1.00	10		.40	3.10	H,G	
AND/OR DUAL 4 INPUT	SYL	SG280	A	TTL	-55	125		5.0	38	15	1.20	1.60	1.00	10		.40	3.10	H,G	
AND/OR DUAL 4 INPUT	SYL	SG281	A	TTL	-55	125		5.0	38	7	1.20	1.60	1.00	10		.40	3.10	H,G	
AND/OR DUAL 4 INPUT	SYL	SG282	A	TTL	0	75		5.0	38	12	1.20	1.70	1.00	10		.40	3.10	H,G	
AND/OR 2-2INP&2-3INP EX	SYL	SG292	A	TTL	0	75		5.0	38		1.20	1.70	1.00	10		.40	3.10	H,G	
AND/OR 2-2INP&2-3INP EX	SYL	SG290	A	TTL	-55	125		5.0	38		1.20	1.60	1.00	10		.40	3.10	H,G	
AND/OR 2-2INP&2-3INP EX	SYL	SG291	A	TTL	-55	125		5.0	38		1.20	1.60	1.00	10		.40	3.10	H,G	
AND/OR 2-2INP&2-3INP EX	SYL	SG293	A	TTL	0	75		5.0	38		1.20	1.70	1.00	10		.40	3.10	H,G	
AND, DUAL 2-3 INPUT	TI	SN534	F	DTL	-55	125	3.5	-3.0	*40	4				5				74	112
AND, DUAL 3 INPUT	PHIL	25403	A	DTL	-55	125		8.0	K30	5				L 4				B,U	160
AND, DUAL 3 INPUT	SIGN	LU306	A	TTL	10	55		4.5	5 * 10					L 15				B	114
AND, DUAL 3 INPUT	SIGN	9U306	A	TTL	-20	85		4.5	10					L 25				S,B	114
AND, DUAL 3 INPUT	FSC	CS705	A	TTL	-55	125		* 8.0	K30					L 3				B,S	113
AND, DUAL 3 INPUT	SIGN	CS705	A	DTL	-55	125		* 8.0	K30					*L 4				B,S	113
AND, DUAL 3 INPUT	PHIL	PL9986	A	TTL	-55	125		3.0	E23	15	.50	.85		L 25		.23	1.00	41	273
AND, DUAL 3 INPUT EX	TRAN	TNG6261	B	TTL	-55	125		5.0		15	1.20	1.80	1.00	L 18		.40	3.10	H,47	
AND, DUAL 3 INPUT EX	TRAN	TNG6263	B	TTL	-55	125		5.0		7	1.20	1.80	1.00	L 18		.40	3.10	H,47	
AND, DUAL 3 INPUT EX	MOTA	MC215	A	DTL	-55	125		* 8.0	K30					L 4				13,S	113D
AND, DUAL 3 INPUT EX	MOTA	MO265	A	DTL	0	75		* 8.0	K30					L 4				13	113D
AND, DUAL 3 INPUT EX	TRAN	TNG6262	B	TTL	0	75		5.0	40	15	1.20	1.80	.80	* 18		.40	3.10	47,H	284
AND, DUAL 3 INPUT EX	TRAN	TNG6264	B	TTL	0	75		5.0	40	7	1.20	1.80	.80	* 18		.40	3.10	47,H	284
AND, DUAL 4 INPUT	TRAN	TNG6221	B	TTL	-55	125		5.0		15	1.20	1.80	1.00	L 18		.40	3.10	H,47	
AND, DUAL 4 INPUT	TRAN	TNG6223	B	TTL	-55	125		5.0		7	1.20	1.80	1.00	L 18		.40	3.10	H,47	
AND, DUAL 4 INPUT	TI	SN54H21	B	TTL	-55	125		5.0		10	2.00	.80	.40	L 11		.40	2.40	F	302
AND, DUAL 4 INPUT	TI	SN74H21	A	TTL	0	70		5.0		10	2.00	.80	.40	L 11		.40	2.40	F	302
AND, DUAL 4 INPUT	FSC	CTL954	A	RTL	15	55	4.5	-2.0	55	15				L 4				H	116
AND, DUAL 4 INPUT	TRAN	TNG6224	B	TTL	0	75		5.0	40	7	1.20	1.80	.80	* 18		.40	3.10	47,H	284
AND, DUAL 4 INPUT	TRAN	TNG6222	B	TTL	0	75		5.0	40	15	1.20	1.80	.80	* 18		.40	3.10	47,H	284
AND, DUAL 4 INPUT EX	TRAN	TNG6251	B	TTL	-55	125		5.0		15	1.20	1.80	1.00	L 18		.40	3.10	H,47	
AND, DUAL 4 INPUT EX	TRAN	TNG6253	B	TTL	-55	125		5.0		7	1.20	1.80	1.00	L 18		.40	3.10	H,47	
AND, DUAL 4 INPUT EX	TRAN	TNG6254	B	TTL	0	75		5.0	40	7	1.20	1.80	.80	* 18		.40	3.10	47,H	285
AND, DUAL 4 INPUT EX	TRAN	TNG6252	B	TTL	0	75		5.0	40	15	1.20	1.80	.80	* 18		.40	3.10	47,H	285
AND, DUAL 5-7 INPUT	VARO	8210	E	DTL	-55	125		6.0										72	



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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T C	TYPE OF LOG-IC	OPER TEMP CENTGRADE		SUPPLY VOLTAGE VDC		PWR DIS MW	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
AND, QUAD 2-2-3-3 INPUT	VARO	8208	E	DTL	-55	125		6.0										72	110
AND, TRIPLE 2-2-3 INPUT	FSC	CTL953	A	RTL	15	55	4.5	-2.0	55	15				4				H	115
AND, TRIPLE 2-2-6 INPUT	VARO	8207	E	DTL	-55	125		6.0										H	115
AND, TRIPLE 3 INPUT	VARO	8209	E	DTL	-55	125		6.0										72	110
AND, 1-1-1-2 INPUT	MOTA	MC1113	F	DTL	-55	125		* 10.0	K20					L 15				13	111
AND, 2 INPUT EXPANDABLE	PHIL	PL9610	A	RTL	-55	125	6.5	-6.5			1.00	1.50		25				A	276
AND, 2-2-2 INPUT	MOTA	MC1112	F	DTL	-55	125		* 10.0	K20					L 15				13	111
AND, 2-3 INP PLS SHP/DLY	SYL	S680	A	TTL	-55	125		5.0	15	15	.80	1.40	.90	12	20	.25	3.30	H, G	
AND, 2-3 INP PLS SHP/DLY	SYL	S681	A	TTL	-55	125		5.0	15	7	.80	1.40	.90	12	20	.25	3.30	H, G	
AND, 2-3 INP PLS SHP/DLY	SYL	S682	A	TTL	0	75		5.0	17	12	.80	1.40	.90	12	20	.25	3.30	H, G	
AND, 2-3 INP PLS SHP/DLY	SYL	S683	A	TTL	0	75		5.0	17	8	.80	1.40	.90	12	20	.25	3.30	H, G	
AND, 3 INPUT	PHIL	PL9606	A	RTL	-55	125	10.0	3.0			.49	.82					.88	69	275
AND, 3-4 INPUT	MOTA	MC1111	F	DTL	-55	125		* 10.0	K20					L 20				13	111
AND, 4 INPUT EX	TRAN	TNG6521	B	TTL	-55	125		5.0		40			1.00	18		.40	3.10		
AND, 4 INPUT EX	TRAN	TNG6523	B	TTL	-55	125		5.0		24			1.00	18		.40	3.10		
AND, 4 INPUT EXPANDABLE	TRAN	TNG6522	B	TTL	0	75		5.0	80	40	1.20	1.80	.80	* 18		.40	3.10	47, H	284
AND, 4 INPUT EXPANDABLE	TRAN	TNG6524	B	TTL	0	75		5.0	80	24	1.20	1.80	.80	* 18		.40	3.10	47, H	284
AND, 5 INPUT EXPANDABLE	TI	SN532	F	DTL	-55	125	3.5	-3.0	* 20	4				5				74	112
AND, 6 INPUT	MOTA	MD203	A	DTL	-55	125		* 8.0	K30					L 4				13, S	113
AND, 6 INPUT	MOTA	MC253	A	DTL	0	75		* 8.0	K30					L 4				13	113
AND, 6 INPUT	SIGN	LU305	A		10	55		4.5	5	* 10				15				B	114
AND, 6 INPUT	STGN	S0305	A	TTL	-20	85		4.5	5	* 10				25				S, B	114
AND, 6 INPUT	FSC	SE105	A		-55	125		* 8.0	K30					L 3				B, S	113
AND, 6 INPUT EXPANDABLE	PHIL	25466	A	DTL	-55	125		* 8.0	K30					L 4				B, U	113
AND, 6 INPUT EXPANDABLE	SIGN	SE105	A	DTL	-55	125		* 8.0	K30					* L 4				B, S	113
AND, 8 INPUT	FSC	CYL955	A	RTL	15	55	4.5	-2.0	55	15				4				H	116
AND, 8 INPUT	MOTA	MC1114	F	DTL	-55	125		* 10.0	K20					L 15				13	1130
BUFFER, DUAL 4 INPUT	AMEL	511B	A	TTL	-55	125		5.0	20	* 10			1.00	30		.25	3.80	C	
BUFFER, DUAL 4 INPUT	AMEL	500B	A	TTL	-55	125		5.0	100	* 28			1.00	25		.40	3.80	C	
BUFFER, DUAL 4 INPUT	AMEL	510B	A	TTL	-55	125		5.0	20	* 10			1.00	30		.25	3.80	C	
BUFFER, DUAL 4 INPUT	AMEL	540B	A	TTL	-55	125		5.0	30	* 25			1.00	25		.25	3.80	C	
BUFFER, DUAL 4 INPUT	AMEL	541B	A	TTL	-55	125		5.0	40	* 25			1.00	25		.25	3.80	C	
BUFFER, 2NAND-2NOR INP	AMEL	542B	A	TTL	-55	125		5.5	30	* 15			1.00	25		.25	3.80	C	
BUFFER, 2NAND-2NOR INP	AMEL	582B	A	TTL	-55	125		5.5	40	* 40			1.00	25		.40	3.80	C	
BUFFER, 2NAND-2NOR INP	AMEL	585B	A	TTL	-55	125		5.5	40	* 15			1.00	25		.40	3.80	C	
CONVERTER, BCD TO B	PHIL	PL4G03	K	MOS	-55	125	-12.0	-24.0			3.00	9.00	1.00	1000	.10	2.00	10.00	C, 77	291
CONVERTER, BCD TO D	PHIL	PL4G02	K	MOS	-20	70	-12.0	-24.0			3.00	9.00	1.00	800	.10	2.00	10.00	88	290
CONVERTER, D TO A	PHIL	PL4S02	K	MOS	-55	125	-12.0	-24.0	* 75		3.00	9.00		500	.10			C, 77	117
CONVERTER, D TO A	GELM	7736079	N		-55	125	28.0	-1.0	* X20						1.50			79	115
COUNTER ADAPTER	AMEL	142B	F	RTL	-55	125		3.0	50	* 6			.26	32		.25	.81	B, C	
COUNTER ADAPTER	AMEL	142C	F	RTL	0	70		3.0	50	* 6			.25	47		.25	.81	B	
COUNTER ADAPTER	AMEL	142A	F	RTL	-55	125		3.0	50	* 10			.30	32		.25	.81	B, C	
COUNTER ADAPTER	PHIL	PL901	A	RTL	-55	125		3.0	55	5	.56	.82	.26	* 26		.30	.84	A, 69	118
COUNTER ADAPTER	FSC	L901C	A	RTL	0	100		3.0	55	5	.55	.84		* 26		.40	.84	A, D	118
COUNTER ADAPTER	FSC	L901	A	RTL	-55	125		3.0	55	5	.56	.82		* 26		.30	.84	A, D	118
COUNTER ADAPTER	NSC	NB1001	A	RTL	-55	125		3.0	55	13	.69	.77		* 16		.15	.84	2	118
COUNTER ADAPTER	NSC	NB2001	A	RTL	0	100		3.0	55	13	.89	.77		* 16		.15	.84	2	118
COUNTER ADAPTER	MOTA	MC801	F	RTL	0	100		3.0	55	5	.55	.84		* 42		.40	.84	A	118

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T E C H	TYPE OF IC	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PMR DIS HW	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPBED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
COUNTER ADAPTER	MOTA	MC901	F	RTL	-55	125		3.0	55	5	.56	.82	.02	* 42		.30	.84	A	118
COUNTER, DECADE	FSC	CL958	A	TTL	0	75		4.5	190		.45	1.40		* 200	* 2	.45	1.40	A	
D-TYPE FLIP FLOP	TI	SN17913L	A	TTL	-55	125		3.0						40				1	
D-TYPE, 2-EDGE TRIGGERED	TI	SN5474	A	TTL	-55	125		5.0		10	.80	2.00				.40	2.40	F	311
D-TYPE, 2-EDGE TRIGGERED	TI	SN7474	A	TTL	0	70		5.0		10	.80	2.00	.40		25	.40	2.40	F	311
DRIVER DRIVER	VARO	8213	E	DTL	-55	125	C	3.0			10	.50	3.00		15	.50	3.50	72	126
DRIVER DRIVER	INTX	GBXXXX	L		-55	125				* 20				* 5				78	124
DRIVER DRIVER	SPRG	US-0107	F	RCTL	-55	125		3.0	5	* 20	.40	1.15	.05	200		.35	2.50	57	
DRIVER DRIVER	GI	NCP12	H	DTL	-55	125		12.0	4.2	200	20			55	12	.30	5.00	90	123
DRIVER DRIVER	TI	SN517	F	RCTL	-55	125		3.0	5	* 20	.40	1.15	.05	200		.35	2.50	74	125
DRIVER DRIVER	FSC	SH2100	F	RTL	-55	125		3.0	65	* 200	.56	.82		* 75		.30		A	
DRIVER, BCD TO DECIMAL	TI	SN7441N	A	TTL	0	70		5.0			2.00	.80						67	
DRIVER, DUAL 2 INPUT	FSC	CTL956	A	RTL	15	55		4.5	-2.0	150	25	.92	1.20	1.20	15	-.60	2.40	H	122
DRIVER, DUAL 3 INPUT	TI	SN14310	A	DTL	0	75		6.0	50	17	1.00	2.80	.55	75		.45	3.50	F	179
DRIVER, DUAL 3 INPUT	TI	SN14210	B	DTL	-55	125		6.0	38	22				53		.45	3.50	F	179
DRIVER, HEX HIGH VOLTAGE	RAD	RD223	S	DTL	-55	125		5.0	10				.80	12	1.00	29.00	F	292	
DRIVER, HEX INDICATOR	RAD	RD536	S	DTL	0	75		5.0	14					2	1.00	3.00	F	327	
DRIVER, QUAD	GI	MEM4000	K															18,82	267
DRIVER, 2 INPUT	WMED	WS151	A	DTL	0	125		10.0	150					175		1.00		S	127
EXCLUSIVE OR	TI	SN5454	A	TTL	-55	125		5.0	10	10	.80	2.00		13		.40	2.40	F	134
EXCLUSIVE OR	TI	SN7454	A	TTL	0	70		5.0	10	10	.80	2.00	.40	13		.40	2.40	F	134
EXCLUSIVE OR	PHIL	PL912	A	RTL	-55	125		3.0	8	4,3	.45	.75	.05	* 120		.30	.80	A,51	135
EXCLUSIVE OR	PHIL	PL904	A	RTL	-55	125		3.0	46	5,4	.56	.82		* 22		.30		A,69	129
EXCLUSIVE OR	TI	SN734	A	RTL	-55	125		3.0	8	4				70					
EXCLUSIVE OR	PHIL	PL981	A	RTL	-55	125		4.0	8	5,4	.45	.82		27		.40		41,51	135
EXCLUSIVE OR	TI	SN5191	F	RCTL	-55	125		3.0	6	5								T	133
EXCLUSIVE OR	TI	SN515	F	RCTL	-55	125		3.0	3	5,4	.4W	1.1W		250		.4W	1.1W	T	130
EXCLUSIVE OR	MOTA	MC353	A	ECL	0	75	-1.15	-5.2	60	25	1.35	1.00	.20	6		1.55	.75	13,C	128
EXCLUSIVE OR	FSC	L904C	A	RTL	0	100		3.0	45	5,4	.55	.80	.25	* 22		.30	1.45	A,D	129
EXCLUSIVE OR	NSC	NB2004	A	RTL	0	100		3.0	#45	13	.69	.77		16		.15		2	129
EXCLUSIVE OR	NSC	NB1004	A	RTL	-55	125		3.0	#45	13	.69	.77		16		.15		2	129
EXCLUSIVE OR	FSC	MWL912	A	RTL	-55	125		3.0	8	4,3	.45	.75	.15	75		.30	.90	A	135
EXCLUSIVE OR	MOTA	MC303	A	ECL	-55	125	-1.15	-5.2	35	25	1.35	1.00	.20	6		1.55	.75	10,S	128
EXCLUSIVE OR	FSC	L904	A	RTL	-55	125		3.0	45	5,4	.55	.80	.25	* 22		.30	1.45	A,D	129
EXCLUSIVE OR	SPRG	US-0105	F	RCTL	-55	125		3.0	3	5	.4W	1.1W				.4W	1.1W	57	
EXCLUSIVE OR	MOTA	MC904	F	RTL	-55	125		3.0	45	5,4	.56	.82	.02	* 36		.30	.84	A	129
EXCLUSIVE OR	MOTA	MC804	F	RTL	0	100		3.0	45	5,4	.55	.84		* 36		.40	.84	A	129
EXCLUSIVE OR	SPRG	US-0712	F	RTL	-55	125		3.0	8					* 120				57,62	
EXCLUSIVE OR	SW	SW303	A	ECL	-55	125	-1.15	-5.2	35	* 25	1.35	1.00	.20	6		1.55	.75	19,S	128
EXCLUSIVE OR	SIGN	SE840	A	TTL	-55	125		5.0		10				13		.20	2.40	X	295
EXCLUSIVE OR DUAL	TRAN	TNG4244	B	TTL	0	75		5.0	22	7			1.00	10	40	.45	3.10	H,47	272
EXCLUSIVE OR DUAL	TRAN	TNG4241	B	TTL	-55	125		5.0	22	15			1.00	10	40	.45	3.20	H,47	272
EXCLUSIVE OR DUAL	TRAN	TNG4242	B	TTL	0	75		5.0	22	15			1.00	10	40	.45	3.10	H,47	272
EXCLUSIVE OR DUAL	TRAN	TNG4243	B	TTL	-55	125		5.0	22	7			1.00	10	40	.45	3.20	H,47	272
EXCLUSIVE OR DUAL	AMEL	3418G	A	DTL	-55	125		12.0	70	6			4.80	60		1.20	12.00	30	301
EXCLUSIVE OR DUAL	AMEL	341CJ	A	DTL	0	70		12.0	70	6			4.80	60		1.20	12.00	68	301
EXCLUSIVE OR DUAL	AMEL	341CG	A	DTL	0	100		12.0	70	6			4.80	60		1.20	12.00	30	301
EXCLUSIVE OR DUAL 2-2	TI	SN54966	B	TTL	-55	125		5.0	10	10	.80	2.00	.40	13		.40	2.40	F	137

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T TYPE	E OF C LOG	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PWR DLS MH	FAN- OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO- SECS	OPER- ATING SPEED MHZ	OUTPUT LEVEL		PACK- AGE TYPE	SCHE- MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	GNE				ZERO	ONE		
EXCLUSIVE OR DUAL 2-2	TI	SN74966	F TTL		0	70		5.0	10	10	.80	2.00	.40	13		.40	2.40	F	137
EXCLUSIVE OR DUAL 4 INP	AMEL	578B	A TTL	-55	125		5.0	10	6				1.00	35		.40	3.80	C	
EXCLUSIVE OR DUAL 4 INP	AMEL	508B	A TTL	-55	125		4.0	2	8				1.00	180		.25	3.80	C	
EXCLUSIVE OR DUAL 4 INP	AMEL	538B	A TTL	-55	125		5.0	5	6				1.00	100		.25	3.80	C	
EXCLUSIVE OR EXPANDABLE	TI	SN5453	A TTL	-55	125		5.0	10	10		.80	2.00		13		.40	2.40	F	134
EXCLUSIVE OR WC	PHIL	134H	A RTL	-55	125		3.0	10	3		.85	.75	-.05	100		.50	.83	B,U	135
EXCLUSIVE OR WC	SYL	SG93	B TTL	0	75		5.0	35	6		1.20	1.80	.73	47		.47	3.10	G,H	131
EXCLUSIVE OR WC	SYL	SG92	B TTL	0	75		5.0	35	12		1.20	1.80	.73	46		.47	3.10	G,H	131
EXCLUSIVE OR WC	MOTA	MC912	A RTL	-55	125		3.0	8			.85	.75	.05	90		.30	.80	A	135
EXCLUSIVE OR WC	NSC	NC1012	A RTL	-55	125		3.0	8	4,3		.69	.77		16		.15		2	135
EXCLUSIVE OR WC	SYL	SG91	B TTL	-55	125		5.0	35	7		1.20	1.70	.75	49		.45	3.20	G,H	131
EXCLUSIVE OR WC	SYL	SG90	B TTL	-55	125		5.0	35	15		1.20	1.70	.75	46		.45	3.20	G,H	131
EXCLUSIVE OR WC	NSC	NC2012	A RTL	0	100		3.0	8	4,3		.89	.77		16		.15		2	135
EXCLUSIVE OR WC	SW	SWG92	A TTL	0	75		5.0	14	12					14	20			19,C	131
EXCLUSIVE OR WC	SW	SWG93	A TTL	0	75		5.0	14	5					14	20			19,C	131
EXCLUSIVE OR WC	SW	SWG91	A TTL	-55	125		5.0	14	7					14	20			19,C	131
EXCLUSIVE OR WC	SW	SWG90	A TTL	-55	125		5.0	14	15					14	20			19,C	131
EXCLUSIVE OR WC	TRAN	TNG4613	B TTL	-55	125		5.0		7		1.20	1.70	.70	18		.45	2.40	47,H	131
EXCLUSIVE OR WC	TRAN	TNG4612	B TTL	0	75		5.0		15		1.20	1.70	.70	18		.45	2.40	47,H	131
EXCLUSIVE OR WC	TRAN	TNG4614	B TTL	0	75		5.0		7		1.20	1.70	.70	18		.45	2.40	47,H	131
EXCLUSIVE OR WC	TRAN	TNG4611	B TTL	-55	125		5.0		15		1.20	1.70	.70	18		.45	2.40	47,H	131
EXCLUSIVE OR, DUAL	TI	SN5491	A TTL	-55	125		5.0	10	10		.80	2.80		13		.40	2.40	F	137
EXCLUSIVE OR, DUAL	TI	SN7451	A TTL	0	70		5.0	10	10		.80	2.80	.40	13		.40	2.40	F	137
EXCLUSIVE OR, DUAL	TI	SN5370	F TTL	-55	125		3.5	24	10									T	136
EXCLUSIVE OR, DUAL	TI	SN7370	F TTL	0	70		3.0		10		.40	1.70		65		.30	1.70	5T,76	136
EXCLUSIVE OR, DUAL EX	TI	SN5490	A TTL	-55	125		5.0	10	10		.80	2.80	.40	13		.40	2.40	F	137
EXCLUSIVE OR, DUAL EX	TI	SN5450	A TTL	-55	125		5.0	10	10									F	137
EXCLUSIVE OR, DUAL EX	TI	SN7490	F TTL	0	70		5.0		10		.80	2.80	.40	13		.40	2.40	F,76	137
EXCLUSIVE OR, EXPANDABLE	TI	SN7453	A TTL	0	70		5.0	10	10		.80	2.80	.40	13		.40	2.40	F	134
EXPANDER DUAL 4 INPUT	TI	SN15933	DTL	-55	125		5.0	5	8					25				F	113 F
EXPANDER DUAL 4 INPUT	TI	SN15833	DTL	0	75		5.0	5	8					25				F	113 F
EXPANDER OR, DUAL 4 INP	TRAN	TNG4041	B TTL	-55	125		5.0	22	15				1.00	10	40	.45	3.20	H,47	139
EXPANDER OR, DUAL 4 INP	TRAN	TNG4042	B TTL	0	75		5.0	22	15				1.00	10	40	.45	3.10	H,47	139
EXPANDER OR, QUAD 2 INP	TRAN	TNG4541	B TTL	-55	125		5.0	22	15				1.00	10	40	.45	3.20	H,47	258
EXPANDER OR, QUAD 2 INP	TRAN	TNG4542	B TTL	0	75		5.0	22	15				1.00	10	40	.45	3.10	H,47	258
EXPANDER, AND-NOR2-2-3-3	SYL	SG150	A TTL	-55	125		5.0	30			1.20	1.70	.55	20		.65	4.80	G,H	258
EXPANDER, AND-NOR2-2-3-3	SYL	SG152	A TTL	0	75		5.0	35			1.80	1.20	1.15	20		.65	4.80	G,H	258
EXPANDER, AND-NOR2-2-3-3	SYL	SG232	B TTL	0	75		5.0	28			1.10	1.70		2		.45		G,H	258
EXPANDER, AND-NOR2-2-3-3	SYL	SG230	B TTL	-55	125		5.0	28			1.10	1.70		2		.45		G,H	258
EXPANDER, AND-NOR2-2-4-4	SW	SWG150	A TTL	-55	125		5.0	20	15					20				19,C	258
EXPANDER, AND-NOR2-2-4-4	SW	SWG151	A TTL	-55	125		5.0	20	7					20				19,C	258
EXPANDER, AND-NOR2-2-4-4	SW	SWG152	A TTL	0	75		5.0	25	12					20				19,C	258
EXPANDER, AND-NOR2-2-4-4	SW	SWG153	A TTL	0	75		5.0	20	8					20				19,C	258
EXPANDER, AND-NOR3-8 INP	TRAN	TNG7712	B TTL	0	75		5.0	40			1.20	1.80		18		.40		47,H	287
EXPANDER, AND-NOR 3-4-4	TRAN	TNG7812	B TTL	0	75		5.0	40			1.20	1.80		18		.40		47,H	287
EXPANDER, AND/NOR 3-8 INP	TRAN	TNG7711	B TTL	-55	125		5.0						1.00	18					
EXPANDER, AND/NOR2, 2-3 INP	TRAN	TNG7911	B TTL	-55	125		5.0						1.00	18					
EXPANDER, AND/OR 3-4 INP	TRAN	TNG7811	B TTL	-55	125		5.0						1.00	18					

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T E C H	TYPE OF LOG-IC	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PWR DIS MW	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
EXPANDER, DUAL	TI	SN17921L		TTL	-55	125		3.0	5					40				1	
EXPANDER, DUAL 2 INP NOR	PHIL	I34E	A	RTL	-55	125		3.0				.75		40		.50	.83	B,U	140
EXPANDER, DUAL 2 INP NOR	MDTA	MC921	A	RTL	-55	125		3.0			.45	.75	.05			.30	.80	A	140
EXPANDER, DUAL 2 INP NOR	PHIL	PL979	A	RTL	-55	125		4.0			.45	.82				.40		41,51	140A
EXPANDER, DUAL 2 INP NOR	TI	SN732	A	RTL	-55	125		3.0						35				A,T	
EXPANDER, DUAL 2 INP NOR	PHIL	PL921	A	RTL	-55	125		3.0			.45	.75	.05	40		.30	.80	A,51	140A
EXPANDER, DUAL 2 INP NOR	NSC	NC1021	A	RTL	-55	125		3.0			.69	.77				.15		2	140A
EXPANDER, DUAL 2 INP NOR	NSC	NC2021	A	RTL	0	100		3.0			.69	.77				.15		2	140A
EXPANDER, DUAL 2 INP NOR	FSC	MWL921	A	RTL	-55	125		3.0			.45	.75	.05	25		.30	.80	A	140A
EXPANDER, DUAL 2 INP NOR	FSC	FL92129	A	RTL	15	55		3.6			.45	.75	.05	25		.30	.80	A	140A
EXPANDER, DUAL 2 INP NOR	SPRG	US-0721	F	RTL	-55	125		3.0	15					* 120					57,62
EXPANDER, DUAL 2 INP NOR	GI	MEM5005	K															82	268
EXPANDER, DUAL 3 INP NOR	SIGN	LU300	A		10	55								5				B	138
EXPANDER, DUAL 3 INP NOR	SIGN	SU300	A		-20	85			* 5.5	K10				4				S,B	138
EXPANDER, DUAL 3 INPUT	PHIL	PL9604	A	RTL	-55	125		3.0			.49	.82				.35		69	
EXPANDER, DUAL 3 INPUT	AMEL	I31B	F	RTL	-55	125		3.0	18				.26	12		.25	.81	B,C	140A
EXPANDER, DUAL 3 INPUT	AMEL	I31A	F	RTL	-55	125		3.0	18				.30	12		.25	.81	B,C	140A
EXPANDER, DUAL 3 INPUT	AMEL	I31C	F	RTL	0	70		3.0	18				.25	16		.25	.81	B	140A
EXPANDER, DUAL 4 INP AND	RCA	CD2204	A	DTL	-55	125			* 8.0	K10								82	330
EXPANDER, DUAL 4 INP AND	SYL	SG183	A	TTL	0	75		5.0			.60	1.70	.35	* 3		.25	3.70	G,H	132
EXPANDER, DUAL 4 INP AND	SYL	SG182	A	TTL	0	75		5.0			.60	1.70	.35	* 3		.25	3.70	G,H	132
EXPANDER, DUAL 4 INP AND	SYL	SG181	A	TTL	-55	125		5.0			.60	1.70	.35	* 3		.25	3.70	G,H	132
EXPANDER, DUAL 4 INP AND	SYL	SG180	A	TTL	-55	125		5.0			.60	1.70	.35	* 3		.25	3.70	G,H	132
EXPANDER, DUAL 4 INP AND	SW	SWG181	A	TTL	-55	125		5.0	1						20			19,C	132
EXPANDER, DUAL 4 INP AND	SW	SWG183	A	TTL	0	75		5.0	1						20			19,C	132
EXPANDER, DUAL 4 INP AND	SW	SWG182	A	TTL	0	75		5.0	1						20			19,C	132
EXPANDER, DUAL 4 INP AND	SW	SWG180	A	TTL	-55	125		5.0	1						20			19,C	132
EXPANDER, DUAL 4 INP AND	TRAN	TNG3512	B	TTL	0	75		5.0			1.20	1.70		* 18				47,H	132
EXPANDER, DUAL 4 INP AND	TRAN	TNG3511	B	TTL	-55	125		5.0			1.20	1.70		* 18				47,H	132
EXPANDER, DUAL 4 INPUT	RAD	RD511	S	DTL	0	75		5.0										F	113F
EXPANDER, DUAL 4 INPUT	TI	SN15833N	A	DTL	0	75		5.0	5	8				30		.45	2.60	H	113 F
EXPANDER, DUAL 5 INPUT	AMEL	331CG	A	DTL	0	100		12.0	15				4.80	60		1.20	12.00	30	111F
EXPANDER, DUAL 5 INPUT	AMEL	331CJ	A	DTL	0	70		12.0	15				4.80	60		1.20	12.00	68	111F
EXPANDER, DUAL 5 INPUT	AMEL	331BG	A	DTL	-55	125		12.0	15				4.80	60		1.20	12.00	30	111F
EXPANDER, DUAL 2-3 AND-NOR	TRAN	TNG7912	B	TTL	0	75		5.0	40		1.20	1.80		* 18		.40		47,H	287
EXPANDER, DUAL 4 INP NAND	TI	SN7460	F	TTL	0	70		5.0	* 10		.80	2.00		10		.40		F,76	139
EXPANDER, DUAL 4 INP NAND	SYL	SG170	A	TTL	-55	125		5.0	* 14		1.20	1.70	.55		20	.65	4.80	G,H	139
EXPANDER, DUAL 4 INP NAND	SYL	SG172	A	TTL	0	75		5.0	* 17		1.20	1.80	.55		20	.65	4.80	G,H	139
EXPANDER, DUAL 4 INP NAND	TI	SN5460	A	TTL	-55	125		5.0	5		.80	2.00		15		.40		F	139
EXPANDER, DUAL 4 INP NAND	SW	SWG173	A	TTL	0	75		5.0	5						20			19,C	139
EXPANDER, DUAL 4 INP NAND	SW	SWG170	A	TTL	-55	125		5.0	5						20			19,C	139
EXPANDER, DUAL 4 INP NAND	SW	SWG171	A	TTL	-55	125		5.0	5						20			19,C	139
EXPANDER, DUAL 4 INP NAND	SW	SWG172	A	TTL	0	75		5.0	5						20			19,C	139
EXPANDER, DUAL 4 INP NAND	SYL	SG270	B	TTL	-55	125		5.0	7		1.10	1.70		2		.45		G,H	139
EXPANDER, DUAL 4 INP NAND	SYL	SG272	B	TTL	0	75		5.0	7		1.10	1.70		2		.45		G,H	139
EXPANDER, DUAL 4 INP NAND	TRAN	TNG4011	B	TTL	-55	125		5.0			1.20	1.70		* 18				47,H	139
EXPANDER, DUAL 4 INP NAND	TRAN	TNG4012	B	TTL	0	75		5.0			1.20	1.70		* 18				47,H	139
EXPANDER, DUAL 4 INP NAND	SIGN	SE806	A	TTL	-55	125		5.0						13		.20		X	139

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T C LOG-IC	TYPE	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PWR DIS HW	RAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPBED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
EXPANDER, TRIPLE DIODE	TI	SN14227	B	DTL	-55	125		6.0										F	113 F
EXPANDER, TRIPLE DIODE	TI	SN14327	A	DTL	0	75		6.0										F	113 F
EXPANDER, 1-2 INPUT NOR	GI	MEM5006	K															18	268
EXPANDER, 1-4 INPUT NOR	GI	MEM5002	K															82	268
EXPANDER, 4 INPUT AND	TRAN	TMG4031	B	TTL	15	55		5.0		7	1.00	2.00	.50	* 25		.50	2.50	47,H	132
EXPANDER, 4 INPUT NOR	GI	MEM5003	K															18	268
EXPANDER, 5 INPUT AND	TI	SN7320	F	DTL	0	70		3.0									2.10	F,T	130N
EXPANDER, 5 INPUT NOR	MOTA	MC335	A	ECL	0	75		* 10.0			1.55	.75		6				13,C	138
EXPANDER, 5 INPUT NOR	MOTA	MC305	A	ECL	-55	125		* 10.0			1.55	.75		6				10,S	138
EXPANDER, 5 INPUT NOR	SW	SW305	A	ECL	-55	125		* 10.0			1.55	.75		6				19,S	138
EXPANDER, 6 INPUT NOR	GI	MEM2001	K															82	
EXPANDER, 6 INPUT NOR	GI	MEM5001	K															82	268
EXPANDERTDUAL 4 INPUT	RAD	RD211	S	DTL	-55	125		5.0					.80					F	113F
INTERFACE INPUT	AMEL	3618G	A	DTL	-55	125		12.0	50	8			4.80	30		1.20	12.00	30,C	307
INTERFACE INPUT	AMEL	361CJ	A	DTL	0	70		12.0	50	8			4.80	30		1.20	12.00	68	307
INTERFACE INPUT	AMEL	361CG	A	DTL	0	100		12.0	50	8			4.80	30		1.20	12.00	30,C	307
INTERFACE OUTPUT	AMEL	362CG	A	DTL	0	100		12.0	150	8			4.80	11		1.20	12.00	30,C	310
INTERFACE OUTPUT	AMEL	362CJ	A	DTL	0	70		12.0	150	6			4.80	11		1.20	12.00	68	310
INTERFACE OUTPUT	AMEL	3628G	A	DTL	-55	125		12.0	150	6			4.80	11		1.20	12.00	30,C	310
INVERTER	TI	SN17909L	TTL		-55	125		3.0	3	30									40
INVERTER	AMEL	101C	F	RTL	0	70		3.0	35	* 15			.25	18		.25	.81	B	
INVERTER	AMEL	102C	F	RTL	0	70		3.0	58	* 57			.25	18		.25	.81	B	
INVERTER	AMEL	102B	F	RTL	-55	125		3.0	58	* 57			.26	16		.25	.81	B,C	
INVERTER	AMEL	101A	F	RTL	-55	125		3.0	35	* 38			.30	13		.25	.81	B,C	
INVERTER	AMEL	101B	F	RTL	-55	125		3.0	35	* 15			.26	16		.25	.81	B,C	
INVERTER	AMEL	102A	F	RTL	-55	125		3.0	58	* 83			.30	13		.25	.81	B,C	
INVERTER	TI	SN916	F	RCTL	-55	125		3.0	25		.4W	1.1W		175		.4W	1.1W	F	218
INVERTER	SPRG	US-0106	F	RCTL	-55	125		3.0	25									57,62	
INVERTER	PHIL	PL900	A	RTL	-55	125		3.0	25		.56	.82		16		.30		A,69	142
INVERTER	FSC	L900C	A	RTL	0	100		3.0	25		.55	.84		16		.40		A,D	142
INVERTER	FSC	L900	A	RTL	-55	125		3.0	25		.56	.82		16		.30		A,D	142
INVERTER	NSC	NB1000	A	RTL	-55	125		3.0	16	80	.69	.77		15		.15		2	142
INVERTER	NSC	NB2000	A	RTL	0	100		3.0	16	80	.69	.77		15		.15		2	142
INVERTER	FSC	FL90029	A	RTL	15	55		3.6	30	80				15				A	142
INVERTER	MOTA	MC900	F	RTL	-55	125		3.0	25,5	.56	.82	.02	* 30		.30	.84	A	142	
INVERTER	MOTA	MC800	F	RTL	0	100		3.0	25,5	.55	.84		* 30		.40	.84	A	142	
INVERTER	SPER	900	A	RTL	-55	125		3.0	* 25	.56	.82		* 30		.30		A,S	142	
INVERTER	NORD	NM4002	F	RTL	-55	125		13.0	590					25					141
INVERTER DUAL 5 INPUT	AMEL	3018G	A	DYL	-55	125		12.0	300	6			4.80	60		1.20	12.00	30	
INVERTER DUAL 5 INPUT	AMEL	301CG	A	DTL	0	100		12.0	300	6			4.80	60		1.20	12.00	30	
INVERTER DUAL 5 INPUT	AMEL	301CJ	A	DTL	0	70		12.0	300	6			4.80	60		1.20	12.00	68	
INVERTER QUAD	PHIL	263Q	A	DTL	-55	125		4.0		8	.80	2.00	.40	20		.40	3.50	B,U	192
INVERTER, DUAL	MOTA	ME1115	F	DTL	-55	125		* 10.0	7.0	250				* 32				13	143
INVERTER, DUAL	SPRG	US-0115	F	RCTL	-55	125		3.0	4	* 25								57,62	
INVERTER, DUAL	SPRG	US-0114	F	RCTL	-55	125		3.0	2	* 5								57,62	
INVERTER, HEX	RAD	RD220	S	DTL	-55	125		5.0	10	8			.80	7		.45	4.00	F	292
INVERTER, HEX	RAD	RD320	S	DTL	-55	125		5.0	10	5			.80	7		.40	4.00	F	292
INVERTER, HEX	TI	SN14388		DTL	0	75		6.0		11	1.00	2.00	.55	32		.45	5.80	F	196 A

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T C	TYPE OF LOG- IC	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PWR DIS MW	FAN- OUT	INPUT THRESHOLD VOLTS		NOISE IMMU- NITY VOLTS	DELAY NAND- SECS	OPER- ATING SPEED MMZ	OUTPUT LEVEL		PACK- AGE TYPE	SCHE- MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
INVERTER, HEX	TI	SN14396		DTL	0	75		6.0		11	1.00	2.00	.55	40		.45	5.80	F	196
INVERTER, HEX	TI	SN14296	B	DTL	-55	125		6.0	20	11			.55	32		.45	5.80	F	196
INVERTER, HEX	TI	SN14286	B	DTL	-55	125		6.0	11	11			.55	23		.45	5.80	F	196 A
INVERTER, HEX INTERFACE	RAD	RD234	S	DTL	-55	125		5.0	12	8			.80	7		.40	4.00	F	327
INVERTER, HEX INTERFACE	RAD	RD235	S	DTL	-55	125		5.0	12				.80	* 35		1.00	29.00	F	327
INVERTER, HEX INTERFACE	RAD	RD334	S	DTL	-55	125		5.0	12				.80	7		.40	4.00	F	327
INVERTER, HEX INTERFACE	RAD	RD534	S	DTL	0	75		5.0	14					* 25		.45	3.00	F	327
INVERTER, QUAD	AMEL	132C	F	RTL	0	70		3.0	36	* 5			.25	20		.25	.81	B	140
INVERTER, QUAD	AMEL	132A	F	RTL	-55	125		3.0	36	* 10			.30	20		.25	.81	B,C	140
INVERTER, QUAD	AMEL	132B	F	RTL	-55	125		3.0	36	* 6			.26	20		.25	.81	B,C	140
INVERTER, QUAD	TI	SN7350	F	RCTL	0	70		3.0	10		.40	1.70		25		.30	1.70	F1,76	147
INVERTER, QUAD	FSC	L927	A	RTL	-55	125		3.0	48	5				12				B,S	145
INVERTER, QUAD	FSC	FL92729	A	RTL	15	55		3.6	80	16				12				B	145
INVERTER, QUAD	FSC	L927C	A	RTL	0	100		3.0	48	5				12				B,S	145
INVERTER, QUAD	TI	SN535	F	RTL	-55	125		3.5	15	* 10	.30	1.50		20		.30	2.20	74	147
INVERTER, QUAD	STGN	SE181	A	DTL	-55	125		4.0	* 19	* 5	.40	1.95	.70	* 32		1.10	3.90	S,B,X	192
INVERTER, SEXTUPLE	WMED	WM296	A	DTL	-55	125		6.0	11	9	1.00	2.00	.55	32		.45	5.80	F	196
INVERTER, SEXTUPLE	WMED	WM286	A	DTL	-55	125		6.0	5	6	1.00	2.80	.55	23		.45		F	196A
INVERTER, SEXTUPLE	CORN	0094	D		-55	70		10.0	* 40	6	.87	2.17	.55	35		.32	2.72	71	146
INVERTER, SEXTUPLE	WMED	WC286	A	DTL	0	75		6.0	8	6	1.00	1.80		30		.45		F	196A
INVERTER, SEXTUPLE	WMED	WC296	A	DTL	0	75		6.0	8	6	1.00	1.80		30		.45		F	196
INVERTER, SEXTUPLE	PHIL	PL9608	A	DTL	-55	125		5.0	* 13	8	1.10	2.00	.60	20		.40	2.60	41	192
INVERTER, TRIPLE	TI	SN344	A		0	65	6.0	-3.0	85	12				120		.70		F	196A
INVERTER, TRIPLE	PHIL	PL9611	A	RTL	-55	125		3.0						27				A	277
J-K CLOCKED OR DIRECT	NSC	NB1016	A	RTL	-55	125		3.0					.25					2	155
J-K CLOCKED OR DIRECT	NSC	NB2016	A	RTL	0	100		3.0					.25					2	155
J-K CLOCKED OR DIRECT	AMEL	311CJ	A	DTL	0	70		12.0	120	* 6			4.80	60		1.20	12.00	68	315
J-K CLOCKED OR DIRECT	AMEL	311CG	A	DTL	0	100		12.0	120	* 6			4.80	60		1.20	12.00	30	315
J-K CLOCKED OR DIRECT	AMEL	311BG	A	DTL	-55	125		12.0	120	* 6			4.80	60		1.20	12.00	30	315
J-K, AND INPUT	SYL	SF203	A	TTL	0	75		5.0	60		1.20	1.70	.90	11	50	.40	3.00	H,G	
J-K, AND INPUT	SYL	SF200	A	TTL	-55	125		5.0	50		1.20	1.70	.90	11	50	.40	3.00	H,G	
J-K, AND INPUT	SYL	SF201	A	TTL	-55	125		5.0	50		1.20	1.70	.90	11	50	.40	3.00	H,G	
J-K, AND INPUT	SYL	SF202	A	TTL	0	75		5.0	60		1.20	1.70	.90	11	50	.40	3.00	H,G	
J-K, AND-OR INPUTS	TI	SN54H71	B	TTL	-55	125		5.0	95	10	2.00	.80	.40	40		.40	2.40	F	
J-K, AND-OR INPUTS	TI	SN74H71	A	TTL	0	70		5.0	95	10	2.00	.80	.40	40		.40	2.40	F	
J-K, CHRG STRG AND INPUT	TRAN	TFF3243	B	TTL	-55	125		5.0	60	7			1.00	10	20	.30	3.00	H,47	157
J-K, CHRG STRG AND INPUT	TRAN	TFF3244	B	TTL	0	75		5.0	60	7			1.00	10	20	.30	3.00	H,47	157
J-K, CHRG STRG AND INPUT	TRAN	TFF3241	B	TTL	-55	125		5.0	60	15			1.00	10	20	.30	3.00	H,47	157
J-K, CHRG STRG AND INPUT	TRAN	TFF3242	B	TTL	0	75		5.0	60	15			1.00	10	20	.30	3.00	H,47	157
J-K, CHRG STRG EN OR INP	TRAN	TFF3444	B	TTL	0	75		5.0	22	7			1.00	20		.45	2.80	H,47	296
J-K, CHRG STRG EN OR INP	TRAN	TFF3442	B	TTL	0	75		5.0	22	15			1.00	20		.45	2.80	H,47	296
J-K, CHRG STRG EN OR INP	TRAN	TFF3411	B	TTL	-55	125		5.0	40	15	1.20	1.70	1.00	16	30	.45	3.20	H,47	296
J-K, CHRG STRG EN OR INP	TRAN	TFF3443	B	TTL	-55	125		5.0	22	7			1.00	20		.45	2.80	H,47	296
J-K, CHRG STRG EN OR INP	TRAN	TFF3441	B	TTL	-55	125		5.0	22	15			1.00	20		.45	2.80	H,47	296
J-K, CHRG STRG EN OR INP	TRAN	TFF3414	B	TTL	0	75		5.0	40	7	1.20	1.80	1.00	16	30	.45	3.10	H,47	296
J-K, CHRG STRG EN OR INP	TRAN	TFF3412	B	TTL	0	75		5.0	40	15	1.20	1.80	1.00	16	30	.45	3.10	H,47	296
J-K, CHRG STRG EN OR INP	TRAN	TFF3413	B	TTL	-55	125		5.0	40	7	1.20	1.80	1.00	16	30	.45	3.20	H,47	296
J-K, CHRG STRG OR INPUT	TRAN	TFF3314	B	TTL	0	75		5.0	40	7	1.20	1.80	1.00	16	30	.45	3.10	H,47	297

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T C	TYPE OF LOG-IC	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PWR DIS MW	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
J-K,CHRG STRG OR INPUT	TRAN	TFF3343	B	TTL	-55	125		5.0	22	7	1.20	1.70	1.00	16	40	.45	2.80	47	297
J-K,CHRG STRG OR INPUT	TRAN	TFF3312	B	TTL	0	75		5.0	40	15	1.20	1.80	1.00	16	30	.45	3.10	H,47	297
J-K,CHRG STRG OR INPUT	TRAN	TFF3344	B	TTL	0	75		5.0	22	7	1.20	1.70	1.00	16	40	.45	2.80	47	297
J-K,CHRG STRG OR INPUT	TRAN	TFF3341	B	TTL	-55	125		5.0	22	15	1.20	1.70	1.00	16	40	.45	2.80	47	297
J-K,CHRG STRG OR INPUT	TRAN	TFF3342	B	TTL	0	75		5.0	22	15	1.20	1.70	1.00	16	40	.45	2.80	47	297
J-K,CHRG STRG OR INPUT	TRAN	TFF3311	B	TTL	-55	125		5.0	40	15	1.20	1.70	1.00	16	30	.45	3.20	H,47	297
J-K,CHRG STRG OR INPUT	TRAN	TFF3313	B	TTL	-55	125		5.0	40	7	1.20	1.70	1.00	16	30	.45	3.20	H,47	297
J-K,CLOCKD OR SET DIRECT	TI	SN530	F	DTL	-55	125		3.5	37	* 10	.30	1.50		45		.30	2.00	74	165V
J-K,CLOCKD OR SET DIRECT	PHIL	PL940	A	RTL	-55	125		3.0	15	2	.45	.75	.05	* 100		.30	.80	41	155
J-K,CLOCKD OR SET DIRECT	TI	SN7300	F	RYTL	0	70		3.0	27	10	.40	1.70		20		.30	1.70	H,76	165V
J-K,CLOCKD OR SET DIRECT	MOTA	MC816	F	RTL	0	100		3.0	54	3	.55	.84		60	* 8	.40	.84	A	155
J-K,CLOCKD OR SET DIRECT	MOTA	MC916	F	RTL	-55	125		3.0	54	3	.56	.82	.02	60	* 8	.30	.84	A	155
J-K,CLOCKD OR SET DIRECT	MOTA	MC848G	A	DTL	0	75		5.0		11	1.10	1.90				.45		B	150
J-K,CLOCKD OR SET DIRECT	MOTA	MC948G	A	DTL	-55	125		5.0		9	1.10	2.00		* 65		.40		B	150
J-K,CLOCKD OR SET DIRECT	MOTA	MC831G	A	DTL	0	75		5.0		7	1.10	1.90		* 75		.45		B	149
J-K,CLOCKD OR SET DIRECT	MOTA	MC845G	A	DTL	0	75		5.0		12	1.10	1.90		* 75		.45		B	150
J-K,CLOCKD OR SET DIRECT	MOTA	MC945G	A	DTL	-55	125		5.0		10	1.10	2.00		* 75		.40		B	150
J-K,CLOCKD OR SET DIRECT	MOTA	MC931G	A	DTL	-55	125		5.0		7	1.10	2.00		* 75		.40		B	149
J-K,CLOCKD OR SET DIRECT	SYL	SF63	B	TTL	0	75		5.0	50	6	1.20	1.70	.75		20	.45	3.00	G,H	345
J-K,CLOCKD OR SET DIRECT	SYL	SF62	B	TTL	0	75		5.0	50	12	1.20	1.70	.75		20	.45	3.00	G,H	345
J-K,CLOCKD OR SET DIRECT	SYL	SF60	B	TTL	-55	125		5.0	50	15	1.20	1.70	.75		20	.45	3.00	G,H	345
J-K,CLOCKD OR SET DIRECT	SYL	SF61	B	TTL	-55	125		5.0	50	7	1.20	1.70	.75		20	.45	3.00	G,H	345
J-K,CLOCKD OR SET DIRECT	PHIL	PL9940	A	RTL	-55	125		3.0	15	2					6			A	281
J-K,CLOCKD OR SET DIRECT	PHIL	PL9923	A	RTL	15	55		3.6		10					1			A	280
J-K,CLOCKD OR SET DIRECT	PHIL	PL9974	A	RTL	-55	125		3.0	54	5	.56	.82	.02		20	.21	.84	A	153
J-K,CLOCKD OR SET DIRECT	TRAN	TFF3131	B	TTL	15	55		5.0		7	1.00	2.80	.50	* 25		.50	2.50	47,H	282
J-K,CLOCKED OR DIRECT	RAD	RD207	S	DTL	-55	125		5.0	95	12			.80		16	35		F	325
J-K,CLOCKED OR DIRECT	PHIL	PL9601	A	RTL	-55	125		3.0		4	.49	.82	.06		.03	.35	.88	69	278
J-K,CLOCKED OR DIRECT	TI	SN74H72	A	TTL	0	70		5.0	80	10	2.00	.80	.40		40	.40	2.40	F	
J-K,CLOCKED OR DIRECT	TI	SN54H72	B	TTL	-55	125		5.0	80	10	2.00	.80	.40		40	.40	2.40	F	
J-K,CLOCKED OR DIRECT	TI	SN54L72R	B	TTL	-55	125		5.0		10	2.00	.70	.40		48	.30	2.40	F	309
J-K,CLOCKED OR DIRECT	TI	SN74L72R	A	TTL	0	70		5.0		10	2.00	.70	.40		48	.30	2.40	F	309
J-K,CLOCKED OR DIRECT	TI	SN5472	A	TTL	-55	125		5.0		10	.80	2.00			15	.40	2.40	F	309
J-K,CLOCKED OR DIRECT	TI	SN14315	A	DTL	0	75		6.0		9	1.00	2.00	.55		80	.45	3.50	F	167
J-K,CLOCKED OR DIRECT	TI	SN5301	F	DTL	-55	125		3.5	27	10	.30	1.50			30	.30	2.70	F	165
J-K,CLOCKED OR DIRECT	TI	SN14215	B	DTL	-55	125		8.0	56	9			.55		80	.45	3.50	F	167
J-K,CLOCKED OR DIRECT	TI	SN7432	A	TTL	0	70		5.0		10	.80	2.00	.40		15	.40	2.40	F	309
J-K,CLOCKED OR DIRECT	ITT	MIC945	A	DTL	-55	125		5.0	* 70	* 10	1.10	1.90	.50		35	.40	3.10	C,B,H	150
J-K,CLOCKED OR DIRECT	SILX	SI945	A	DTL	-55	125		4.0	42	9					50			F	150
J-K,CLOCKED OR DIRECT	ITT	MIC948	A	DTL	-55	125		5.0	* 81	* 9	1.10	1.90	.50		30	.40	3.10	C,B,H	150
J-K,CLOCKED OR DIRECT	SILX	SI948	A	DTL	-55	125		5.0	48	8					40			F	150
J-K,CLOCKED OR DIRECT	SILX	SI931	A	DTL	-55	125		4.0	20	7	1.03	1.33			50	.23		F	150
J-K,CLOCKED OR DIRECT	AMEL	5098	A	TTL	-55	125		5.0	6	* 6			1.00		180	.25	3.80	C	
J-K,CLOCKED OR DIRECT	AMEL	5398	A	TTL	-55	125		5.0	14	* 6			1.00		100	.25	3.80	C	
J-K,CLOCKED OR DIRECT	AMEL	5798	A	TTL	-55	125		5.0	30	* 9			1.00		20	.25	3.80	C	
J-K,CLOCKED OR DIRECT	PHIL	PL945	A	DTL	-55	125		4.0	42	9					50			41	150
J-K,CLOCKED OR DIRECT	PHIL	PL948	A	DTL	-55	125		5.0	48	8					40			41	
J-K,CLOCKED OR DIRECT	SW	SW948	A	DTL	-55	125		5.0	45	* 10	.95	2.00	.55			.40	2.60	19,C	150

CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T E C H	TYPE OF LOG IC	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PWR DIS MW	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ		OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.	
					MIN	MAX	NO. 2	NO. 1		FAN-OUT	ZERO			ONE	ZERO	ONE				
J-K,CLOCKED OR DIRECT	FSC	L926	A	RTL	-55	125		3.0	56	5	.56	.02		40	20	.30		B,S	153	
J-K,CLOCKED OR DIRECT	FSC	FL92629	A	RTL	15	55		3.6	55	16				40				B	155	
J-K,CLOCKED OR DIRECT	FSC	FL92329	A	RTL	15	55		3.6	54	10				40				A	155	
J-K,CLOCKED OR DIRECT	MOTA	MC308	A	ECL	-55	125		-5.2	52					12	30	1.56	.82	10,S	154	
J-K,CLOCKED OR DIRECT	MOTA	MC358	A	ECL	0	75		-5.2	52					10	30	1.55	.75	10,C	154	
J-K,CLOCKED OR DIRECT	FSC	FL92328	A	RTL	15	55		3.6	54	8				40				A	155	
J-K,CLOCKED OR DIRECT	FSC	L926C	A	RTL	0	100		3.0	56	5	.55	.04		40	20	.40		B,S	153	
J-K,CLOCKED OR DIRECT	FSC	FL94529	A	DTL	0	70		4.0	42	9				50				B,C	150	
J-K,CLOCKED OR DIRECT	FSC	DTL945	A	DTL	-55	125		4.0	42	9				50				C,B	150	
J-K,CLOCKED OR DIRECT	TRAN	TFF3114	B	TTL	0	75		4.0	75	7	1.20	1.70	.70		20	.45	2.40	47,H	158	
J-K,CLOCKED OR DIRECT	TRAN	TFF3113	B	TTL	-55	125		4.0	75	7	1.20	1.70	.70		20	.45	2.40	47,H	158	
J-K,CLOCKED OR DIRECT	SYL	SF51	A	TTL	-55	125		5.0	50	7	1.20	1.70	.75		19	20	.45	3.20	G,H	157
J-K,CLOCKED OR DIRECT	FSC	DTL948	A	DTL	-55	125		5.0	48	8				40				C,B	150	
J-K,CLOCKED OR DIRECT	FSC	FL94829	A	DTL	0	70		5.0	48	8				40						
J-K,CLOCKED OR DIRECT	SYL	SF50	A	TTL	-55	125		5.0	50	15	1.20	1.70	.75		19	20	.45	3.20	G,H	157
J-K,CLOCKED OR DIRECT	FSC	DTL931	A	DTL	-55	125		4.0	20	7	1.0T	1.3T		50		.2T		C	149	
J-K,CLOCKED OR DIRECT	TI	SN5470	A	TTL	-55	125		5.0	70	10	.80	2.00	.40		25	.40	2.40	F	157	
J-K,CLOCKED OR DIRECT	PHIL	PL916	A	RTL	-55	125		3.0	54	3	.56	.82		35		.30		A,69	155	
J-K,CLOCKED OR DIRECT	SIGN	SU320	A	TTL	-55	125		4.5	90	* 17	.80	2.70	.20		76	.60	3.30	S,B	156	
J-K,CLOCKED OR DIRECT	SIGN	LU320	A		-55	125		4.5	90	* 17	.80	2.70	.20		65	.60	3.30	B	156	
J-K,CLOCKED OR DIRECT	TRAN	TFF3112	B	TTL	-55	125		5.0	75	15	1.20	1.70	.70		20	.45	2.40	47,H	158	
J-K,CLOCKED OR DIRECT	WMED	WM503	A	DTL	-55	125		4.5	47	10				20	20	.40		F	159	
J-K,CLOCKED OR DIRECT	TRAN	TFF3111	B	TTL	0	75		5.0	75	15	1.20	1.70	.70		20	.45	2.40	47,H	158	
J-K,CLOCKED OR DIRECT	SYL	SF53	A	TTL	0	75		5.0	50	6	1.20	1.70	.80		19	.40	3.20	G,H	157	
J-K,CLOCKED OR DIRECT	SYL	SF52	A	TTL	0	75		5.0	50	12	1.20	1.70	.80		19	.40	3.20	G,H	157	
J-K,CLOCKED OR DIRECT	FSC	FL93129	A	DTL	0	70		4.0	20	7	1.0T	1.3T		50		.2T		B,C	149	
J-K,CLOCKED OR DIRECT	PHIL	PL931	A	DTL	-55	125		5.0		7	1.00	1.30	.60		80	.40	2.60	41	149	
J-K,CLOCKED OR DIRECT	TI	SN7470	F	TTL	0	70		5.0	70	* 10	.80	2.00	.40		30	.40	2.40	F,76		
J-K,CLOCKED OR DIRECT	TI	SN7301	F	RCTL	0	70		3.0	2T	10	.40	1.70		20		.30	1.70	5T,76	165	
J-K,CLOCKED OR DIRECT	SW	SW931	A	DTL	-55	125		5.0	35	9	.95	2.00	.55		8	.40	2.60	19,C	149	
J-K,CLOCKED OR DIRECT	SW	SW945	A	DTL	-55	125		5.0	45	# 10	.95	2.00	.55			.40	2.60	19,C	150	
J-K,CLOCKED OR DIRECT	SPER	926	A	RTL	-55	125		3.0	56	5	.56	.02		35	20	.30		A,S	153	
J-K,CLOCKED OR DIRECT	SW	SW308	A	ECL	-55	125		-5.2	52					10	30	1.56	.02	19,S	154	
J-K,CLOCKED OR DIRECT	SW	SWF53	A	TTL	0	75		5.0	50	6				20				C	157	
J-K,CLOCKED OR DIRECT	MOTA	MC948F	A	DTL	-55	125		5.0		9	1.10	2.00				.40		C	150	
J-K,CLOCKED OR DIRECT	MOTA	MC845F	A	DTL	0	75		5.0		12	1.10	1.90	* 75			.45		C	150	
J-K,CLOCKED OR DIRECT	MOTA	MC945F	A	DTL	-55	125		5.0		10	1.10	2.00	* 75			.40		C	150	
J-K,CLOCKED OR DIRECT	MOTA	MC848F	A	DTL	0	75		5.0		11	1.10	1.90	* 65			.45		C	150	
J-K,CLOCKED OR DIRECT	MOTA	MC931F	A	DTL	-55	125		5.0		7	1.10	2.00	* 75			.40		C	149	
J-K,CLOCKED OR DIRECT	MOTA	MC831F	A	DTL	0	75		5.0		7	1.10	1.90	* 75			.45		C	149	
J-K,CLOCKED OR DIRECT	SW	SWF51	A	TTL	-55	125		5.0	50	7					20			C	157	
J-K,CLOCKED OR DIRECT	SW	SWF50	A	TTL	-55	125		5.0	50	15					20			C	157	
J-K,CLOCKED OR DIRECT	SW	SWF52	A	TTL	0	75		5.0	50	12					20			C	157	
J-K,CLOCKED OR DIRECT	WMED	WM225	A	TTL	-55	125		6.0	*55	10	1.00	2.00	.55		60	.45	3.30	F	270	
J-K,CLOCKED OR DIRECT	PHIL	PL9926	A	RTL	-55	125		3.0	56	5	.56	.02	.02		20	.21	.84	B	153	
J-K,CLOCKED OR DIRECT	PHIL	PL9600	A	RTL	-55	125		3.0		4	.49	.02	.06		30	.35	.88	69	278	
J-K,CLOCKED OR DIRECT	TRAN	TFF3127	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	282	
J-K,CLOCKED OR DIRECT	TRAN	TFF3128	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	282	

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T C	TYPE	OPER		SUPPLY		PWR DIS	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
					E OF LOG	TEMP CENTGRDE	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
J-K,CLOCKED OR DIRECT	TRAN	TFF3126	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	282
J-K,CLOCKED OR DIRECT	TRAN	TFF3125	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	282
J-K,CLOCKED OR DIRECT	TRAN	TFF3213	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	157
J-K,CLOCKED OR DIRECT	TRAN	TFF3212	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	157
J-K,CLOCKED OR DIRECT	TRAN	TFF3211	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	157
J-K,CLOCKED OR DIRECT	TRAN	TFF3124	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	282
J-K,CLOCKED OR DIRECT	TRAN	TFF3122	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	282
J-K,CLOCKED OR DIRECT	TRAN	TFF3123	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	282
J-K,CLOCKED OR DIRECT	TRAN	TFF3121	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	282
J-K,CLOCKED OR DIRECT	TRAN	TFF3118	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	158
J-K,CLOCKED OR DIRECT	TRAN	TFF3116	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	158
J-K,CLOCKED OR DIRECT	TRAN	TFF3117	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	158
J-K,CLOCKED OR DIRECT	TRAN	TFF3214	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	157
J-K,CLOCKED OR DIRECT	TRAN	TFF3115	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	158
J-K,CLOCKED OR DIRECT	FSC	LPDT9040	A	DTL	-55	125		5.0	E35	10	.90	1.70	.70		2.50	.20	2.70	C,H	288
J-K,CLOCKED OR DIRECT	SIGN	SE825	A	TTL	-55	125		5.0	70					30		.20	2.40	X	294
J-K,CLOCKED OR DIRECT	SIGN	SE125	A	DTL	-55	125	4.0	-2.0	20	7	1.22	1.48	1.00		20	.22	3.80	X	293
J-K,CLOCKED OR SEY DIR	PHIL	264JK	A	DTL	-55	125		5.0	45	10	1.10	2.00	.60	25	21	.40	2.60	G,B	
J-K,DUAL CLOCKED	TRAN	TFF3273	B	TTL	-55	125		5.0	40	7	1.20	1.80	1.00	16	30	.45	3.10	H,47*	296
J-K,DUAL CLOCKED	TRAN	TFF3274	B	TTL	0	75		5.0	40	7	1.20	1.80	1.00	16	30	.45	3.10	H,47*	296
J-K,DUAL CLOCKED	TRAN	TFF3173	B	TTL	-55	125		5.0	75	7	1.20	1.70	1.00	16	30	.40	3.20	H,47*	282
J-K,DUAL CLOCKED	TRAN	TFF3174	B	TTL	0	75		5.0	75	7	1.20	1.80	1.00	16	30	.40	3.10	H,47*	282
J-K,DUAL CLOCKED OR DIR	PHIL	PL4M01	K	HQS	-55	125	-12.0	-24.0	100		3.00	9.00	1.00	550	.50	2.00	10.00	88	160
J-K,DUAL CLOCKED OR DIR	TI	SN5473	A	TTL	-55	125		5.0		10	.80	2.00				.40	2.40	F	309
J-K,DUAL CLOCKED OR DIR	TI	SN7476N	A	TTL	0	70		5.0		10	.80	2.00	.40	30	15	.40	2.40	67	309
J-K,DUAL CLOCKED OR DIR	TI	SN7473	A	TTL	0	70		5.0	10	10	.80	2.00	.40	15		.40	2.40	F	309
J-K,DUAL CLOCKED OR DIR	TI	SN5302	F	DTL	-55	125		3.5	37	* 10	.30	1.50		45		.30	2.00	F	165V
J-K,DUAL CLOCKED OR DIR	TI	SN5304	F	DTL	-55	125		3.5	37	* 10	.30	1.50		45		.30	2.00	F	165
J-K,DUAL CLOCKED OR DIR	TI	SN7302	F	RCTL	0	70		3.0	27	10	.40	1.70		20		.30	1.70	FT,76	165V
J-K,DUAL CLOCKED OR DIR	TI	SN7304	F	RCTL	0	70		3.0	27	10	.40	1.70		20		.30	1.70	FT,76	165
J-K,DUAL COMMON CLOCK	SYL	SF132	A	TTL	0	75		5.0	60		1.10	1.80	.90	11	50	.40	3.00	H,G	
J-K,DUAL COMMON CLOCK	SYL	SF130	A	TTL	-55	125		5.0	50		1.20	1.70	.90	11	50	.40	3.00	H,G	
J-K,DUAL COMMON CLOCK	SYL	SF133	A	TTL	0	75		5.0	60		1.10	1.80	.90	11	50	.40	3.00	H,G	
J-K,DUAL COMMON CLOCK	SYL	SF131	A	TTL	-55	125		5.0	50		1.20	1.70	.90	11	50	.40	3.00	H,G	
J-K,DUAL COMMON CLOCK	SYL	SF111	A	TTL	-55	125		5.0	50		1.20	1.70	.90	11	35	.40	3.00	H,G	
J-K,DUAL COMMON CLOCK	SYL	SF112	A	TTL	0	75		5.0	60		1.10	1.80	.90	11	35	.40	3.00	H,G	
J-K,DUAL COMMON CLOCK	SYL	SF110	A	TTL	-55	125		5.0	50		1.20	1.70	.90	11	35	.40	3.00	H,G	
J-K,DUAL COMMON CLOCK	SYL	SF113	A	TTL	0	75		5.0	60		1.10	1.80	.90	11	35	.40	3.00	H,G	
J-K,DUAL SEPARATE CLOCK	SYL	SF122	A	TTL	0	75		5.0	60		1.10	1.80	.90	11	50	.40	3.00	H,G	
J-K,DUAL SEPARATE CLOCK	SYL	SF123	A	TTL	0	75		5.0	60		1.10	1.80	.90	11	50	.40	3.00	H,G	
J-K,DUAL SEPARATE CLOCK	SYL	SF101	A	TTL	-55	125		5.0	50		1.20	1.70	.90	11	35	.40	3.00	H,G	
J-K,DUAL SEPARATE CLOCK	SYL	SF100	A	TTL	-55	125		5.0	50		1.20	1.70	.90	11	35	.40	3.00	H,G	
J-K,DUAL SEPARATE CLOCK	SYL	SF103	A	TTL	0	75		5.0	60		1.10	1.80	.90	11	35	.40	3.00	H,G	
J-K,DUAL SEPARATE CLOCK	SYL	SF102	A	TTL	0	75		5.0	60		1.10	1.80	.90	11	35	.40	3.00	H,G	
J-K,DUAL SEPARATE CLOCK	SYL	SF121	A	TTL	-55	125		5.0	50		1.20	1.70	.90	11	50	.40	3.00	H,G	
J-K,DUAL SEPARATE CLOCK	SYL	SF120	A	TTL	-55	125		5.0	50		1.20	1.70	.90	11	50	.40	3.00	H,G	
J-K,DR INPUT	SYL	SF211	A	TTL	-55	125		5.0	60		1.10	1.70	.90	11	50	.40	3.00	H,G	
J-K,DR INPUT	SYL	SF212	A	TTL	0	75		5.0	50		1.10	1.70	.90	11	50	.40	3.00	H,G	

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T TYPE E OF C LOG-H IC	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PWR DLS MW	FAN- OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
				MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
J-K,OR INPUT	SYL	SF210	A TTL	-55	125		5.0	60		1.10	1.70	.90	11	50	.40	3.00	H,6	
J-K,OR INPUT	SYL	SF213	A TTL	0	75		5.0	50		1.10	1.70	.90	11	50	.40	3.00	H,6	
J-K,SP CLOCKED OR DIR	SILX	A03	A DTL	-55	125		5.0	40	* 5	1.70	2.70	.70	50		1.00	4.60	20,46	
J-K,SP CLOCKED OR DIR	RAY	RM215	A DTL	-55	125		6.0	45	# 9	.60	1.10	.30	80	5	.30	3.50	FS,21	167
J-K,SP CLOCKED OR DIR	WMED	WM215	A DTL	-55	125		6.0	45	9	.70	1.80	.40	80	5	.30	3.50	21,FS	167
J-K,SP CLOCKED OR DIR	RCA	CD2203	A DTL	-55	125		4.0	8	* 5				167		.25	3.23	82	151
J-K,SP CLOCKED OR DIR	SILX	A09	A DTL	-55	125		5.0	54	* 5	1.70	2.70	.70	42	10	1.00	4.60	20,F	
J-K,SP CLOCKED OR DIR	WMED	WC215	A DTL	0	75		6.0	45	7	1.00	1.80		30	4	.45			167
J-KTCLOCKED OR DIRECT	RAD	RD307	S DTL	-55	125		5.0	95	8			.80	16	35			F	325
LAMP DRIVER DUAL 4 INP	TRAN	TNG5412	B TTL	0	75		5.0			1.20	1.70	1.00	18		.60	3.10	H,47	
LAMP DRIVER DUAL 4 INP	TRAN	TNG5411	B TTL	-55	125		5.0			1.20	1.70	1.00	18		.60	3.10	H,47	
LAMP DRIVER QUAD 2 INP	TRAN	TNG5611	B TTL	-55	125		5.0			1.20	1.70	1.00	18		.60	3.10	H,47	
LAMP DRIVER QUAD 2 INP	TRAN	TNG5612	B TTL	0	75		5.0			1.20	1.70	1.00	18		.60	3.10	H,47	
LAMP DRIVER 2 INPUT	TRAN	TNG5326	B TTL	0	75		5.0			1.20	1.70	1.00	18		.40	3.10	H,47	
LAMP DRIVER 2 INPUT	TRAN	TNG5325	B TTL	-55	125		5.0			1.20	1.70	1.00	18		.40	3.10	H,47	
LAMP DRIVER 2 INPUT	TRAN	TNG5421	B TTL	-55	125		5.0	60	60MA	1.20	1.70						H,47	00206
LAMP DRIVER 2 INPUT	TRAN	TNG5422	B TTL	0	75		5.0	60	60MA	1.20	1.70						H,47	00206
LAMP DRIVER,4 INPUT	TRAN	TNG5321	B TTL	-55	125		5.0	60	60MA	1.20	1.70						H,47	00206
LAMP DRIVER,4 INPUT	TRAN	TNG5322	B TTL	0	75		5.0	60	60MA	1.20	1.70						H,47	00206
LEVEL TRANSLATOR	TI	SN343	F DTL	0	65	E 6.0	-3.0	*30			2.50		500		.70	5.70	F	161
LEVEL TRANSLATOR	WMED	WS815	A DTL	0	70	20.0	4.0	*60		1.50	5.50	1.05			.45	2.00	S	166
LEVEL TRANSLATOR	WMED	WM208	A	-55	125		6.0	14					1		.30	2.50	21,FS	164
LEVEL TRANSLATOR	WMED	WS150	A DTL	-55	125	10.0	-6.4	100							- 6.3	6.30	S	163
LEVEL TRANSLATOR	WMED	WC208	A DTL	0	75		6.0	8	6	1.00	1.80		30		.43		21,F	164
LEVEL TRANSLATOR,DUAL	TI	SN346	F	0	65	D 6.0	- 12.0	160	11				850		1.80	.95	F	162
LINE DRIVER DUAL 4 INP	TRAN	TNG5212	B TTL	0	75		5.0		40	1.20	1.80	1.00	18		.40	3.10	H,47	
LINE DRIVER DUAL 4 INP	TRAN	TNG5213	B TTL	-55	125		5.0		24	1.20	1.80	1.00	18		.40	3.10	H,47	
LINE DRIVER DUAL 4 INP	TRAN	TNG5214	B TTL	0	75		5.0		24	1.20	1.80	1.00	18		.40	3.10	H,47	
LINE DRIVER DUAL 4 INP	TRAN	TNG5211	B TTL	-55	125		5.0		40	1.20	1.80	1.00	18		.40	3.10	H,47	
LINE DRIVER QUAD 2 INP	TRAN	TNG5512	B TTL	0	75		5.0		40	1.20	1.80	1.00	18		.40	3.10	H,47	
LINE DRIVER QUAD 2 INP	TRAN	TNG5513	B TTL	-55	125		5.0		24	1.20	1.80	1.00	18		.40	3.10	H,47	
LINE DRIVER QUAD 2 INP	TRAN	TNG5514	B TTL	0	75		5.0		24	1.20	1.80	1.00	18		.40	3.10	H,47	
LINE DRIVER QUAD 2 INP	TRAN	TNG5511	B TTL	-55	125		5.0		40	1.20	1.80	1.00	18		.40	3.10	H,47	
LINE DRIVER 2 INPUT	TRAN	TNG5125	B TTL	-55	125		5.0		40	1.20	1.80	1.00	18		.60	3.10	H,47	
LINE DRIVER 2 INPUT	TRAN	TNG5126	B TTL	0	75		5.0		40	1.20	1.80	1.00	18		.80	3.10	H,47	
LINE DRIVER 2 INPUT	TRAN	TNG5127	B TTL	-55	125		5.0		24	1.20	1.80	1.00	18		.40	3.10	H,47	
LINE DRIVER 2 INPUT	TRAN	TNG5128	B TTL	0	75		5.0		24	1.20	1.80	1.00	18		.40	3.10	H,47	
LINE RECEIVER	SILX	SC126	A	-55	125	12.0	5.0						40				F	336
MULTIVIBRATOR	AMEL	4002B	F RTL	-55	125		3.0	20	* 5			.26			.25	.81	B,C	
MULTIVIBRATOR	AMEL	4002A	F RTL	-55	125		3.0	20	* 9			.30			.25	.81	B,C	
MULTIVIBRATOR	AMEL	4002C	F RTL	0	70		3.0	20	* 4			.25			.25	.81	B	
MULTIVIBRATOR MONO	TI	SN15851	DTL	0	75		5.0		10				20		.45	2.60	F	305
MULTIVIBRATOR MONO	TI	SN15951	DTL	-55	125		5.0		10				20		.40	2.60	F	305
MULTIVIBRATOR 2-1SHOT	AMEL	342CG	A DTL	0	100		12.0	100	6			4.80	60		1.20	12.00	30	306
MULTIVIBRATOR 2-1SHOT	AMEL	342CJ	A DTL	0	70		12.0	100	6			4.80	60		1.20	12.00	68	306
MULTIVIBRATOR 2-1SHOT	AMEL	3428G	A DTL	-55	125		12.0	100	6			4.80	60		1.20	12.00	30	306
MULTIVIBRATOR,FREE-RUN	INTX	MVXXXXX	L FTL	-55	125		12.0	107	3,3					* 1			78	168
MULTIVIBRATOR,MONO	TI	SN15851N	A DTL	0	75		5.0		10				25		.45	2.60	H	305

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T E C	TYPE OF LOG-IC	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PWR DIS MW	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
MULTIVIBRATOR, MONO	ITT	MIC951	A	DTL	-55	125		5.0	35	10				25				C, B, M	323
MULTIVIBRATOR, MONO	TI	SN5380	F	RCTL	-55	125		3.0	14	* 10	.30	1.70		90		.30	1.70	T	176
MULTIVIBRATOR, MONO	TI	SN7380	F	RCTL	0	70		3.0		10	.40	1.70		90		.30	1.70	FT, 76	176
MULTIVIBRATOR, MONO	GI	PC18	H	DTL	-55	125	12.0	4.2	*D2	* 8		3.00		25	10	.30	5.00	90	172
MULTIVIBRATOR, MONO	GI	NCPC16	H	DTL	-55	125	12.0	4.2	*D2	* 8		3.00		25	10	.30	5.00	0, 90	172
MULTIVIBRATOR, MONO	VARO	8203	E	DTL	-55	125	6.0	3.0	185	4		3.00		* 30	10	.50	3.50	72	178
MULTIVIBRATOR, MONO	MEPC	640704	M	DTL	-55	125	6.0	-3.0		5				10	5			60	229
MULTIVIBRATOR, MONO	FSC	FL95129	A	DTL	0	70		5.0	35	10				25					
MULTIVIBRATOR, MONO	FSC	SE160	A	DTL	-55	125		4.0	*32					19				B, S	174
MULTIVIBRATOR, MONO	TI	SN518	F	RCTL	-55	125		3.0	2	5	.22	1.15		800		.22	1.15	T	177
MULTIVIBRATOR, MONO	TI	SN1005	F	DTL	-55	125		3.0	30	* 10	.30	1.70		* 75		.30	1.70	58	
MULTIVIBRATOR, MONO	SILX	A08	A	DTL	-55	125		5.0	42	* 5	1.70	2.70		40	4	1.00		20, 80	
MULTIVIBRATOR, MONO	GESP	12X248	A		-55	125		6.0	*D3							5.50		2	171
MULTIVIBRATOR, MONO	FSC	DTL951	A	DTL	-55	125		5.0	35	10				25				C	
MULTIVIBRATOR, MONO	SIGN	SE161	A	DTL	-55	125		4.0	*40	5				45		.40	3.90	B, X	175
MULTIVIBRATOR, MONO	SIGN	SE160	A	DTL	-55	125	4.0	-2.0	*32	4				45		.40	3.90	B, S	174
MULTIVIBRATOR, MONO	WMED	WS840	A	DTL	-55	125				* 5								S	
MULTIVIBRATOR, MONO	SPRG	US-0108	F		-55	125		3.0	4	* 5								57	
MULTIVIBRATOR, MONO	INTX	DMXXXXX	L	TRL	-55	125		9.0	180	* 6								78	173
NAND DUAL 4 INPUT	TI	SN5440	A	TTL	-55	125		5.0	10	30	.80	2.00	.40	13		.40	2.40	F	205
NAND DUAL 4 INPUT	TI	SN5420	A	TTL	-55	125		5.0	10	10	.80	2.00	.40	13		.40	2.40	F	195
NAND DUAL 4 INPUT	RCA	CD2202	A	DTL	-55	125		4.0	12	*25	.85	1.80	.60	48		.25	3.23	82	188
NAND NOR TRIPLE 3 INPUT	TI	SN14216	B	DTL	-55	125		6.0	11	11			.55	23		.45	5.80	F	196 A
NAND QUAD 2 INPUT	TI	SN5400	A	TTL	-55	125		5.0	10	10	.80	2.00	.40	13		.40	2.40	F	195
NAND TRIPLE 3 INPUT	TI	SN5410	A	TTL	-55	125		5.0	10	10	.80	2.00	.40	13		.40	2.40	F	195
NAND TRIPLE 3 INPUT	TI	SN54962	B	TTL	-55	125		5.0	10	10	.80	2.00	.40	13		.40	2.40	F	195
NAND 8 INPUT	TI	SN54965	B	TTL	-55	125		5.0	10	10	.80	2.00	.40	13		.40	2.40	F	195
NAND-OR, 2-2-2 INPUT	GI	MEM901	K				- 12.0	- 24.0	20		8.00	3.00	2.00	250		10.0	.20	18, 82	266
NAND/AND/NOR, 5 INPUT EX	TI	SN531	F	DTL	-55	125		3.5	18	* 10	.30	1.70		25		.30	2.20	74	105
NAND/NOR DUAL 4 INP EX	TI	SN14361		DTL	0	75		6.0		11	1.00	2.00	.55	40		.45	5.80	F	196
NAND/NOR DUAL 4 INP EX	TI	SN14331		DTL	0	75		6.0		11	1.00	2.00	.55	32		.45	5.80	F	196 A
NAND/NOR DUAL 4 INP EX	TI	SN14261	B	DTL	-55	125		6.0	20	11			.55	32		.45	5.80	F	196
NAND/NOR DUAL 4 INP EX	TI	SN14231	B	DTL	-55	125		6.0	11	11			.55	23		.45	5.80	F	196 A
NAND/NOR DUAL 4 INPUT	TI	SN15930	A	DTL	-55	125		5.0	5	8				25		.40	2.60	F	192
NAND/NOR DUAL 4 INPUT	NSC	ND030	A	DTL	-55	125		5.0	16	*10	2.00	1.10	1.00	30		.40	2.60	76, C	192
NAND/NOR QUAD 2 INPUT	TI	SN15846N	A	DTL	0	75		5.0	5	8				30		.45	2.60	H	192
NAND/NOR QUAD 2 INPUT	TI	SN14346		DTL	0	75		6.0		11	1.00	2.00	.55	32		.45	5.80	F	196 A
NAND/NOR QUAD 2 INPUT	TI	SN14366		DTL	0	75		6.0		11	1.00	2.00	.55	40		.45	5.80	F	196
NAND/NOR QUAD 2 INPUT	TI	SN15846		DTL	0	75		5.0	5	8				25		.45	2.60	F	192
NAND/NOR QUAD 2 INPUT	TI	SN15946		DTL	-55	125		5.0	5	8				25		.40	2.60	F	192
NAND/NOR QUAD 2 INPUT	TI	SN14266	B	DTL	-55	125		6.0	20	11			.55	32		.45	5.80	F	196
NAND/NOR QUAD 2 INPUT	NSC	ND046	A	DTL	-55	125		5.0	32	*10	2.00	1.10	1.00	30		.40	2.60	76, C	192
NAND/NOR QUAD 2 INPUT	TI	SN14248	B	DTL	-55	125		6.0	11	11			.55	23		.45	5.80	F	196 A
NAND/NOR TRIPLE 3 INP	TI	SN14316		DTL	0	75		6.0		11	1.00	2.00	.55	32		.45	5.80	F	196 A
NAND/NOR TRIPLE 3 INP	TI	SN14336		DTL	0	75		6.0		11	1.00	2.00	.55	40		.45	5.80	F	196
NAND/NOR TRIPLE 3 INP	TI	SN15962		DTL	-55	125		5.0	5	8				25		.40	2.60	F	192
NAND/NOR TRIPLE 3 INPUT	TI	SN15862N	A	DTL	0	75		5.0	5	8				30		.45	2.60	H	192
NAND/NOR TRIPLE 3 INPUT	TI	SN15862		DTL	0	75		5.0	5	8				25		.45	2.60	F	192

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T C	TYPE	OPER TEMP		SUPPLY VOLTAGE		PWR DIS		INPUT THRESHOLD		NOISE		OPER-ATING SPEED	OUTPUT LEVEL		PACK-AGE	SCHE-MATIC
					LOG	CENTRDE	NO. 2	NO. 1	MW	FAN-OUT	ZERO	ONE	IMMU-NITY	DELAY NANO-SECS		ZERO	ONE		
NAND/NOR TRIPLE 3 INPUT	NSC	ND062	A	DTL	-55	125			5.0	24	*10	2.00	1.10	1.00	30	.40	2.60	76,C	192
NAND/NOR TRIPLE 3 INPUT	TI	SN14236	B	DTL	-55	125			6.0	20	11			.55	32	.45	5.80	F	196
NAND/NOR TRIPLE2-3-3 EX	TI	SN14226	B	DTL	-55	125			6.0	20	11			.55	32	.45	5.80	F	196
NAND/NOR TRIPLE2-3-3 EX	TI	SN14206	B	DTL	-55	125			6.0	11	11			.55	23	.45	5.80	F	196 A
NAND/NOR TRIPLE2-3-3INP	TI	SN14326	DTL	0	75			6.0	11	11	1.00	2.00	.55	40	.45	5.80	F	196	
NAND/NOR TRIPLE2-3-3INP	TI	SN14306	DTL	0	75			6.0	11	11	1.00	2.00	.55	32	.45	5.80	F	196 A	
NAND/NOR 10 INPUT EX	TI	SN5315	F	DTL	-55	125			3.5	12	10	.30	1.70	30	.30	2.70	F	308	
NAND/NOR 2-4 INP BUFFER	TI	SN15832N	DTL	0	75			5.0			25			30	.45	2.40	H	187	
NAND/NOR 2-4INP BUFFER	TI	SN15932	DTL	-55	125			5.0	5	25				25	.40	2.60	F	187	
NAND/NOR 2-4INP BUFFER	TI	SN15832	DTL	0	75			5.0	5	25				25	.45	2.60	F	187	
NAND/NOR 4 INP POWER	TI	SN15844N	DTL	0	75			5.0		27				30	.45		H	185	
NAND/NOR 4 INP POWER	TI	SN15844	DTL	0	75			5.0	5	27				25	.45	6.00	F	185	
NAND/NOR 4 INP POWER	TI	SN15944	DTL	-55	125			5.0	5	27				25	.45	6.00	F	185	
NAND/NOR 8 INPUT EX	SYL	SG200	A	TTL	-55	125			5.0	22		1.10	1.70	11	.40	3.10	H,G	205	
NAND/NOR 8 INPUT EX	SYL	SG201	A	TTL	-55	125			5.0	22		1.10	1.70	11	.40	3.10	H,G	205	
NAND/NOR 8 INPUT EX	SYL	SG202	A	TTL	0	75			5.0	22		1.10	1.80	11	.40	3.00	H,G	205	
NAND/NOR 8 INPUT EX	SYL	SG203	A	TTL	0	75			5.0	22		1.10	1.80	11	.40	3.00	H,G	205	
NAND/NOR 8 INPUT EX	TI	SN14224	B	DTL	-55	125			6.0	11	11			.55	23	.45	5.80	F	196 A
NAND/NOR, DUAL 4 INPUT	TI	SN15830	DTL	0	75			5.0	5	8				25	.45	2.60	F	192	
NAND/NOR, DUAL 4 INPUT	TI	SN15830N	DTL	0	75			5.0		8				30	.45	2.40	H	192	
NAND/NOR, 8 INPUT EX	TI	SN14324	A	DTL	0	75			6.0	10	8	1.00	2.00	.55	32	.45	5.80	F	196A
NAND, DUAL 2 INPUT	PHIL	26402	A	DTL	-55	125	4.0	-2.0	6	5				30	.40		B,U	198	
NAND, DUAL 2 INPUT	FSC	SE115	A	DTL	-55	125		4.0	14	5	1.10	1.70	.65	15	.45	3.50	B,S	198	
NAND, DUAL 2 INPUT	MOTA	MC256	A	DTL	0	70	4.0	-2.0		5				30		13		198	
NAND, DUAL 2 INPUT	MOTA	MC206	A	DTL	-55	125	4.0	-2.0		5				30		13,S		198	
NAND, DUAL 2 INPUT	SIGN	SE115	A	DTL	-55	125	3.0	-2.0	5	7	1.22	1.48	1.00	30	.22	3.80	B,S	198	
NAND, DUAL 2 INPUT	TRAN	TNG3131	B	TTL	15	55		5.0		7	1.00	2.00	.50	* 25	.50	2.50	47,H	206	
NAND, DUAL 2 INPUT	TRAN	TNG5421	B	TTL	-55	125		5.0			1.20	1.70					47,H	206Y	
NAND, DUAL 2 INPUT	TRAN	TNG5422	B	TTL	0	75		5.0			1.20	1.70					47,H	206Y	
NAND, DUAL 2 INPUT	TRAN	TNG5223	B	TTL	-55	125		5.0	24	40	1.20	1.70	.70	* 18	.45	2.40	47,H	206	
NAND, DUAL 2 INPUT	TRAN	TNG5222	B	TTL	0	75		5.0		40	1.20	1.70	.70	* 18	.45	2.40	23,47		
NAND, DUAL 2 INPUT	TRAN	TNG5221	B	TTL	-55	125		5.0	40	24	1.20	1.70	.70	* 18	.45	2.40	47,H	206	
NAND, DUAL 2 INPUT	TRAN	TNG5224	B	TTL	0	75		5.0	24	40	1.20	1.70	.70	* 18	.45	2.40	47,H	206	
NAND, DUAL 2 INPUT EX	SIGN	CS715	A	DTL	-55	125		4.0		* 15				17	.35	3.80	B	197	
NAND, DUAL 2 INPUT EX	SIGN	CS716	A	DTL	-55	125		4.0		* 15				17	.35	3.80	S,B	180	
NAND, DUAL 2-3 INPUT	PHIL	2640R	A	DTL	-55	125	4.0	-2.0	20	4				* 45	.40	3.50	B,U	198	
NAND, DUAL 2-3 INPUT	FSC	CS700	A	DTL	-55	125		4.0	15	4	1.10	1.70	.65	15	.45	3.50	B	198A	
NAND, DUAL 2-3 INPUT	FSC	CS701	A	DTL	-55	125		4.0	25	4	1.10	1.70	.65	15	.45	3.50	B,S	198D	
NAND, DUAL 2-3 INPUT	MOTA	MC258	A	DTL	0	70	4.0	-2.0		4				30	.55	3.50	13	198D	
NAND, DUAL 2-3 INPUT	MOTA	MC257	A	DTL	0	70	4.0	-2.0		6				30		13		198A	
NAND, DUAL 2-3 INPUT	MOTA	MC208	A	DTL	-55	125	4.0	-2.0		4				30	.60	3.50	13,S	198D	
NAND, DUAL 2-3 INPUT	MOTA	MC207	A	DTL	-55	125	4.0	-2.0		5				30		13,S		198A	
NAND, DUAL 2-3 INPUT	SIGN	CS701	A	DTL	-55	125	4.0	-2.0	20	4				* 55	.60	3.50	B,S	198D	
NAND, DUAL 2-3 INPUT	SIGN	CS700	A	DTL	-55	125	4.0	-2.0	12	5				* 55	.60		B	198A	
NAND, DUAL 2-3INP	PHIL	2640S	A	DTL	-55	125	4.0	-2.0	12	5				* 45	.40		B,U	198	
NAND, DUAL 2EX-3 INPUT	MOTA	MC9446	A	DTL	-55	125		5.0		27	1.10	2.00			.40		B	185	
NAND, DUAL 2EX-3 INPUT	MOTA	MC830G	A	DTL	0	75		5.0		8	1.10	1.90			.45		B	192	
NAND, DUAL 2EX-3 INPUT	MOTA	MC930G	A	DTL	-55	125		5.0		8	1.10	2.00			.40		B	192	

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T E C H	TYPE LOG IC	OPER TEMP CENTGROE		SUPPLY VOLTAGE VDC		PWR DIS MW	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
NAND, DUAL 2EX-3 INPUT	MOTA	MC844G	A	DTL	0	75		5.0		27	1.10	1.90		* 42		.45		B	185
NAND, DUAL 2EX-3 INPUT	MOTA	MC832G	A	DTL	0	75		5.0		25	1.10	1.90		* 60		.49		B	187
NAND, DUAL 2EX-3 INPUT	MOTA	MC932G	A	DTL	-55	125		5.0		25	1.10	2.00		* 60		.40		B	187
NAND, DUAL 3 INPUT	PHIL	264B3	A	DTL	-55	125		4.0		16	.80	2.00	.40			.40	3.00	B,U	189
NAND, DUAL 3 INPUT	PHIL	264D3	A	DTL	-55	125		4.0		15	.80	2.00	.40	* 35		.40	3.00	B,U	189
NAND, DUAL 3 INPUT	WMED	WM210	A	DTL	-55	125		6.0	*30	22	1.20	1.80	1.00		45	.20	6.00	21,FS	179
NAND, DUAL 3 INPUT	WMED	WS817	A	DTL	0	125				7	25							S	179
NAND, DUAL 3 INPUT	GI	PC15	H	DTL	-55	125	D 4.2	-3.0	*60	5					8	.30	5.00	90	201
NAND, DUAL 3 INPUT	MOTA	MC262	A	DTL	0	70		4.0		5					30			13	196A
NAND, DUAL 3 INPUT	MOTA	MC263	A	DTL	0	70		4.0		4					30	.55	3.50	13	196
NAND, DUAL 3 INPUT	MOTA	MC213	A	DTL	-55	125		4.0		4					30	.60	3.50	13,S	196
NAND, DUAL 3 INPUT	MOTA	MC212	A	DTL	-55	125		4.0		5					30			13,S	196A
NAND, DUAL 3 INPUT	RAY	RM201	A	DTL	-55	125		6.0	8	6	1.00	1.80			31	.25		6S,21	196A
NAND, DUAL 3 INPUT	RAY	RM210	A	DTL	-55	125		6.0	30	20	1.00	1.80	.80		45	.20	5.00	6S,21	179
NAND, DUAL 3 INPUT	RAY	SE113	A	DTL	-55	125		4.0		* 15					17	.35	3.80	5,B	180D
NAND, DUAL 3 INPUT	SIGN	SE157	A	DTL	-55	125		4.0		15					17	.40	3.90	B	189
NAND, DUAL 3 INPUT	TI	SN533	F	DTL	-55	125		3.5	18	10	.30	1.70			25	.30	2.20	74	108
NAND, DUAL 3 INPUT	TI	SN472	A	DTL	0	125		4.0	4	5					40			74	
NAND, DUAL 3 INPUT	WMED	WM201	A	DTL	-55	125		6.0	8	6	1.00	1.80			30	.25		21,FS	196A
NAND, DUAL 3 INPUT	WMED	WS811	A	DTL	0	125		4.0	*10	10	.70	1.75	.25		50	.45	2.50	S	179
NAND, DUAL 3 INPUT	TI	SN7330	F	DTL	0	70		3.0		10	.40	1.70			25	.30	1.70	F,T	194
NAND, DUAL 3 INPUT	WMED	WC201	A	DTL	0	75		6.0	8	6	1.00	1.80			30	.45		21,F	196A
NAND, DUAL 3 INPUT	WMED	WC210	A	DTL	0	75		6.0	33	12	1.00	1.80			45	.45		21,F	179
NAND, DUAL 3 INPUT	PHIL	PL9987	A	TTL	-55	125		3.0	J44	4	.42	.85	.19		50	.23	1.00	51	273
NAND, DUAL 3 INPUT	FSC	LPDT9041	A	DTL	-55	125		5.0		10	.90	1.70	.70		63	.20	2.70	C,H	182
NAND, DUAL 3 INPUT EX	PHIL	264E3	A	DTL	-55	125		4.0		15	.80	2.00	.40	* 35		.40	3.00	G	180
NAND, DUAL 3 INPUT EX	SIGN	SE112	A	DTL	-55	125		4.0		* 15					17	.35	3.80	X	180D
NAND, DUAL 3 INPUT EX	RAY	RM221	A	DTL	-55	125		6.0	8	6	1.00	1.80			31	.25		F,21	196A
NAND, DUAL 3 INPUT EX	WMED	WM221	A	DTL	-55	125		6.0	8	6	1.00	1.80			30	.25		21,FS	196A
NAND, DUAL 3 INPUT EX	MOTA	MC650	A	DTL	0	75	10.0	- 10.0		* 5	5.00	5.70	3.90		45	.72	9.60	26,C	183
NAND, DUAL 3 INPUT EX	WMED	WC221	A	DTL	0	75		6.0	8	6	1.00	1.80			30	.45		21,F	196A
NAND, DUAL 3 INPUT EX	FSC	LPDT9042	A	DTL	-55	125		5.0		10	.90	1.70	.70		63	.20	2.70	C,H	182D
NAND, DUAL 4 INP BUFFER	TI	SN54932	B	TTL	-55	125		5.0	10	10	.80	2.00	.40		13	.40	2.40	F	205
NAND, DUAL 4 INP BUFFER	TI	SN74932	F	TTL	0	70		5.0		30	.80	2.00	.40		13	.40	2.40	F	205
NAND, DUAL 4 INPUT	PHIL	264B4	A	DTL	-55	125		4.0		15	.80	2.00	.40		35	.40	3.00	G	189
NAND, DUAL 4 INPUT	TI	SN54930	B	TTL	-55	125		5.0	10	10	.80	2.00	.40		13	.40	2.40	F	195
NAND, DUAL 4 INPUT	TI	SN74930	F	TTL	0	70		5.0	10	10	.80	2.00	.40		13	.40	2.40	F	195
NAND, DUAL 4 INPUT	PHIL	264D4	A	DTL	-55	125		4.0		15	.80	2.00	.40	* 35		.40	3.00	G	180
NAND, DUAL 4 INPUT	SILX	A12	A	DTL	-55	125		5.0	15	* 5	1.70	2.70	.70		12	1.00	4.60	F	202
NAND, DUAL 4 INPUT	FSC	TTL103	A	TTL	-55	125		5.0		10	.70	1.65	.35		25	.35	3.00	C,28	205
NAND, DUAL 4 INPUT	SIGN	SE111	A	DTL	-55	125		4.0		* 15					17	.35	3.80	X	180D
NAND, DUAL 4 INPUT	PHIL	PLI03	A	TTL	-55	125		5.0	20	15	.33	.27		* 50				41	205
NAND, DUAL 4 INPUT	RAY	RM211	A	DTL	-55	125		6.0	8	6	1.00	1.80			31	.25		F,21	196A
NAND, DUAL 4 INPUT	SYL	SG41	B	TTL	-55	125		5.0	15	# 7	1.20	1.70	.80		10	.40	3.20	G,H	206
NAND, DUAL 4 INPUT	TRAN	TNG3112	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND, DUAL 4 INPUT	TRAN	TNG3114	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND, DUAL 4 INPUT	TRAN	TNG3113	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND, DUAL 4 INPUT	SYL	SG42	B	TTL	0	75		5.0	15	# 12	1.20	1.80	.80		10	.40	3.10	G,H	206

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T C	E OF LOG-IC	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PWR DIS MH	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
NAND, DUAL 4 INPUT	SIGN	SE155	A	DTL	-55	125		4.0		* 15				17		.35	3.90	X	189
NAND, DUAL 4 INPUT	SILX	A02	A	DTL	-55	125		5.0	7	15	1.70	2.70	.70	18		1.00	4.60	20,F	202
NAND, DUAL 4 INPUT	SILX	A05	A	DTL	-55	125		5.0	15	10	1.70	2.70	.70	12		1.00	4.60	20,F	202
NAND, DUAL 4 INPUT	SILX	A07	A	DTL	-55	125		5.0	7	5	1.70	2.70	.70	18		1.00	4.60	20,F	202
NAND, DUAL 4 INPUT	SYL	SG40	B	TTL	-55	125		5.0	15	# 15	1.20	1.70	.80	10	20	.40	3.20	G,H	206
NAND, DUAL 4 INPUT	TRAN	TNG3111	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND, DUAL 4 INPUT	SYL	SG43	B	TTL	0	75		5.0	15	# 6	1.20	1.80	.80	10	20	.40	3.10	G,H	206
NAND, DUAL 4 INPUT	TI	SN5420	A	TTL	-55	125		5.0	10	* 10	.90	2.20	.40	13		.40	2.60	F	195
NAND, DUAL 4 INPUT	WMED	WM211	A	DTL	-55	125		6.0	8	6	1.00	1.80		30		.25		21,FS	196A
NAND, DUAL 4 INPUT	TI	SN5440	A	TTL	-55	125		5.0	10	* 30	.90	2.20	.40	18		.40	2.60	F	205
NAND, DUAL 4 INPUT	WMED	WM241	A	DTL	-55	125		6.0	10	9	1.00	2.00	.55	32		.45	5.80	21,FS	196A
NAND, DUAL 4 INPUT	WMED	WM701	A	TTL	-55	125		5.0		15	.60	1.65	.25	50		.35	2.65	F,91	205
NAND, DUAL 4 INPUT	TI	SN7420	F	TTL	0	70		5.0		* 10	.80	2.00	.40	13		.40	2.40	F,76	195
NAND, DUAL 4 INPUT	TI	SN7440	F	TTL	0	70		5.0		* 30	.80	2.00	.40	13		.40	2.40	F,76	205
NAND, DUAL 4 INPUT	SIGN	SE455	A	TTL	-55	125		4.0		15	.70	2.10	.40	* 150		.30	2.70	X	184
NAND, DUAL 4 INPUT	MDTA	MC402	F	TTL	-55	125				15	.50	2.40		15					205
NAND, DUAL 4 INPUT	SILX	A20	A	DTL	-55	125		5.0	7		1.70	2.70				1.00		F,20	202
NAND, DUAL 4 INPUT	SW	SWG40	A	TTL	-55	125		5.0	15	15				12	20			19,C	206
NAND, DUAL 4 INPUT	SW	SWG42	A	TTL	0	75		5.0	15	12				12	20			19,C	206
NAND, DUAL 4 INPUT	SW	SWG41	A	TTL	-55	125		5.0	15	7				12	20			19,C	206
NAND, DUAL 4 INPUT	SW	SWG43	A	TTL	0	75		5.0	15	6				12	20			19,C	206
NAND, DUAL 4 INPUT	RAD	RD210	C	DTL	-55	125		5.0		8				7		.40	4.00	F	196A
NAND, DUAL 4 INPUT	SYL	SG242	B	TTL	0	75		5.0	22	9	1.10	1.70	.75	6		.45	3.00	G,H	205
NAND, DUAL 4 INPUT	SYL	SG241	B	TTL	-55	125		5.0	22	8	1.10	1.70	.75	6		.45	3.00	G,H	205
NAND, DUAL 4 INPUT	WMED	WC211	A	DTL	0	75		6.0	8	6	1.00	1.80		30		.45		21,F	196A
NAND, DUAL 4 INPUT	WMED	WC241	A	DTL	0	75		6.0	8	6	1.00	1.80		30		.45		F	196
NAND, DUAL 4 INPUT	SYL	SG133	B	TTL	0	75		5.0	30	12	1.20	1.70	.75	25		.45	3.00	G,H	205
NAND, DUAL 4 INPUT	SYL	SG132	B	TTL	0	75		5.0	30	24	1.20	1.70	.75	25		.45	3.00	G,H	205
NAND, DUAL 4 INPUT	SYL	SG243	B	TTL	0	75		5.0	22	5	1.10	1.70	.75	6		.45	3.00	G,H	205
NAND, DUAL 4 INPUT	SYL	SG240	B	TTL	-55	125		5.0	22	11	1.10	1.70	.75	6		.45	3.00	G,H	205
NAND, DUAL 4 INPUT	SYL	SG130	B	TTL	-55	125		5.0	30	30	1.20	1.70	.75	25		.45	3.00	G,H	205
NAND, DUAL 4 INPUT	SYL	SG131	B	TTL	-55	125		5.0	30	15	1.20	1.70	.75	25		.45	3.00	G,H	205
NAND, DUAL 4 INPUT	TRAN	TNG3141	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 10		.45	2.40	47,H	206
NAND, DUAL 4 INPUT	TRAN	TNG3144	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 10		.45	2.40	47,H	206
NAND, DUAL 4 INPUT	TRAN	TNG3143	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 10		.45	2.40	47,H	206
NAND, DUAL 4 INPUT	TRAN	TNG3142	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 10		.45	2.40	47,H	206
NAND, DUAL 4 INPUT	SIGN	SE816	A	TTL	-55	125		5.0		* 10				13		.20	2.40	X	205T
NAND, DUAL 4 INPUT	SIGN	SE855	A	TTL	-55	125		5.0		30				13				X	205
NAND, DUAL 4 INPUT EX	ITT	M1C961	A	DTL	-55	125		5.0	17	7	1.10	1.90	.50	50		.40	3.80	C,B,H	192
NAND, DUAL 4 INPUT EX	ITT	M1C930	A	DTL	-55	125		5.0	17	8	1.10	1.90	.50	80		.40	2.60	C,B,H	192
NAND, DUAL 4 INPUT EX	ITT	M1C932	A	DTL	-55	125		5.0	56	* 25	1.10	1.90	.50	25		.40	2.50	C,B,H	189
NAND, DUAL 4 INPUT EX	ITT	M1C944	A	DTL	-55	125		5.0	44	* 25	1.10	1.90	.50	15		.40	2.50	C,B,H	185
NAND, DUAL 4 INPUT EX	PHIL	264E4	A	DTL	-55	125		4.0		15	.80	2.00	.40	* 35		.40	3.00	G	189
NAND, DUAL 4 INPUT EX	SILX	SI944	A	DTL	-55	125		5.0	38	27	1.10	1.90	.60	32		.40	2.50	F	185
NAND, DUAL 4 INPUT EX	SILX	SI932	A	DTL	-55	125		5.0	25	25	1.10	2.00	.60	35		.40	2.60	F	189
NAND, DUAL 4 INPUT EX	SILX	SI930	A	DTL	-55	125		5.0	8	7	1.10	2.00	.60	20		.40	2.60	F	192
NAND, DUAL 4 INPUT EX	FSC	DTL944	A	DTL	-55	125		5.0		27	1.10	1.90	.60	32		.40	2.50	C	185
NAND, DUAL 4 INPUT EX	FSC	DTL930	A	DTL	-55	125		5.0	8	7	1.10	2.00	.60	20		.40	2.60	C	192

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T C	TYPE OF LOG	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PWR DIS MW	FAN- DUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO- SECS	OPER- ATING SPEED MHZ	OUTPUT LEVEL		PACK- AGE TYPE	SCHE- MATIC NO.	
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE			
NAND, DUAL 4 INPUT EX	FSC	FL93029	A	DTL	0	70		5.0	8	7	1.10	2.00	.60	20		.40	2.60	B,C	192	
NAND, DUAL 4 INPUT EX	FSC	FL94429	A	DTL	0	70		5.0		27	1.10	1.90	.60	32		.40	2.50	B,C	185	
NAND, DUAL 4 INPUT EX	RAY	RM231	A	DTL	-55	125		6.0	8	6	1.00	1.80		31		.25		F	196A	
NAND, DUAL 4 INPUT EX	PHIL	PL930	A	DTL	-55	125		5.0		8	1.10	2.00	.60	20		.40	2.60	41	192	
NAND, DUAL 4 INPUT EX	PHIL	SE156	A	DTL	-55	125		4.0		* 15				17		.35	3.90	X	189	
NAND, DUAL 4 INPUT EX	WMED	WM231	A	DTL	-55	125		6.0	8	6	1.00	1.80		30		.25		21,RS	196A	
NAND, DUAL 4 INPUT EX	WMED	WM261	A	DTL	-55	125		6.0	10	6	1.00	2.00	.55	32		.45	5.80	21,RS	196A	
NAND, DUAL 4 INPUT EX	FSC	DTL932	A	DTL	-55	125		5.0	25	25	1.10	2.00	.60	35		.40	2.60	C	189	
NAND, DUAL 4 INPUT EX	FSC	FL93229	A	DTL	0	70		5.0	25	25	1.10	2.00	.60	35		.40	2.60	S	189	
NAND, DUAL 4 INPUT EX	PHIL	PL932	A	DTL	-55	125		5.0	25	25	1.10	2.00	.60	35		.40	2.60	41	189	
NAND, DUAL 4 INPUT EX	PHIL	PL944	A	DTL	-55	125		5.0	50	27	1.10	1.90	.60	32		.40	2.50	41	185	
NAND, DUAL 4 INPUT EX	RCA	CO2200	A	DTL	-55	125		4.0	2	* 6		3.50		85		.25	3.23	82	188	
NAND, DUAL 4 INPUT EX	PHIL	PL961	A	DTL	-55	125		5.0	27	8	1.10	2.00	.60	* 48		.40	2.60	41	192	
NAND, DUAL 4 INPUT EX	STGN	SE416	A	DTL	-55	125		4.0		5	.70	2.10	.40	* 100		.30	2.70	X	190	
NAND, DUAL 4 INPUT EX	SIGN	SE116	A	DTL	-55	125		4.0		* 6	1.20	2.50	.60	* 43		.35	3.10	X	192	
NAND, DUAL 4 INPUT EX	SW	SW930	A	DTL	-55	125		5.0	8	9	1.10	2.00	.60	20		.40	2.60	19,C	192	
NAND, DUAL 4 INPUT EX	MOTA	MC651	A	DTL	0	75	10.0	- 10.0		* 5	5.00	5.70	3.90	45		.72	9.60	26,C	183	
NAND, DUAL 4 INPUT EX	SW	SW932	A	DTL	-55	125		5.0		*E3	30	1.10	2.00	.50	25		.40	2.50	19,C	189
NAND, DUAL 4 INPUT EX	SW	SW932	A	DTL	-55	125		5.0			8			7		.40	2.60	F	186	
NAND, DUAL 4 INPUT EX	RAD	RD309	C	DTL	-55	125		5.0		8				7		.40	2.60	F	186	
NAND, DUAL 4 INPUT EX	RAD	RD310	C	DTL	-55	125		5.0		5				7		.40	4.00	F	196A	
NAND, DUAL 4 INPUT EX	RAD	RD509	C	DTL	0	75		5.0		12				7		.40	2.60	F	186	
NAND, DUAL 4 INPUT EX	RAD	RD510	C	DTL	0	75		5.0		8				7		.40	4.00	F	196A	
NAND, DUAL 4 INPUT EX	SW	SW944	A	DTL	-55	125		5.0	100	30	1.10	2.00	.60	25		.40	2.60	19,C	185	
NAND, DUAL 4 INPUT EX	MOTA	MC932F	A	DTL	-55	125		5.0		25	1.10	2.00		* 60		.40		C	187	
NAND, DUAL 4 INPUT EX	MOTA	MC832F	A	DTL	0	75		5.0		25	1.10	1.90		* 60		.45		C	187	
NAND, DUAL 4 INPUT EX	MOTA	MC944F	A	DTL	-55	125		5.0		27	1.10	2.00		* 42		.40		C	185	
NAND, DUAL 4 INPUT EX	MOTA	MC930F	A	DTL	-55	125		5.0		8	1.10	2.00		* 55		.40		C	192	
NAND, DUAL 4 INPUT EX	MOTA	MC844F	A	DTL	0	75		5.0		27	1.10	1.90		* 42		.45		C	185	
NAND, DUAL 4 INPUT EX	MOTA	MC830F	A	DTL	0	75		5.0		8	1.10	1.90		* 55		.45		C	192	
NAND, DUAL 4 INPUT EX	RAD	RD209	C	DTL	-55	125		5.0		12				7		.40	2.60	F	186	
NAND, DUAL 4 INPUT EX	WMED	WC261	A	DTL	0	75		6.0	8	6	1.00	1.80		30		.45		F	196	
NAND, DUAL 4 INPUT EX	WMED	WC231	A	DTL	0	75		6.0	8	6	1.00	1.80		30		.45		F	196A	
NAND, DUAL 4-INPUT	TI	SN54L20R	B	TTL	-55	125		5.0		10	2.00	.70	.40	33		.30	2.40	F	195	
NAND, DUAL 4-INPUT	TI	SN74L20R	A	TTL	0	70		5.0		10	2.00	.70	.40	33		.30	2.40	F	195	
NAND, DUAL 4-INPUT	TI	SN54H20	B	TTL	-55	125		5.0		10	2.00	.80	.40	6		.40	2.40	F	205	
NAND, DUAL 4-INPUT	TI	SN74H20	A	TTL	0	70		5.0	22	10	2.00	.80	.40	6		.40	2.40	F	205	
NAND, DUAL 5 INPUT	TI	SN5311	F	DTL	-55	125		3.5	*24	10				25				F	194	
NAND, DUAL 5 INPUT	TI	SN7311	F	DTL	0	70		3.0		10	.40	1.70		25		.30	1.70	ET,76	194	
NAND, DUAL 5 INPUT	SIGN	CS730	A	DTL	-55	125		4.0		* 6	1.20	2.50	.60	* 43		.35	3.10	X	192	
NAND, DUAL 5 INPUT EX	WMED	WM510	A	DTL	-55	125		4.5	10	27								F	191	
NAND, HEX 1 INPUT	ITT	M1C936	A	DTL	-55	125		5.0	*96	* 8	1.10	1.90	.50	25		.40	2.60	C,B,H	192	
NAND, HEX 1 INPUT	ITT	M1C937	A	DTL	-55	125		5.0	164	* 7	1.10	1.90	.50	15		.40	3.80	C,B,H	192	
NAND, QUAD 2 INPUT	PHIL	263Q2	A	DTL	-55	125		4.0		8	.80	2.00	.40	30		.40	3.50	B,U	192	
NAND, QUAD 2 INPUT	TRAN	TNG3341	B	TTL	-55	125		5.0	22	15			1.00	10	40	.45	3.20	H,47	205	
NAND, QUAD 2 INPUT	TRAN	TNG3342	B	TTL	0	75		5.0	22	15			1.00	10	40	.45	3.10	H,47	205	
NAND, QUAD 2 INPUT	TRAN	TNG3343	B	TTL	-55	125		5.0	22	7			1.00	10	40	.45	3.20	H,47	205	
NAND, QUAD 2 INPUT	TRAN	TNG3344	B	TTL	0	75		5.0	22	7			1.00	10	40	.45	3.10	H,47	205	
NAND, QUAD 2 INPUT	TI	SN54946	B	TTL	-55	125		5.0	10	10	.80	2.00	.40	13		.40	2.40	F	195	

CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T E C LOG-TC	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PWR DIS MW	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.	
				MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE			
NAND, QUAD 2 INPUT	ITT	M1C946	A	DTL	-55	125		5.0	35	8	1.10	1.90	.50	25	.40	2.60	C, B, H	192	
NAND, QUAD 2 INPUT	TI	SN74946	F	TTL	0	70		5.0	10	10	.80	2.00	.40	13	.40	2.40	F	195	
NAND, QUAD 2 INPUT	ITT	M1C949	A	DTL	-55	125		5.0	35	7	1.10	1.90	.50	15	.40	3.80	C, B, H	192	
NAND, QUAD 2 INPUT	SILX	SI946	A	DTL	-55	125		5.0	8	8	1.10	2.00	.60	24	.40	2.60	F	192	
NAND, QUAD 2 INPUT	FSC	DTL946	A	DTL	-55	125		5.0	8	8	1.10	2.00	.60	24	.40	2.60	C	192	
NAND, QUAD 2 INPUT	FSC	FL94629	A	DTL	0	70		5.0	8	8	1.10	2.00	.60	24	.40	2.60	B, C	192	
NAND, QUAD 2 INPUT	PHIL	PL946	A	DTL	-55	125		5.0		8	1.10	2.00	.60	20	.40	2.60	41	192	
NAND, QUAD 2 INPUT	SYL	SG141	B	TTL	-55	125		5.0	15	7	1.20	1.70	.80	* 37	20	.40	3.20	G, H	206
NAND, QUAD 2 INPUT	SYL	SG143	B	TTL	0	75		5.0	15	6	1.20	1.80	.80	* 36	20	.40	3.10	G, H	206
NAND, QUAD 2 INPUT	SYL	SG142	B	TTL	0	75		5.0	15	12	1.20	1.80	.80	* 34	20	.40	3.10	G, H	206
NAND, QUAD 2 INPUT	SILX	A15	A	DTL	-55	125		5.0	7	* 10	1.70	2.70		18	1.00		F	202	
NAND, QUAD 2 INPUT	SYL	SG140	B	TTL	-55	125		5.0	15	15	1.20	1.70	.80	* 34	20	.40	3.20	G, H	206
NAND, QUAD 2 INPUT	SILX	A14	A	DTL	-55	125		5.0	7	* 5	1.70	2.70		18	1.00		F	202	
NAND, QUAD 2 INPUT	TY	SN5400	A	TTL	-55	125		5.0	10	* 10	.90	2.20	.40	13	.40	2.60	F	195	
NAND, QUAD 2 INPUT	WMED	WM246	A	DTL	-55	125		6.0	8	6	1.00	1.80		19	.25		F	196A	
NAND, QUAD 2 INPUT	TI	SN5360	F	DTL	-55	125		3.5	10	* 10	.03	2.10		25	.30	2.20	F	194	
NAND, QUAD 2 INPUT	WMED	WM266	A	DTL	-55	125		6.0	10	9	1.00	2.00	.55	32	.45	5.80	F	196A	
NAND, QUAD 2 INPUT	TI	SN7400	F	TTL	0	70		5.0		* 10	.80	2.00	.40	13	.40	2.40	F, 76	195	
NAND, QUAD 2 INPUT	TI	SN7360	F	DTL	0	70		3.0		10	.40	1.70		25	.30	1.70	F, 76	194	
NAND, QUAD 2 INPUT	RCA	CD2201	A	DTL	-55	125		4.0	2	* 6		3.50		85	.25	3.23	82	188	
NAND, QUAD 2 INPUT	PHIL	PL949	A	DTL	-55	125		5.0	26	8	1.10	2.00	.60	* 48	.40	2.60	41	155	
NAND, QUAD 2 INPUT	SIGN	CS720	A	DTL	-55	125		4.0		* 6	1.20	2.50	.60	* 43	.35	3.10	X	192A	
NAND, QUAD 2 INPUT	SIGN	SE480	A	DTL	-55	125		4.0		7	.70	2.10	.40	* 67	.30	2.70	X	184S	
NAND, QUAD 2 INPUT	SIGN	SE180	A	DTL	-55	125		4.0		* 6	1.20	2.50	.60	* 43	.35	3.10	X	192	
NAND, QUAD 2 INPUT	SW	SW946	A	DTL	-55	125		5.0	8	9	1.10	2.00		20	.40	2.60	27, C	192	
NAND, QUAD 2 INPUT	SW	SWG141	A	TTL	-55	125		5.0	15	7				12	20		19, C	193	
NAND, QUAD 2 INPUT	SW	SWG142	A	TTL	0	75		5.0	15	12				12	20		19, C	193	
NAND, QUAD 2 INPUT	SW	SWG143	A	TTL	0	75		5.0	15	6				12	20		19, C	193	
NAND, QUAD 2 INPUT	SW	SWG140	A	TTL	-55	125		5.0	15	15				12	20		19, C	193	
NAND, QUAD 2 INPUT	RAD	RD306	C	DTL	-55	125		5.0		5				7	.40	4.00	F	196A	
NAND, QUAD 2 INPUT	RAD	RD506	C	DTL	0	75		5.0		8				7	.40	4.00	F	196A	
NAND, QUAD 2 INPUT	RAD	RD206	C	DTL	-55	125		5.0		8	1.10	1.90		* 55	.45		C	192	
NAND, QUAD 2 INPUT	NOTA	MC846	A	DTL	0	75		5.0		8	1.10	2.00		* 55	.40		C	192	
NAND, QUAD 2 INPUT	NOTA	MC946	A	DTL	-55	125		5.0		8	1.10	2.00		* 55	.40		C	192	
NAND, QUAD 2 INPUT	SYL	SG222	B	TTL	0	75		5.0	22	9	1.10	1.70	.65	6	.45	3.00	G, H	205	
NAND, QUAD 2 INPUT	SYL	SG220	B	TTL	-55	125		5.0	22	11	1.10	1.70	.65	6	.45	3.00	G, H	205	
NAND, QUAD 2 INPUT	SYL	SG223	B	TTL	0	75		5.0	22	5	1.10	1.70	.65	6	.45	3.00	G, H	205	
NAND, QUAD 2 INPUT	SYL	SG221	B	TTL	-55	125		5.0	22	6	1.10	1.70	.65	6	.45	3.00	G, H	205	
NAND, QUAD 2 INPUT	WMED	WC246	A	DTL	0	75		6.0	8	6	1.00	1.80		30	.45		F	196A	
NAND, QUAD 2 INPUT	WMED	WC266	A	DTL	0	75		6.0	8	6	1.00	1.80		30	.45		F	196	
NAND, QUAD 2 INPUT	TRAN	TNG3413	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 18	.45	2.40	47, H	206	
NAND, QUAD 2 INPUT	TRAN	TNG3414	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 18	.45	2.40	47, H	206	
NAND, QUAD 2 INPUT	TRAN	TNG3412	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 18	.45	2.40	47, H	206	
NAND, QUAD 2 INPUT	TRAN	TNG3411	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 18	.45	2.40	47, H	206	
NAND, QUAD 2 INPUT	SIGN	SE870	A	TTL	-55	125		5.0		10				13	.20	2.40	X	205T	
NAND, QUAD 2-INPUT	TI	SN74LOOR	A	TTL	0	70		5.0		10	2.00	.70	.40	33	.30	2.40	F	195	
NAND, QUAD 2-INPUT	TI	SN54LOOR	B	TTL	-55	125		5.0		10	2.00	.70	.40	33	.30	2.40	F	195	
NAND, QUAD 2-INPUT	TI	SN74H00	A	TTL	0	70		5.0	22	10	2.00	.80	.40	6	.40	2.40	F	205	

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T C	TYPE OF LOG IC	OPER TEMP		SUPPLY VOLTAGE		PWR DIS HW	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.	
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE			
NAND, QUAD 2-INPUT	TI	SN54H00	B	TTL	-55	125			5.0	22	10	2.00	.80	.40	6		.40	2.40	F	205
NAND, TRIPLE 2EX-3-3 INP	WMED	WC206	A	DTL	0	75			6.0	8	6	1.00	1.80		30		.45		F	196A
NAND, TRIPLE 3 INPUT	SYL	SG193	B	TTL	0	75			5.0	15	6	1.20	1.70		10		.45	3.00	G,H	206
NAND, TRIPLE 3 INPUT	SYL	SG191	B	TTL	-55	125			5.0	15	7	1.20	1.70	.75	10		.45	3.00	G,H	206
NAND, TRIPLE 3 INPUT	SYL	SG192	B	TTL	0	75			5.0	15	12	1.20	1.70	.75	10		.45	3.00	G,H	206
NAND, TRIPLE 3 INPUT	SYL	SG190	B	TTL	-55	125			5.0	15	15	1.20	1.70	.75	10		.45	3.00	G,H	206
NAND, TRIPLE 1-2-2 INPUT	SW	SW962Z	A		-55	125			5.0	8	9	1.10	2.00				.40	2.60	19,C	192
NAND, TRIPLE 2 INPUT	SYL	SG163	B	TTL	0	75			5.0	15	6	1.20	1.70	.75	15		.45	3.00	G,H	271
NAND, TRIPLE 2 INPUT	SYL	SG162	B	TTL	0	75			5.0	15	12	1.20	1.70	.75	15		.45	3.00	G,H	271
NAND, TRIPLE 2 INPUT	SYL	SG161	B	TTL	-55	125			5.0	15	7	1.20	1.70	.75	15		.45	3.00	G,H	271
NAND, TRIPLE 2 INPUT	SYL	SG160	B	TTL	-55	125			5.0	15	15	1.20	1.70	.75	15		.45	3.00	G,H	271
NAND, TRIPLE 2 INPUT EX	SIGN	CS727	A	DTL	-55	125			4.0		6	1.20	2.50	.60	43		.35	3.10	X	192
NAND, TRIPLE 2EX-3-3 INP	RAY	RM206	A	DTL	-55	125			6.0	22	6	1.00	1.80		30		.25		F	196A
NAND, TRIPLE 2EX-3-3 INP	WMED	WM206	A	DTL	-55	125			6.0	7	6	1.00	1.80		30		.25		F	196A
NAND, TRIPLE 2EX-3-3 INP	WMED	WM226	A	DTL	-55	125			6.0	11	6	1.00	2.00	.55	23		.45	5.80	F	196
NAND, TRIPLE 2EX-3-3 INP	WMED	WC226	A	DTL	0	75			6.0	8	6	1.00	1.80		30		.45		F	196
NAND, TRIPLE 3 INPUT	TRAN	TNG3341	B	TTL	-55	125			5.0	22	15			1.00	10	40	.45	3.20	H,47	205
NAND, TRIPLE 3 INPUT	TRAN	TNG3342	B	TTL	0	75			5.0	22	15			1.00	10	40	.45	3.10	H,47	205
NAND, TRIPLE 3 INPUT	TRAN	TNG3343	B	TTL	-55	125			5.0	22	7			1.00	10	40	.45	3.20	H,47	205
NAND, TRIPLE 3 INPUT	TRAN	TNG3344	B	TTL	0	75			5.0	22	7			1.00	10	40	.45	3.10	H,47	205
NAND, TRIPLE 3 INPUT	TI	SN74962	F	TTL	0	70			5.0	10	10	.80	2.00	.40	13		.40	2.40	F	195
NAND, TRIPLE 3 INPUT	PHIL	264G9	A	DTL	-55	125			4.0		8	.80	2.00	.40	30		.40	3.50	G	192
NAND, TRIPLE 3 INPUT	SILX	SI962	A	DTL	-55	125			5.0	8	8				24				F	192
NAND, TRIPLE 3 INPUT	ITT	M1C962	A	DTL	-55	125			5.0	26	8	1.10	2.00	.50	15		.40	2.50	C,B,H	192
NAND, TRIPLE 3 INPUT	ITT	M1C963	A	DTL	-55	125			5.0	26	7	1.10	2.00	.50	10		.40	3.80	C,B,H	192
NAND, TRIPLE 3 INPUT	FSC	FL96229	A	DTL	0	70			5.0	8	8				24				C	192
NAND, TRIPLE 3 INPUT	FSC	DTL962	A	DTL	-55	125			5.0	8	8				24				C	192
NAND, TRIPLE 3 INPUT	RAY	RM216	A	DTL	-55	125			6.0	22	6	1.00	1.80		30		.25		F	196
NAND, TRIPLE 3 INPUT	TI	SN5410	A	TTL	-55	125			5.0	10	10	.90	2.20	.40	13		.40	2.60	F	195
NAND, TRIPLE 3 INPUT	WMED	WM506	A	DTL	-55	125			4.5	19	10								F	196
NAND, TRIPLE 3 INPUT	WMED	WM216	A	DTL	-55	125			6.0	7	6	1.00	1.80		30		.25		F	196A
NAND, TRIPLE 3 INPUT	WMED	WM236	A	DTL	-55	125			6.0	11	6	1.00	2.00	.55	23		.45	5.80	F	196A
NAND, TRIPLE 3 INPUT	WMED	WM556	A	DTL	-55	125			4.5	10	12								F	196
NAND, TRIPLE 3 INPUT	TI	SN5331	F	DTL	-55	125			3.5	10	10	.30	2.10		25		.30	2.20	F	194
NAND, TRIPLE 3 INPUT	TI	SN7331	F	DTL	0	70			3.0		10	.40	1.70		25		.30	1.70	F,7H	194
NAND, TRIPLE 3 INPUT	VI	SN7410	F	TTL	0	70			5.0		10	.80	2.00	.40	13		.40	2.40	F,76	195
NAND, TRIPLE 3 INPUT	SIGN	CS721	A	DTL	-55	125			4.0		6	1.20	2.50	.60	43		.35	3.10	X	192A
NAND, TRIPLE 3 INPUT	PHIL	PL962	A	DTL	-55	125			5.0	17	6	1.10	2.00	.60	55		.40	2.60	41	
NAND, TRIPLE 3 INPUT	SIGN	SE170	A	DTL	-55	125			4.0		6	1.20	2.50	.60	43		.35	3.10	X	192
NAND, TRIPLE 3 INPUT	PHIL	PL963	A	DTL	-55	125			5.0	26	8	1.10	2.00	.60	48		.40	2.60	41	
NAND, TRIPLE 3 INPUT	RAD	RD505	C	DTL	0	75			5.0		8				7		.40	4.00	F	196A
NAND, TRIPLE 3 INPUT	RAD	RD305	C	DTL	-55	125			5.0		5				7		.40	4.00	F	196A
NAND, TRIPLE 3 INPUT	RAD	RD205	C	DTL	-55	125			5.0		8				7		.40	4.00	F	196A
NAND, TRIPLE 3 INPUT	TI	SN962Y	A		-55	125			5.0	8	9	1.10	2.00				.40	2.60	19,C	192
NAND, TRIPLE 3 INPUT	MOTA	MC862	A	DTL	0	75			5.0		8	1.10	1.90		55		.45		C	192
NAND, TRIPLE 3 INPUT	MOTA	MC962	A	DTL	-55	125			5.0		8	1.10	2.00		55		.40		C	192
NAND, TRIPLE 3 INPUT	WMED	WC216	A	DTL	0	75			6.0	8	8	1.00	1.80		30		.45		F	196A
NAND, TRIPLE 3 INPUT	WMED	WC236	A	DTL	0	75			6.0	8	6	1.00	1.80		30		.45		F	196

CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T TYPE	E OF LOG-IC	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PWR DIS MM	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
NAND, TRIPLE 3 INPUT	TRAN	TNG3311	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND, TRIPLE 3 INPUT	TRAN	TNG3314	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47	
NAND, TRIPLE 3 INPUT	TRAN	TNG3313	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND, TRIPLE 3 INPUT	TRAN	TNG3312	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND, TRIPLE 3 INPUT	SIGN	SE880	A	TTL	-55	125		5.0		10				* 13		.20	2.40	X	205T
NAND, 2 INPUT	PHIL	264L	A	DTL	-55	125	4.0	-2.0		20					40	.40	2.00	8,U	197
NAND, 2 INPUT	SIGN	SE150	A	DTL	-55	125	4.0	-2.0		* 20					60	.60	2.00	8,S	197
NAND, 2 INPUT	MOTA	MC205	A	DTL	-55	125	4.5	-2.0	32	* 20					50	.60	2.00	13,S	197
NAND, 2 INPUT	FSC	SE150	A	DTL	-55	125		4.0							27	.45	2.00	8,S	197
NAND, 2 INPUT	MOTA	MC255	A	DTL	0	70	4.5	-2.0	32	* 20					50	.50	2.00	13	197
NAND, 2 INPUT	SW	SWG133	A	TTL	0	75		5.0	30	6				12	20			19,C	206
NAND, 2 INPUT	SW	SWG131	A	TTL	-55	125		5.0	30	7				12	20			19,C	206
NAND, 2 INPUT	SW	SWG130	A	TTL	-55	125		5.0	30	15				12	20			19,C	206
NAND, 2 INPUT	SW	SWG132	A	TTL	0	75		5.0	30	12				12	20			19,C	206
NAND, 3 INPUT EXPANDABLE	PHIL	254G3	A	DTL	-55	125	4.0	-2.0		5					30	.40		8,U	199
NAND, 3 INPUT EXPANDABLE	FSC	SE110	A	DTL	-55	125		4.0							20			8,S	200
NAND, 3 INPUT EXPANDABLE	FSC	SE102	A	DTL	-55	125		4.0	* 7		1.10	1.70	.65		15	.45	3.50	B,S	198
NAND, 3 INPUT EXPANDABLE	MOTA	MC204	A	DTL	-55	125	4.0	-2.0		20					40			13,S	200
NAND, 3 INPUT EXPANDABLE	MOTA	MC202	A	DTL	-55	125	4.0	-2.0		5					30	.60		13,C	198
NAND, 3 INPUT EXPANDABLE	MOTA	MC254	A	DTL	0	70	4.0	-2.0		20					40			13	200
NAND, 3 INPUT EXPANDABLE	MOTA	MC252	A	DTL	0	70	4.0	-2.0		5					30			13	198
NAND, 3 INPUT EXPANDABLE	SIGN	SE110	A	DTL	-55	125	4.0	-2.0		* 20	1.20	1.60			40	.30		B,S	200
NAND, 3 INPUT EXPANDABLE	SIGN	SE102	A	DTL	-55	125	4.0	-2.0		5					30	.20		B,S	198
NAND, 3 INPUT EXPANDABLE	TRAN	TNG4131	B	TTL	15	55		5.0		7	1.00	2.00	.50	* 25		.50	2.50	47,H	206
NAND, 3 INPUT EXPANDABLE	PHIL	264P	A	DTL	-55	125	4.0	-2.0	30	20					40	.50		8,U	200
NAND, 4 INPUT	TI	SN359	F		0	65	6.0	-3.0	22	6					140	.70		F	204
NAND, 4 INPUT	TRAN	TNG3031	B	TTL	15	55		5.0		7	1.00	2.00	.50	* 25		.50	2.50	47,H	206
NAND, 4 INPUT	TRAN	TNG5322	B	TTL	0	75		5.0			1.20	1.70						23,47	
NAND, 4 INPUT	TRAN	TNG3331	B	TTL	15	55		5.0		20	1.00	2.00	.50	* 25		.50	2.50	47,H	206
NAND, 4 INPUT	TRAN	TNG3431	B	TTL	15	55		5.0			1.00	2.00	.40			.60		47,H	206Y
NAND, 4 INPUT	TRAN	TNG5321	B	TTL	-55	125		5.0			1.20	1.70						23,47	
NAND, 4 INPUT	TRAN	TNG5124	B	TTL	0	75		5.0		24	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND, 4 INPUT	TRAN	TNG5121	B	TTL	-55	125		5.0		40	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND, 4 INPUT	TRAN	TNG5123	B	TTL	-55	125		5.0		24	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND, 4 INPUT	TRAN	TNG5122	B	TTL	0	75		5.0		40	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND, 4 INPUT CLOCKED	TI	SN347	F		0	65	6.0	-3.0	22	6					140	.70		F	204
NAND, 4 INPUT EXPANDABLE	PHIL	254G4	A	DTL	-55	125	4.0	-2.0							30	.40		8,U	199
NAND, 4 INPUT EXPANDABLE	SILX	A13	A	DTL	-55	125		5.0	15	* 5	1.70	2.70	.70		12	1.00	4.60	F	202
NAND, 4 INPUT EXPANDABLE	SILX	A10	A	DTL	-55	125		5.0	15	* 10	1.70	2.70	.70		12	1.00	4.60	7,F	202
NAND, 4 INPUT EXPANDABLE	GI	NC11	H	DTL	-55	125	0	4.2	* 60	5				8	15	.30	5.00	0	201
NAND, 4 INPUT EXPANDABLE	GESP	12X101	G	DTL	-55	125		4.0	6	5					25			15	198
NAND, 4 INPUT EXPANDABLE	MOTA	MC201	A	DTL	-55	125	4.0	-2.0		5					30	.60		13,C	198
NAND, 4 INPUT EXPANDABLE	FSC	SE101	A	DTL	-55	125		4.0	* 7		1.10	1.70	.65		15	.45	3.50	B,S	198
NAND, 4 INPUT EXPANDABLE	MOTA	MC251	A	DTL	0	70	4.0	-2.0		5					30			13	198
NAND, 4 INPUT EXPANDABLE	RAY	RM204	A	DTL	-55	125		6.0	15	6	1.00	1.80			30	.25		5S,21	196A
NAND, 4 INPUT EXPANDABLE	SIGN	SE101	A	DTL	-55	125	4.0	-2.0		5					30	.20		8,S	198
NAND, 4 INPUT EXPANDABLE	SILX	A01	A	DTL	-55	125		5.0	7	15	1.70	2.70	.70		18	1.00	4.60	7,F	202
NAND, 4 INPUT EXPANDABLE	SILX	A06	A	DTL	-55	125		5.0	7	5	1.70	2.70	.70		18	1.00	4.60	7,F	202

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T E C	TYPE OF LOG-IC	OPER TEMP		SUPPLY VOLTAGE		PWR DIS	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
NAND,4 INPUT EXPANDABLE	WMED	WM204	A	DTL	-55	125		6.0	8	6	1.00	1.80		28		.25		21,FS	196A
NAND,4 INPUT EXPANDABLE	WMED	WC204	A	DTL	0	75		6.0	8	6	1.00	1.80		30		.45		9,F	196A
NAND,5 INPUT EXPANDABLE	VAR	8214	E	DTL	-55	125	C	3.0	-3.0	108	4	.50	3.80	10		.50	3.50	72	203
NAND,5 INPUT EXPANDABLE	TI	SN7310	F	DTL	0	70					10	.40	1.70	30		.30	1.70	76	194
NAND,6 INPUT EXPANDABLE	GI	PC11	H	DTL	-55	125	D	4.2	-3.0	*60	5			8		.30	5.00	90	201
NAND,6 INPUT EXPANDABLE	RAY	RM214	A	DTL	-55	125		6.0	15	6	1.00	1.80		30		.25		FS,21	196A
NAND,6 INPUT EXPANDABLE	WMED	WN214	A	DTL	-55	125		6.0	8	6	1.00	1.80		35		.25		21,FS	196A
NAND,6 INPUT EXPANDABLE	WMED	WC214	A	DTL	0	75		6.0	8	6	1.00	1.80		30		.45		21,F	196A
NAND,7 INPUT CLOCKED	TI	SN341	F		0	65		6.0	-3.0	E2	6			140		.70		F	204
NAND,8 INPUT	TI	SN5430	A	TTL	-55	125		5.0	10	10	.80	2.80	.40	13		.40	2.40	F	195
NAND,8 INPUT	TI	SN74965	F	TTL	0	70		5.0	10	10	.80	2.80	.40	13		.40	2.40	F	195
NAND,8 INPUT	FSC	TYL104	A	TTL	-55	125		5.0		10	.70	1.65	.35	25		.35	3.00	C,28	205
NAND,8 INPUT	PHIL	PL104	A	TTL	-55	125		5.0	20	15	.33	.27		* 50				41	205
NAND,8 INPUT	TRAN	TNG3013	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND,8 INPUT	TRAN	TNG3011	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND,8 INPUT	TRAN	TNG3014	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND,8 INPUT	SYL	SG61	B	TTL	-55	125		5.0	15	# 7	1.20	1.70	.80	12	20	.40	3.20	G,H	206
NAND,8 INPUT	SYL	SG60	B	TTL	-55	125		5.0	15	# 15	1.20	1.70	.80	12	20	.40	3.20	G,H	206
NAND,8 INPUT	TRAN	TNG3012	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND,8 INPUT	SYL	SG62	B	TTL	0	75		5.0	15	# 12	1.20	1.80	.80	39	20	.40	3.10	G,H	206
NAND,8 INPUT	TI	SN5430	A	TTL	-55	125		5.0	10	* 10	.90	2.20	.40	15		.40	2.60	F	195
NAND,8 INPUT	WMED	WM704	A	TTL	-55	125		5.0		15	.60	1.65	.25	50		.35	2.65	F,91	205
NAND,8 INPUT	TI	SN7430	F	TTL	0	70		5.0		* 10	.80	2.80	.40	13		.40	2.40	F,76	195
NAND,8 INPUT	MOTA	MC401	F	TTL	-55	125				15	.50	2.40		15					205
NAND,8 INPUT	SW	SWG61	A	TTL	-55	125		5.0	15	7				15	20			19,C	206
NAND,8 INPUT	SW	SWG63	A	TTL	0	75		5.0	15	6				15	20			19,C	206
NAND,8 INPUT	SW	SWG62	A	TTL	0	75		5.0	15	12				15	20			19,C	206
NAND,8 INPUT	SYL	SG63	B	TTL	0	75		5.0	7	# 6	1.20	1.80	.80	40	20	.40	3.10	G,H	206
NAND,8 INPUT	SW	SWG60	A	TTL	-55	125		5.0	15	15				15	20			19,C	206
NAND,8 INPUT	SYL	SG262	B	TTL	0	75		5.0	22	9	1.10	1.70	.75	8		.45	3.00	G,H	205
NAND,8 INPUT	SYL	SG263	B	TTL	0	75		5.0	22	5	1.10	1.70	.75	8		.45	3.00	G,H	205
NAND,8 INPUT	SYL	SG260	B	TTL	-55	125		5.0	22	11	1.10	1.70	.75	8		.45	3.00	G,H	205
NAND,8 INPUT	SYL	SG261	B	TTL	-55	125		5.0	22	6	1.10	1.70	.75	8		.45	3.00	G,H	205
NAND,8 INPUT	TRAN	TNG3041	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 10		.45	2.40	47,H	206
NAND,8 INPUT	TRAN	TNG3044	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 10		.45	2.40	47,H	206
NAND,8 INPUT	TRAN	TNG3042	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 10		.45	2.40	47,H	206
NAND,8 INPUT	TRAN	TNG3043	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 10		.45	2.40	47,H	206
NAND,8 INPUT EXPANDABLE	SIGN	SE808	A	TTL	-55	125		5.0		* 10				13		.20	2.40	X	205T
NAND,8 INPUT EXPANDABLE	SYL	SG121	B	TTL	-55	125		5.0	15	# 7	1.20	1.70	.80	18	20	.40	3.20	G,H	206
NAND,8 INPUT EXPANDABLE	RAY	RM224	A	DTL	-55	125		6.0	15	6	1.00	1.80		30		.25		F,21	196A
NAND,8 INPUT EXPANDABLE	SYL	SG120	B	TTL	-55	125		5.0	15	# 15	1.20	1.70	.80	18	20	.40	3.20	G,H	206
NAND,8 INPUT EXPANDABLE	SYL	SG123	B	TTL	0	75		5.0	15	# 6	1.20	1.80	.80	18	20	.40	3.10	G,H	206
NAND,8 INPUT EXPANDABLE	SYL	SG122	B	TTL	0	75		5.0	15	# 12	1.20	1.80	.80	18	20	.40	3.10	G,H	206
NAND,8 INPUT EXPANDABLE	WMED	WN224	A	DTL	-55	125		6.0	7	6	1.00	1.80		35		.25		21,FS	196A
NAND,8 INPUT EXPANDABLE	WMED	WN234	A	DTL	-55	125		6.0	15	9	1.00	2.80	.55	19		.45	5.80	F	196A
NAND,8 INPUT EXPANDABLE	SW	SWG122	A	TTL	0	75		5.0	15	12				16	20			19,C	206
NAND,8 INPUT EXPANDABLE	SW	SWG120	A	TTL	-55	125		5.0	15	15				16	20			19,C	206
NAND,8 INPUT EXPANDABLE	SW	SWG123	A	TTL	0	75		5.0	15	6				16	20			19,C	206

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T E C H	TYPE OF LOG- IC	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PWR DIS MW	FAN- OUT	INPUT THRESHOLD VOLTS		NOISE IMMU- NITY VOLTS	DELAY NAND- SECS	OPER- ATING SPEED MHZ	OUTPUT LEVEL		PACK- AGE TYPE	SCHE- MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
NAND,8 INPUT EXPANDABLE	SW	SWG121	A	TTL	-55	125		5.0	15	7				16	20			19,C	206
NAND,8 INPUT EXPANDABLE	WMED	WC224	A	DTL	0	75		6.0	8	6	1.00	1.80		30		.45		21,F	196A
NAND,8 INPUT EXPANDABLE	TRAN	TNG3051	B	TTL	-55	125		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND,8 INPUT EXPANDABLE	TRAN	TNG3054	B	TTL	0	75		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND,8 INPUT EXPANDABLE	TRAN	TNG3052	B	TTL	0	75		5.0		15	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NAND,8 INPUT EXPANDABLE	TRAN	TNG3053	B	TTL	-55	125		5.0		7	1.20	1.70	.70	* 18		.45	2.40	47,H	206
NOR/NAND/AND,5 INPUT EX	TI	SN531	F	DTL	-55	125		3.5	10	* 10	.30	1.70		25		.30	2.20	74	105
NOR/OR, 4 INPUT	PHIL	I34G	A	RTL	-55	125		3.0	4	* 26	.55	.75	.05	70		.50	.83	8,U	213
NOR/OR,DUAL 4 INPUT	RCA	CD2100	A	ECL	-55	125		-5.2	44	* 12	1.30	.95	.10	24		1.50	.85	82	209
NOR/OR,DUAL 4 INPUT	RCA	CD2151	A	ECL	10	60		-5.0	88	* 12	1.40	1.00	.15	7		1.60	.85	82	210
NOR/OR,DUAL 4 INPUT	RCA	CD2150	A	ECL	10	60		-5.0	110	* 12	1.40	1.00	.15	7		1.60	.85	82	210
NOR/OR,DUAL 4 INPUT	WMED	WS371	A	ECL	10	60		-5.0	115	* 15	1.6T	.8T		10		1.6T	.8T	S	210
NOR/OR,3 INPUT EX	MOTA	MC307	A	ECL	-55	125	-1.15	-5.2	35	* 26	1.30	1.00		6		1.66	.70	10,S	211L
NOR/OR,3 INPUT EX	MOTA	MC306	A	ECL	-55	125	-1.15	-5.2	35	* 26	1.30	1.00	.30	6		1.66	.70	10,S	211
NOR/OR,3 INPUT EX	MOTA	MC357	A	ECL	0	75	-1.15	-5.2	35	* 26				6		1.66	.70	13,C	211L
NOR/OR,3 INPUT EX	MOTA	MC356	A	ECL	0	75	-1.15	-5.2	36	* 26				6		1.66	.70	13,C	211
NOR/OR,3 INPUT EX	SW	SW306	A	ECL	-55	125	-1.15	-5.2	35	26	1.30	1.00	.30	6		1.66	.70	19,S	211
NOR/OR,3 INPUT EX	SW	SW307	A	ECL	-55	125	-1.15	-5.2	35	26	1.30	1.00		6		1.66	.70	19,S	211
NOR/OR,4 INPUT	FSC	MWL911	A	RTL	-55	125		3.0	4	4,3	.45	.75	.05	80		.30	.80	A	213
NOR/OR,4 INPUT	FSC	FL91129	A	RTL	15	55		3.6	6	4				25				A	213
NOR/OR,4 INPUT	NSC	NC2011	A	RTL	0	100		3.0	4	4,3	.69		.54	12		.15		2	213
NOR/OR,4 INPUT	NSC	NC1011	A	RTL	-55	125		3.0	4	4,3	.69		.54	12		.15		2	213
NOR/OR,4 INPUT	MOTA	MC911	A	RTL	-55	125		3.0	4	4	.45	.75	.05	80		.30	.80	A	213
NOR/OR,4 INPUT	PHIL	PL980	A	RTL	-55	125		4.0	3	5	.45	.82		25		.40		41,51	213
NOR/OR,4 INPUT	PHIL	PL911	A	RTL	-55	125		3.0	4	4,3	.45	.75	.05	* 80		.30	.80	A,51	213
NOR/OR,4 INPUT	SPRG	US-0711	F	RTL	-55	125		3.0	4					* 80				57,62	
NOR/OR,4 INPUT	FSC	L924	A	RTL	15	55		3.6						* 30				A	212
NOR/OR,5 INPUT	MOTA	MC301	A	ECL	-55	125	-1.15	-5.2	35	* 26	1.30	1.00	.30	6		1.66	.70	10,S	211
NOR/OR,5 INPUT	MOTA	MC351	F	ECL	0	75	-1.15	-5.2	* 50	* 25	1.35	.95	.10			1.45	.80		211
NOR/OR,5 INPUT	SW	SW301	A	ECL	-55	125	-1.15	-5.2	35	* 25	1.80	1.00	.30	6		1.66	.70	19,S	211
NOR/OR,8 INPUT	RCA	CD2152	A	ECL	10	60		-5.0	147	* 12	1.40	1.00	.15	7		1.60	.85	82	214
NOR/OR,8 INPUT	WMED	WS374	A	ECL	10	60		-5.0	115	* 15	1.6T	.8T		10		1.6T	.8T	S	210
NOR/OR,9 INPUT	VARO	8204	E	DTL	-55	125	C 3.0	-3.0	150	4	.50	3.50		* 20		.50	3.50	72	215
NOR,DUAL 2 INPUT	PHIL	I34D2	A	RTL	-55	125		3.0	4	4	.55	.75	.05	40		.50	.83	A,U	140
NOR,DUAL 2 INPUT	TI	SN17910L		TTL	-55	125		3.0	5	4				40				1	
NOR,DUAL 2 INPUT	AMEL	124A	F	RTL	-55	125		3.0	18	* 10			.30	12		.25	.81	B,C	140
NOR,DUAL 2 INPUT	AMEL	124C	F	RTL	0	70		3.0	18	* 5			.25	16		.25	.81	B	140
NOR,DUAL 2 INPUT	AMEL	124B	F	RTL	-55	125		3.0	18	* 6			.26	12		.25	.81	B,C	140
NOR,DUAL 2 INPUT	FSC	L914C	A	RTL	0	100		3.0			.55	.84	.15	12		.40	1.45	A,D	140
NOR,DUAL 2 INPUT	FSC	L914	A	RTL	-55	125		3.0		5	.56	.82	.26	12		.30	1.45	A,D	140
NOR,DUAL 2 INPUT	FSC	MWL910	A	RTL	-55	125		3.0	2	4	.45	.75	.05	45		.30	.80	A	140
NOR,DUAL 2 INPUT	FSC	FL91429	A	RTL	15	55		3.6	40	6				10				A	140
NOR,DUAL 2 INPUT	FSC	FL91029	A	RTL	15	55		3.6	6	4				25				A	140
NOR,DUAL 2 INPUT	NSC	NB2014	A	RTL	0	100		3.0	* 54	13	.89		.54	12		.15		2	140
NOR,DUAL 2 INPUT	PHIL	PL910	A	RTL	-55	125		3.0	4	4	.45	.75	.05	40		.30	.80	A,51	140
NOR,DUAL 2 INPUT	MOTA	MC309	A	ECL	-55	125	-1.15	-5.2	49	* 26				6		1.66	.70	10,S	216
NOR,DUAL 2 INPUT	MOTA	MC361	A	ECL	0	75	-1.15	-5.2	49	* 26				6		1.66		10,C	216N
NOR,DUAL 2 INPUT	MOTA	MC311	A	ECL	-55	125	-1.15	-5.2	49	* 26				6		1.66		10,S	216N

CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T E C H	TYPE OF LOGIC	OPER TEMP		SUPPLY VOLTAGE		PWR DIS MW	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
NOR, DUAL 2 INPUT	NSC	NC2010	A	RTL	0	100		3.0	4	13	.89	.54	12			.15		2	140
NOR, DUAL 2 INPUT	NSC	NB1014	A	RTL	-55	125		3.0	*54	13	.69	.54	12			.15		2	140
NOR, DUAL 2 INPUT	MOTA	MC360	A	ECL	0	75	-1.15	-5.2	49	*26			6			1.66	.70	10,C	216M
NOR, DUAL 2 INPUT	NSC	NC1010	A	RTL	-55	125		3.0	4	13	.89	.54	12			.15		2	140
NOR, DUAL 2 INPUT	MOTA	MC359	A	ECL	0	75	-1.15	-5.2	49	*26			6			1.66	.70	10,C	216
NOR, DUAL 2 INPUT	MOTA	MC910	A	RTL	-55	125		3.0	4	4	.45	.75	.05	45		.30	.80	A	140
NOR, DUAL 2 INPUT	MOTA	MC310	A	ECL	-55	125	-1.15	-5.2	49	*26			6			1.66	.70	10,S	216M
NOR, DUAL 2 INPUT	PHIL	PL914	A	RTL	-55	125		3.0		5	.56	.82		12		.30		A,69	140
NOR, DUAL 2 INPUT	PHIL	PL977	A	RTL	-55	125		4.0	3	5	.45	.82		11		.40		41,51	140
NOR, DUAL 2 INPUT	SPRG	US-0106	F	RCTL	-55	125		3.0		25,6								57,62	
NOR, DUAL 2 INPUT	TI	SN731	A	RTL	-55	125		3.0	2	4				35				A,T	140
NOR, DUAL 2 INPUT	FSC	CTL952	A	RTL	15	55	4.5	-2.0	55	*12	.85	1.15	.25	12	30	.60	2.30	H	
NOR, DUAL 2 INPUT	MOTA	MC914	F	RTL	-55	125		3.0		5	.56	.82	.02	*24		.30	.84	A	140
NOR, DUAL 2 INPUT	MOTA	MC814	F	RTL	0	100		3.0		5	.55	.84		*24		.40	.84	A	140
NOR, DUAL 2 INPUT	SPER	914	A	RTL	-55	125		3.0		5	.56	.82		12		.30		A,S	140
NOR, DUAL 2 INPUT	SW	SW311	A	ECL	-55	125		-5.2	49	*26				6		1.66		19,S	216N
NOR, DUAL 2 INPUT	SW	SW310	A	ECL	-55	125		-5.2	49	*26				6		1.66	.70	19,S	216M
NOR, DUAL 2 INPUT	SPRG	US-0710	F	RTL	-55	125		3.0	4					40				57,62	
NOR, DUAL 2 INPUT	SW	SW309	A	ECL	-55	125	-1.15	-5.2	49	*26				6		1.66	.70	19,S	216
NOR, DUAL 2 INPUT	SPER	925	A	RTL	-55	125		3.0		5	.56	.82		12		.30		A,S	140
NOR, DUAL 2 INPUT	PHIL	PL9609	A	RTL	-55	125		3.0	10					*80				A	17
NOR, DUAL 2 INPUT EX	SIGN	LU316	A		10	55		4.5	18	12	1.40	2.50	.80	40		.60	3.30	B	222
NOR, DUAL 2 INPUT EX	SIGN	SU316	A	TTL	-20	85		4.5	18	12	1.40	2.70	.60	30		.60	3.30	S,B	222
NOR, DUAL 2-3 INPUT	GI	MEM900	K											100				18,82	265
NOR, DUAL 3 INPUT	PHIL	134D3	A	RTL	-55	125		3.0	4	4	.55	.75	.05	40		.50	.83	B,U	140
NOR, DUAL 3 INPUT	AMEL	502B	A	TTL	-55	125		4.0	1	*8			1.00	180		.25	3.80	C	
NOR, DUAL 3 INPUT	AMEL	126A	F	RTL	-55	125		3.0	18	*10			.30	12		.25	.81	B,C	140
NOR, DUAL 3 INPUT	AMEL	126C	F	RTL	0	70		3.0	18	*5			.25	16		.25	.81	B	140
NOR, DUAL 3 INPUT	AMEL	126B	F	RTL	-55	125		3.0	18	*6			.26	12		.25	.81	B,C	140
NOR, DUAL 3 INPUT	AMEL	125B	F	RTL	-55	125		3.0	18	*6			.26	12		.25	.81	B,C	140
NOR, DUAL 3 INPUT	AMEL	125C	F	RTL	0	70		3.0	18	*5			.25	16		.25	.81	B	140
NOR, DUAL 3 INPUT	AMEL	536B	A	TTL	-55	125		4.0	5	*6			1.00	100		.25	3.80	C	
NOR, DUAL 3 INPUT	AMEL	506B	A	TTL	-55	125		4.0	2	*8			1.00	180		.25	3.80	C	
NOR, DUAL 3 INPUT	AMEL	576B	A	TTL	-55	125		5.0	10	*6			1.00	36		.40	3.80	C	
NOR, DUAL 3 INPUT	AMEL	532B	A	TTL	-55	125		5.0	2	*6			1.00	100		.25	3.80	C	
NOR, DUAL 3 INPUT	AMEL	125A	F	RTL	-55	125		3.0	18	*10			.30	12		.25	.81	B,C	140
NOR, DUAL 3 INPUT	AMEL	572B	A	TTL	-55	125		5.0	8	*6			1.00	35		.40	3.80	C	
NOR, DUAL 3 INPUT	FSC	L915C	A	RTL	0	100		3.0		5	.55	.84	.15	12		.40	1.45	B	140
NOR, DUAL 3 INPUT	FSC	L915	A	RTL	-55	125		3.0		5	.55	.84	.15	12		.40	1.45	B	140
NOR, DUAL 3 INPUT	FSC	FL91529	A	RTL	15	55	D 4.2	3.6	40	16				10				A	140
NOR, DUAL 3 INPUT	GI	PC14	H	DTL	-55	125		-3.0		5,4				8	12	.30	5.00	90	221
NOR, DUAL 3 INPUT	NSC	NB1015	A	RTL	-55	125		3.0	*54	13	.69			12		.15		12	140
NOR, DUAL 3 INPUT	NSC	NB2015	A	RTL	0	100		3.0	*54	13	.69			12		.15		12	140
NOR, DUAL 3 INPUT	PHIL	PL915	A	RTL	-55	125		3.0		5	.56	.82		12		.30		A,69	140
NOR, DUAL 3 INPUT	PHIL	PL978	A	RTL	-55	125		4.0	3	5	.45	.82		11		.40		41,51	140
NOR, DUAL 3 INPUT	SIGN	SU315	A	TTL	-20	85		4.5	18	12	1.40	2.70	.60	30		.60	3.30	S,B	222
NOR, DUAL 3 INPUT	SIGN	LU315	A		10	55		4.5	18	12	1.40	2.50	.80	40		.60	3.30	B	222
NOR, DUAL 3 INPUT	TI	SN514	F	RCTL	-55	125		3.0		5	.4W	1.1W		130		.4W	1.1W	T	218

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T E C	TYPE OF LOG	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PWR DIS MW	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.	
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE			
NOR,DUAL 3 INPUT	SPRG	US-0104	F	RCTL	-55	125			3.0	6	5	.4W	1.1W		130		.4W	1.1W	57,62	
NOR,DUAL 3 INPUT	PHIL	PL939	A	RTL	-55	125			3.0	4	4	.45	.75	* 45		.30		A,51	140	
NOR,DUAL 3 INPUT	MOTA	MC915	F	RTL	-55	125			3.0		5	.56	.82	.02	* 24	.30	.84	A	140	
NOR,DUAL 3 INPUT	MOTA	MC815	F	RTL	0	100			3.0		5	.55	.84		* 24	.40	.84	B	140	
NOR,DUAL 3 INPUT	MOTA	MC362	F	ECL	0	70	-1.15	-5.2	84	25	1.35	.96	.10			1.45	.80		216	
NOR,DUAL 3 INPUT	SPER	915	A	RTL	-55	125			3.0		5	.56	.82			.30		A,S	140	
NOR,DUAL 3 INPUT	MOTA	MC918	A	RTL	-55	125			3.0	4	4	.45	.75	.05	45	.30	.80	B	140	
NOR,DUAL 3 INPUT	MOTA	MC312	F	ECL	-55	125	-1.15	-5.2	63	* 26				6	1.66	.70	26,C	216		
NOR,DUAL 3 INPUT	GI	MEM522	K					-28.0	25			8.00	3.00	2.00	250	10.0	.20	18,82	263	
NOR,DUAL 3 INPUT EX	PHIL	PL9603	A	RTL	-55	125			3.0		4	.49	.82	.06	8	.35	.88	69	218Q	
NOR,DUAL 4 INPUT	AMEL	500B	A	TTL	-55	125			4.0	1	* 8			1.00	180	.25	3.80	C		
NOR,DUAL 4 INPUT	AMEL	584B	A	YTL	-55	125			5.0	10	* 6			1.00	35	.40	3.80	C		
NOR,DUAL 4 INPUT	AMEL	583B	A	TTL	-55	125			5.0	8	* 6			1.00	35	.40	3.80	C		
NOR,DUAL 4 INPUT	AMEL	587B	A	TTL	-55	125			5.0	8	* 6			1.00	35	.40	3.80	C		
NOR,DUAL 4 INPUT	AMEL	534B	A	TTL	-55	125			5.0	5	* 6			1.00	100	.25	3.80	C		
NOR,DUAL 4 INPUT	AMEL	504B	A	TTL	-55	125			4.0	2	* 8			1.00	180	.25	3.80	C		
NOR,DUAL 4 INPUT	AMEL	547B	A	TTL	-55	125			5.0	5	* 6			1.00	35	.25	3.80	C		
NOR,DUAL 4 INPUT	AMEL	543B	A	TTL	-55	125			5.0	2	* 6			1.00	35	.25	3.80	C		
NOR,DUAL 4 INPUT	AMEL	544B	A	TTL	-55	125			5.0	5	* 6			1.00	35	.25	3.80	C		
NOR,DUAL 4 INPUT	AMEL	548B	A	TTL	-55	125			5.0	2	* 6			1.00	35	.25	3.80	C		
NOR,DUAL 4 INPUT	AMEL	570B	A	TTL	-55	125			5.0	8	* 6			1.00	35	.40	3.80	C		
NOR,DUAL 4 INPUT	AMEL	574B	A	TTL	-55	125			5.0	10	* 6			1.00	35	.40	3.80	C		
NOR,DUAL 4 INPUT	AMEL	530B	A	TTL	-55	125			5.0	2	* 6			1.00	100	.25	3.80	C		
NOR,QUAD 2 INPUT	AMEL	501B	A	TTL	-55	125			4.0	2	* 8			1.00	180	.25	3.80	C		
NOR,QUAD 2 INPUT	AMEL	128A	F	RTL	-55	125			3.0	18	* 10			.30	12	.25	.81	B,C	140	
NOR,QUAD 2 INPUT	AMEL	575B	A	TTL	-55	125			5.0	21	* 6			1.00	35	.40	3.80	C		
NOR,QUAD 2 INPUT	AMEL	128B	F	RTL	-55	125			3.0	18	* 2			.26	12	.25	.81	B,C	140	
NOR,QUAD 2 INPUT	AMEL	531B	A	TTL	-55	125			5.0	5	* 6			1.00	100	.25	3.80	C		
NOR,QUAD 2 INPUT	AMEL	128C	F	RTL	0	70			3.0	18	* 5			.25	16	.25	.81	B	140	
NOR,QUAD 2 INPUT	AMEL	535B	A	TTL	-55	125			5.0	10	* 6			1.00	100	.25	3.80	C		
NOR,QUAD 2 INPUT	AMEL	505B	A	TTL	-55	125			4.0	4	* 8			1.00	180	.25	3.80	C		
NOR,QUAD 2 INPUT	AMEL	571B	A	TTL	-55	125			5.0	16	* 6			1.00	35	.40	3.80	C		
NOR,QUAD 2 INPUT	PHIL	PL983	A	RTL	-55	125			3.0	3	5	.45	.80	* 50		.35		41,51	140	
NOR,QUAD 2 INPUT	RCA	CD2101	A	ECL	-55	125			-5.2	30	* 12	1.30	.95	.10	24	1.50	.85	82	209	
NOR,TRIPLE 2 INPUT	SPRG	US-0113	F	RCTL	-55	125			3.0	4	10,5							57,62		
NOR,TRIPLE 2 INPUT	SPRG	US-0112	F	RCTL	-55	125			3.0	4	5							57,62		
NOR,TRIPLE 2 INPUT	TI	SN516	F	RCTL	-55	125			3.0		5	.4W	1.1W		150	.4W	1.1W	F	218	
NOR,TRIPLE 2 INPUT	TI	SN5162	F	RCTL	-55	125			3.0		5	.4W	1.1W		68	.4W	1.1W	F	218	
NOR,TRIPLE 2 INPUT	TI	SN5161	F	RCTL	-55	125			3.0		5	.4W	1.1W		68	.4W	1.1W	F	218	
NOR,TRIPLE 3 INPUT	AMEL	503B	A	TTL	-55	125			4.0	2	* 8			1.00	180	.25	3.80	C		
NOR,TRIPLE 3 INPUT	AMEL	537B	A	TTL	-55	125			4.0	7	* 6			1.00	100	.25	3.80	C		
NOR,TRIPLE 3 INPUT	AMEL	507B	A	TTL	-55	125			4.0	3	* 8			1.00	180	.25	3.80	C		
NOR,TRIPLE 3 INPUT	AMEL	533B	A	TTL	-55	125			5.0	4	* 6			1.00	100	.25	3.80	C		
NOR,TRIPLE 3 INPUT	AMEL	577B	A	TTL	-55	125			5.0	16	* 6			1.00	35	.40	3.80	C		
NOR,TRIPLE 3 INPUT	AMEL	573B	A	TTL	-55	125			5.0	12	* 6			1.00	35	.40	3.80	C		
NOR,TRIPLE 3 INPUT	PHIL	PL985	A	RTL	-55	125			3.0	3	5	.45	.80	* 22		.35		41,51	140	
NOR,2 INPUT	PHIL	134B	A	RTL	-55	125			3.0	10	30		.75		60	.50	.83	A,U	217	
NOR,2 INPUT	PHIL	PL909	A	RTL	-55	125			3.0	10	30	.45	.75	.05	80	.30	.80	A,51	217	

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T TYPE OF LOG-IC	OPER TEMP CENTGROE		SUPPLY VOLTAGE VDC		PWR DIS MW	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.	
				MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE			
NOR,2 INPUT	PHIL	PL976	A RTL	-55	125			4.0	10	33	.45	.82		26		.40		41,51	217
NOR,2 INPUT	NSC	NC2009	A RTL	0	100			3.0	10	30	.69	.77	* 24	80		.15		2	217
NOR,2 INPUT	MOTA	MC909	A RTL	-55	125			3.0	10	30	.45	.75	.05	80		.30	.80	A	217
NOR,2 INPUT	TI	SN730	A RTL	-55	125			3.0	15	30				70				A,T	140
NOR,2 INPUT	FSC	MWL909	A RTL	-55	125			3.0	10	30	.45	.75	.05	80		.30	.80	A	217
NOR,2 INPUT	NSC	NC1009	A RTL	-55	125			3.0	10	30	.69	.77	* 24	80		.15		2	217
NOR,2 INPUT	SPRG	US-0709	F RTL	-55	125			3.0	10					80				57,62	
NOR,2 INPUT EXPANDABLE	PHIL	PL9602	A RTL	-55	125			3.0		32,4	.49	.82	-.06	10		.35	-.88	69	217
NOR,3 INPUT	AMEL	121C	F RTL	0	70			3.0	10	* 5			.25	16		.25	-.81	B	
NOR,3 INPUT	AMEL	121A	F RTL	-55	125			3.0	10	* 10			.30	12		.25	-.81	B,C	
NOR,3 INPUT	AMEL	121B	F RTL	-55	125			3.0	10	* 6			.26	12		.25	-.81	B,C	
NOR,3 INPUT	FSC	L903C	A RTL	0	100			3.0		5	.60	.90	.30	12		.30	1.45	A,D	140
NOR,3 INPUT	FSC	L903	A RTL	-55	125			3.0		5	.60	.90	.30	12		.30	1.45	A,D	140
NOR,3 INPUT	FSC	FL90329	A RTL	15	55			3.6	20	16				10				A	140
NOR,3 INPUT	NSC	NB1003	A RTL	-55	125			3.0	*27	13	.69			12		.15		2	140
NOR,3 INPUT	PHIL	PL903	A RTL	-55	125			3.0		5	.56	.82		12		.30		A,69	140
NOR,3 INPUT	NSC	NB2003	A RTL	0	100			3.0	*27	13	.69			12		.15		2	140
NOR,3 INPUT	MOTA	MC803	F RTL	0	100			3.0		5	.55	.84		24		.40	-.84	A	140
NOR,3 INPUT	MOTA	MC903	F RTL	-55	125			3.0		5	.56	.82	.02	* 24		.30	-.84	A	140
NOR,3 INPUT	GI	MEM503	K					- 28.0	40		8.00	2.00	1.80			10.0	-.20		263
NOR,3 INPUT EXPANDABLE	INTX	GBXXXX	L RTL	-55	125			* 12.0		15,4				* 5				78	124
NOR,4 INPUT	TI	SN17911L	TTL	-55	125			3.0	3	4				40				1	
NOR,4 INPUT	AMEL	122A	F RTL	-55	125			3.0	10	* 10			.30	12		.25	-.81	B,C	
NOR,4 INPUT	AMEL	122B	F RTL	-55	125			3.0	10	* 6			.26	12		.25	-.81	B,C	
NOR,4 INPUT	AMEL	122C	F RTL	0	70			3.0	10	* 5			.25	16		.25	-.81	B	
NOR,4 INPUT	FSC	L907C	A RTL	0	100			3.0		5	.60	.90	.30	12		.30	1.45	A,D	140
NOR,4 INPUT	FSC	L907	A RTL	-55	125			3.0		5	.60	.90	.30	12		.30	1.45	A,D	140
NOR,4 INPUT	NSC	NB2007	A RTL	0	100			3.0	*27	13	.69			12		.15		2	140
NOR,4 INPUT	NSC	NB1007	A RTL	-55	125			3.0	*27	13	.69			12		.15		2	140
NOR,4 INPUT	PHIL	PL907	A RTL	-55	125			3.0		5	.56	.82		12		.30		A,69	140
NOR,4 INPUT	VARO	8102	E RTL	-55	100	20.0		-6.0										72	210
NOR,4 INPUT	TI	SN733	A RTL	-55	125			3.0	4	4,3				* 70				A,T	
NOR,4 INPUT	MOTA	MC807	F RTL	0	100			3.0		5	.55	.84		* 24		.40	-.84	A	140
NOR,4 INPUT	MOTA	MC907	F RTL	-55	125			3.0		5	.56	.82	.02	* 24		.30	-.84	A	140
NOR,4 INPUT	SPRG	US-0115	F RCTL	-55	125			3.0	8	* 5								57,62	
NOR,4 INPUT	SPRG	US-0114	F RCTL	-55	125			3.0	8	* 5								57,62	
NOR,4 INPUT EXPANDABLE	GI	NC10	H DTL	-55	125	D 4.2		-3.0		5,4				8	12	.30	5.00	0	221
NOR,5 INPUT	AMEL	123A	F	-55	125			3.0		* 10			.30	14		.25	-.81	B,C	
NOR,5 INPUT	AMEL	123B	F	-55	125			3.0		* 6			.26	17		.25	-.81	B,C	
NOR,5 INPUT	AMEL	123C	F	0	70			3.0		* 5			.25	21		.25	-.81	B	
NOR,6 INPUT	NSC	NB2017	A RTL	0	100			3.0	*27	13				12		.15		12	140
NOR,6 INPUT	NSC	NB1017	A RTL	-55	125			3.0	*27	13				12		.15		12	140
NOR,6 INPUT	SPRG	US-0102	F RCTL	-55	125			3.0	2	5	.4W	1.1W		150		.4W	1.1W	57,62	
NOR,6 INPUT	SPRG	US-0103	F RCTL	-55	125			3.0	2	25,5	.4W	1.1W		175		.4W	1.8W	57,62	
NOR,6 INPUT	TI	SN513	F RCTL	-55	125			3.0		25,5	.4W	1.1W		175		.4W	1.8W	T	218
NOR,6 INPUT	TI	SN512	F RCTL	-55	125			3.0		5	.4W	1.1W		150		.4W	1.1W	T	218
NOR,6 INPUT EXPANDABLE	GI	PC10	H DTL	-55	125	D 4.2		-3.0		5,4				8	12	.30	5.00	90	221
NOR,7 INPUT	SIGN	SU314	A TTL	-20	85			4.5	18	12	1.40	2.70	.60	30		.60	3.30	S,B	222

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T E C	TYPE OF LOG- IC	OPER		SUPPLY		PWR DIS MW	FAN- OUT	INPUT		NOISE IMMU- NITY VOLTS	DELAY HAND- SECS	OPER- ATING SPEED MHZ	OUTPUT		PACK- AGE TYPE	SCHE- MATIC NO.	
					TEMP	GRDE	VOLTAGE	VDC			THRESHOLD	ONE				LEVEL	ONE			
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE			
NOR, 7 INPUT	SIGN	LU314	A		10	55			4.5	18	12	1.40	2.50	.80	40	.60	3.30	B	222	
OR DUAL 5 INPUT	AMEL	322CJ	A	DTL	0	70			12.0	98	6			4.80	60	1.20	12.00	68	298	
OR DUAL 5 INPUT	AMEL	322BG	A	DTL	-55	125			12.0	98	6			4.80	60	1.20	12.00	30	298	
OR DUAL 5 INPUT	AMEL	322CG	A	DTL	0	100			12.0	98	6			4.80	60	1.20	12.00	30	298	
OR QUAD 2 INPUT	AMEL	321CG	A	DTL	0	100			12.0	96	6			4.80	60	1.20	12.00	30	298	
OR QUAD 2 INPUT	AMEL	3218G	A	DTL	-55	125			12.0	96	6			4.80	60	1.20	12.00	30	298	
OR QUAD 2 INPUT	AMEL	321CJ	A	DTL	0	70			12.0	96	6			4.80	60	1.20	12.00	68	298	
OR-NAND, DUAL 2-2 INPUT	PHIL	PL4601	K	MOS	-55	125	-12.0	-24.0	*20			3.00	9.00	1.00	800	.10	2.00	10.00	C, 77	223
OR/NOR, 4 INPUT	PHIL	134G	A	RTL	-55	125			3.0	4	4	.55	.75	.05	70	.50	.83	B, U	213	
OR/NOR, DUAL 4 INPUT	RCA	CD2150	A	ECL	10	60			-5.0	110	* 12	1.40	1.00	.15	7	1.60	.85	82	210	
OR/NOR, DUAL 4 INPUT	RCA	CD2100	A	ECL	-55	125			-5.2	44	* 12	1.30	.95	.10	24	1.50	.85	82	209	
OR/NOR, DUAL 4 INPUT	RCA	CD2151	A	ECL	10	60			-5.0	88	* 12	1.40	1.00	.15	7	1.60	.85	82	210	
OR/NOR, DUAL 4 INPUT	WMED	WS371	A	ECL	10	60			-5.0	115	* 15	1.6T	.8T		10	1.6T	.8T	S	210	
OR/NOR, 3 INPUT EX	MOTA	MC356	A	ECL	0	75	-1.15	-5.2	35	* 26					6	1.66	.70	13, C	211	
OR/NOR, 3 INPUT EX	MOTA	MC306	A	ECL	-55	125	-1.15	-5.2	35	* 26	1.30	1.00	.30	6	1.66	.70	10, S	211		
OR/NOR, 3 INPUT EX	MOTA	MC307	A	ECL	-55	125	-1.15	-5.2	35	* 26	1.30	1.00		6	1.66	.70	10, S	211L		
OR/NOR, 3 INPUT EX	MOTA	MC357	A	ECL	0	75	-1.15	-5.2	35	* 26				6	1.66	.70	13, C	211L		
OR/NOR, 3 INPUT EX	SW	SW307	A	ECL	-55	125	-1.15	-5.2	35	* 26	1.30	1.00	.30	6	1.66	.70	19, S	211		
OR/NOR, 3 INPUT EX	SW	SW306	A	ECL	-55	125	-1.15	-5.2	35	* 26	1.30	1.00	.30	6	1.66	.70	19, S	211		
OR/NOR, 4 INPUT	FSC	L924	A	RTL	15	55			3.6					* 30			A	212		
OR/NOR, 4 INPUT	FSC	MML911	A	RTL	-55	125			3.0	4	4, 3	.45	.76	.05	80	.30	.80	A	213	
OR/NOR, 4 INPUT	FSC	FL91129	A	RTL	15	55			3.6	6	4				25		A	213		
OR/NOR, 4 INPUT	NSC	NC2011	A	RTL	0	100			3.0	4	4, 3	.69	.77		12	.15	2	213		
OR/NOR, 4 INPUT	NSC	NC1011	A	RTL	-55	125			3.0	4	4, 3	.69	.77		12	.15	2	213		
OR/NOR, 4 INPUT	PHIL	PL980	A	RTL	-55	125			4.0	3	5	.45	.82		25	.40	41, 51	213		
OR/NOR, 4 INPUT	PHIL	PL911	A	RTL	-55	125			3.0	4	4, 3	.45	.75	.05	* 80	.30	.80	A, 51	213	
OR/NOR, 4 INPUT	SPRG	US-0711	F	RTL	-55	125			3.0	4				* 80			57, 62			
OR/NOR, 4 INPUT	MOTA	MC911	A	RTL	-55	125			3.0	4	4, 3	.45	.75	.05	80	.30	.80	A	213	
OR/NOR, 5 INPUT	MOTA	MC301	A	ECL	-55	125	-1.15	-5.2	35	* 26	1.30	1.00	.30	6	1.66	.70	10, S	211		
OR/NOR, 5 INPUT	MOTA	MC351	F	ECL	0	75	-1.15	-5.2	*50	* 25	1.35	.95	.10		1.45	.80		211		
OR/NOR, 5 INPUT	SW	SW301	A	ECL	-55	125	-1.15	-5.2	35	* 25	1.90	1.00	.30	6	1.66	.70	19, S	211		
OR/NOR, 8 INPUT	RCA	CD2152	A	ECL	10	60			-5.0	147	* 12	1.40	1.00	.15	7	1.60	.85	82	214	
OR/NOR, 8 INPUT	WMED	WS374	A	ECL	10	60			-5.0	115	* 15	1.6T	.8T		10	1.6T	.8T	S	210	
OR/NOR, 9 INPUT	VARO	8204	E	DTL	-55	125	C 3.0	-3.0	150	4		.50	3.50	* 20	.50	3.50	72	215		
OR, DUAL 2 INPUT EX	SIGN	SU331	A	TTL	-20	85			4.5	40	* 12	1.40	2.50	.80	35	.60	3.30	S, B	224	
OR, DUAL 2 INPUT EX	SIGN	LU331	A		10	55			4.5	36	* 12	1.40	2.50	.80	35	.60	3.30	B	224	
OR, DUAL 3 INPUT	SIGN	LU332	A	TTL	10	55			4.5	36	* 12	1.40	2.50	.80	35	.60	3.30	B	224	
OR, DUAL 3 INPUT	SIGN	SU332	A	TTL	-20	85			4.5	40	* 12	1.40	2.50	.80	35	.60	3.30	S, B	224	
OR, DUAL 4 INPUT	CORN	0065	D	RTL	-55	125	1.8	-3.0	220	6				5			71	109		
OR, DUAL 4 INPUT EX	SYL	SG170	A	TTL	-55	125			5.0	10		1.20	1.70	.90	1	.65	4.80	H, G	319	
OR, DUAL 4 INPUT EX	SYL	SG171	A	TTL	-55	125			5.0	10		1.20	1.70	.90	1	.65	4.80	H, G	319	
OR, DUAL 4 INPUT EX	SYL	SG172	A	TTL	0	75			5.0	10		1.20	1.80	.90	1	.65	4.80	H, G	319	
OR, DUAL 4 INPUT EX	SYL	SG173	A	TTL	0	75			5.0	10		1.20	1.80	.90	1	.65	4.80	H, G	319	
OR, DUAL 4 INPUT EX	TRAN	TNG3281	B	TTL	-55	125			5.0	22	15			1.00	10	.45	3.20	H, 47	272	
OR, DUAL 4 INPUT EX	TRAN	TNG3282	B	TTL	0	75			5.0	22	15			1.00	10	.45	3.10	H, 47	272	
OR, DUAL 4 INPUT EX	TRAN	TNG3283	B	TTL	-55	125			5.0	22	7			1.00	10	.45	3.20	H, 47	272	
OR, DUAL 4 INPUT EX	TRAN	TNG3284	B	TTL	0	75			5.0	22	7			1.00	10	.45	3.10	H, 47	272	
OR, QUAD 2 INPUT EX	SYL	SG150	A	TTL	-55	125			5.0	20		1.20	1.70	.90	1	.65	4.80	H, G	258	



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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T C	TYPE OF LOG IC	OPER TEMP		SUPPLY VOLTAGE		PWR DIS MM	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NAND-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.	
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE			
OR, QUAD 2 INPUT EX	SYL	SG151	A	TTL	-55	125		5.0	20		1.20	1.70	.90	1	20	.65	4.80	H,G	258	
OR, QUAD 2 INPUT EX	SYL	SG152	A	TTL	0	75		5.0	20		1.20	1.80	.90	1	20	.65	4.80	H,G	258	
OR, QUAD 2 INPUT EX	SYL	SG153	A	TTL	0	75		5.0	20		1.20	1.80	.90	1	20	.65	4.80	H,G	258	
OR, QUAD 2 INPUT EX	TRAN	TNG4445	B	TTL	-55	125		5.0	22	15			1.00	10	40	.45	3.20	H,47	300	
OR, QUAD 2 INPUT EX	TRAN	TNG4448	B	TTL	0	75		5.0	22	7			1.00	10	40	.45	3.10	H,47	300	
OR, QUAD 2 INPUT EX	TRAN	TNG4446	B	TTL	0	75		5.0	22	15			1.00	10	40	.45	3.10	H,47	300	
OR, QUAD 2 INPUT EX	TRAN	TNG4447	B	TTL	-55	125		5.0	22	7			1.00	10	40	.45	3.20	H,47	300	
OR, 3 INPUT EXPANDABLE OR, 4 INPUT	INTX FSC	GGXXXXX SH2101	L	RTL	-55	125		* 12.0		3				* 5				A	78	220
PULSE SHAPER, W/C R-S	VARO AMEL	8205 116B	E	DTL	-55	125	C 3.0	-3.0	150	4,3	.50	3.50				.50	3.50	72	225	
R-S	AMEL	116A	F	RTL	-55	125		3.0	20	* 3				17		.25	.81	B,C		
R-S	AMEL	116C	F	RTL	0	70		3.0	20	* 3				17		.25	.81	B		
R-S	NSC	NB1002	A	RTL	-55	125		3.0	22	12	.69	.77		* 25		.15		2	226	
R-S	NSC	NB2002	A	RTL	0	100		3.0	22	12	.69	.77		* 25		.15		2	226	
R-S	FSC	L902	A	RTL	-55	125		3.0	22	4	.56	.82		14		.30		A,D	226	
R-S	GI	MCPC8	H		-55	125	12.0	4.2	*D2	5,3		3.80		25	20	.30	5.00	A,90		
R-S	PHIL	PL902	A	RTL	-55	125		3.0	22	4	.56	.82		14		.30		A,69	226	
R-S	FSC	L902C	A	RTL	0	100		3.0	22	4	.55	.84		14		.40		A,D	226	
R-S	TI	SN337	A	DTL	0	65	6.0	3.0	90	12				250		.70		F	228	
R-S	NSC	NB2023	A	RTL	0	100		3.0	22	12	.69	.77		25		.15		2	227	
R-S	NSC	NB1023	A	RTL	-55	125		3.0	22	12	.69	.77		25		.15		2	130	
R-S	MOTA	MO802	F	RTL	0	100		3.0	22	4	.55	.84		* 25		.40	.84	A	226	
R-S	MOTA	MC902	F	RTL	-55	125		3.0	22	4	.56	.82	.02	* 25		.30	.84	A	226	
R-S	SW	SNF12	A	TTL	0	75		5.0	30	12				20				27,C	244	
R-S	SW	SNF10	A	TTL	-55	125		5.0	30	15				20				27,C	244	
R-S	SW	SNF11	A	TTL	-55	125		5.0	30	7				20				27,C	244	
R-S	SW	SNF13	A	TTL	0	75		5.0	30	8				20				27,C	244	
R-S-T, CLOCKED OR DIRECT	TI	SN15850		DTL	0	75		5.0	20	8				7		.45	2.60	F	304	
R-S-T, CLOCKED OR DIRECT	TI	SN15950		DTL	-55	125		5.0	20	8				20		.40	2.60	F	304	
R-S-T, CLOCKED OR DIRECT	TI	SN15850N		DTL	0	75		5.0	20	8				7		.45	2.40	H	304	
R-S/J-K AND INPUT	TI	SN54948	B	TTL	-55	125		5.0	40	10	.80	2.00	.40	30	15	.40	2.40	F	309	
R-S/J-K AND INPUT	TI	SN74948	F	TTL	0	70		5.0	40	10	.80	2.00	.40	30	15	.40	2.40	F	309	
R-S/J-K CLOCKED OR DIR	TI	SN15845N		DTL	0	75		5.0	20	10				7		.45	2.40	H	303	
R-S/J-K CLOCKED OR DIR	TI	SN15848N		DTL	0	75		5.0	20	11				7		.45	2.40	H	303	
R-S/J-K CLOCKED OR DIR	TI	SN15831N		DTL	0	75		5.0	20	7				7		.45	2.40	H	149	
R-S/J-K CLOCKED OR SET	TI	SN15931		DTL	-55	125		5.0	20	7				7		.40	2.60	F	149	
R-S/J-K CLOCKED OR SET	TI	SN15831		DTL	0	75		5.0	20	7				7		.45	2.60	F	149	
R-S/J-K CLOCKED OR SET	TI	SN15848		DTL	0	75		5.0	20	11				7		.45	2.60	F	303	
R-S/J-K CLOCKED OR SET	TI	SN15845		DTL	0	75		5.0	20	10				7		.45	2.60	F	303	
R-S/J-K CLOCKED OR SET	TI	SN15948		DTL	-55	125		5.0	20	9				7		.40	2.60	F	303	
R-S/J-K CLOCKED OR SET	TI	SN15945		DTL	-55	125		5.0	20	10				7		.40	2.60	F	303	
R-S, CLOCKED	VARO GI	8105 MEM529	E	DTL	-55	125	20.0	-2.0	241	4				15	10	.50		72	230	
R-S, CLOCKED	VARO GI	8105 MEM529	K	DTL	-55	125	20.0	-28.0	*80	4	6.00	3.00	2.90		* 1	9.00	.10	18,82	264	
R-S, CLOCKED OR DIR 2 PH	SYL	SF22	B	TTL	0	75		5.0	*60	12	1.20	1.80	.80	* 25	20	.40	3.10	G,H	234	
R-S, CLOCKED OR DIR 2 PH	SYL	SF23	B	TTL	0	75		5.0	*60	6	1.20	1.80	.80	* 25	20	.40	3.10	G,H	234	
R-S, CLOCKED OR DIR 2 PH	SYL	SF21	B	TTL	-55	125		5.0	*60	7	1.20	1.70	.80	* 26	20	.40	3.20	G,H	234	

CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T TYPE E OF C LOG- H I C	OPER		SUPPLY		PWR DIS	INPUT		NOISE IMMU- NITY	DELAY NAND- SECS	OPER- ATING SPEED		OUTPUT LEVEL		PACK- AGE TYPE	SCHE- MATIC NO.		
				MIN	MAX	NO. 2	NO. 1		MM	OUT			ZERO	ONE	VOLTS	VOLTS			SECS	MHZ
R-S,CLOCKED OR DIR 2 PH SYL SF20			B TTL	-55	125			5.0	*60	15	1.20	1.70	.80	*	25	20	.40	3.20	G,H	234
R-S,CLOCKED OR DIR 2 PH TRAN TFF3013			B TTL	-55	125			5.0	30	7	1.20	1.70	.70	*	18		.45	2.40	47,H	234
R-S,CLOCKED OR DIR 2 PH TRAN TFF3011			B TTL	-55	125			5.0	30	15	1.20	1.70	.70	*	18		.45	2.40	47,H	234
R-S,CLOCKED OR DIR 2 PH TRAN TFF3012			B TTL	0	75			5.0		15	1.20	1.70	.70	*	18		.45	2.40	47,H	234
R-S,CLOCKED OR DIR 2 PH TRAN TFF3014			B TTL	0	75			5.0		7	1.20	1.70	.70	*	18		.45	2.40	47,H	234
R-S,CLOCKED OR DIRECT PHIL 264B			A DTL	-55	125		4.0	-2.0	16	8		2.50			25	.20	.40		B,U	231
R-S,CLOCKED OR DIRECT TI SN54271R			B TTL	-55	125			5.0		10	2.00	.70	.40		46	2	.30	2.40	F	309
R-S,CLOCKED OR DIRECT TI SN74L71R			A TTL	0	70			5.0		10	2.00	.70	.40		46	2	.30	2.40	F	309
R-S,CLOCKED OR DIRECT TI SM14313			DTL	0	75			6.0		9	1.00	2.00	.55		60		.45	3.50	F	233
R-S,CLOCKED OR DIRECT TI SNI4213			B DTL	-55	125			8.0	50	9			.55		60		.45	3.50	F	233
R-S,CLOCKED OR DIRECT MOTA MC913			A RTL	-55	125			3.0	12		.45	.75	.05				3.00	.80	A	240
R-S,CLOCKED OR DIRECT SIGN SE124			F DTL	-55	125		4.0	-2.0	*26	* 8				*	40				B,S	231
R-S,CLOCKED OR DIRECT VARO 8200			E DTL	-55	125		6.0	3.0	165	4		3.00			10	20	.50	3.50	72	232
R-S,CLOCKED OR DIRECT RAY RM213			A DTL	-55	125			6.0	*55	9	.70	1.60	.40	*	60	12	.30	3.50	FS,21	233
R-S,CLOCKED OR DIRECT WMED WM213			A DTL	-55	125			6.0	*55	9	.70	1.60	.40	*	60	11	.30	3.50	21,FS	233
R-S,CLOCKED OR DIRECT FSC SE124			A DTL	-55	125			4.0	16						52	10	.50	2.50	B,S	231
R-S,CLOCKED OR DIRECT INTX FFXXXX			L RTL	-55	125			7.5	*92	4					17	* 5			78	229
R-S,CLOCKED OR DIRECT TI SN5101			F RCTL	-55	125			3.0	2	4		1.15		*	500	.80	.22	1.15	F,T	235
R-S,CLOCKED OR DIRECT INTX FFXXXX			L RTL	-55	125			9.0	*65	4					16	* 5			78	229
R-S,CLOCKED OR DIRECT SPRG US-0110			A RCTL	-55	125			3.0	2	4									57	
R-S,CLOCKED OR DIRECT SPRG US-0111			F RCTL	-55	125			3.0	3	20,4									57	
R-S,CLOCKED OR DIRECT MOTA MC209			A DTL	-55	125		4.0	-2.0	16	* 8	.60	2.00		*	88	10	.60	2.50	13,S	234
R-S,CLOCKED OR DIRECT TI SN5111			F RCTL	-55	125			3.0	2	20,4		1.15		*	500	.80	.22	1.50	F,T	235
R-S,CLOCKED OR DIRECT SW SWF23			A TTL	0	75			5.0	35	6					20				C	234
R-S,CLOCKED OR DIRECT SW SWF22			A TTL	0	75			5.0	35	12					20				C	234
R-S,CLOCKED OR DIRECT SW SWF21			A TTL	-55	125			5.0	35	7					20				C	234
R-S,CLOCKED OR DIRECT SW SWF20			A TTL	-55	125			5.0	35	15					20				C	234
R-S,CLOCKED OR DIRECT MOTA MC652			DTL	0	75		10.0	-10.0	210	4					50		.72	9.60		259
R-S,CLOCKED OR DIRECT WMED WC213			A DTL	0	75			6.0	35	7	1.00	1.80			30	10	.45		21,F	233
R-S,CLOCKED OR DIRECT PHIL PL9988			A TTL	-55	125			3.0	E22	3	.42	.85	.19		5		.23	1.00	41	274
R-S,CLOCKED OR SET DIR SPRG US-0101			F RCTL	-55	125			3.0	2	20,4		1.15		*	500	.80	.22	1.50	57	
R-S,CLOCKED OR SET DIR TI SN510			F RCTL	-55	125			3.0	2	4		1.15		*	500	.80	.22	1.15	T	235U
R-S,CLOCKED OR SET DIR TI SN511			F RCTL	-55	125			3.0	2	20,4		1.15		*	500	.80	.22	1.50	T	235U
R-S,CLOCKED OR SET DIR SPRG US-0100			F RCTL	-55	125			3.0	2	4		1.15		*	500	.80	.22	1.15	57	
R-S,CLOCKED 2 PHASE TRAN TFF3031			B TTL	15	55			5.0		7	1.00	2.00	.50	*	25		.50	2.50	47,H	234
R-S,DUAL CORN 0067			D RTL	0	70		1.8	-3.0	140	6				*	9	80			71	236
R-S,DUAL Clocked OR DIR SIGN SE424			A DTL	-55	125			4.0	*14	* 7	.70	2.10	.40	*	150	9	.30	2.70	X	237
R-S,DUAL PULSE TRIGGER RAD RD221			S DTL	-55	125			5.0	24	8			.80		19	20		2.50	F	326
R-S,DUAL PULSE TRIGGER RAD RD321			S DTL	-55	125			5.0	24	5			.80		19	20		2.50	F	326
R-S,DUAL 2 INPUT AND NSC NB1019			A RTL	-55	125			3.0	44	12	.69	.77		*	25		.15		2	226
R-S,DUAL 2 INPUT AND NSC NB2019			A RTL	0	100			3.0	44	12	.69	.77		*	25		.15		2	226
R-S,SP CLCKD OR DIRECT ITT MIC950			A DTL	-55	125			5.0	*44	* 8	.80	1.90			30	20	.40	2.60	C,B,H	322
R-S,SP CLCKD OR DIRECT FSC DTL950			A DTL	-55	125			5.0	50	10					20				C,B	
R-S,SP CLCKD OR DIRECT FSC FL95029			A DTL	0	70			5.0	50	10					20					
R-S,SP CLCKD OR DIRECT SIGN CST79			F DTL	-55	125			4.0	*30	* 7				*	95		.35	3.10	X	231
R-S,SP CLCKD OR DIRECT INTX FFXXXX			L RTL	-55	125			7.5	*92	4					17	* 5			78	229
R-S,SP CLCKD OR DIRECT SW SWF31			A TTL	-55	125			5.0	30	7					12				27,C	238
R-S,SP CLCKD OR DIRECT SW SWF32			A TTL	0	75			5.0	30	12					12				27,C	238

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T TYPE	E OF C LOG- H IC	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PWR DIS HW	FAN- OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO- SECS	OPER- ATING SPEED MHZ	OUTPUT LEVEL		PACK- AGE TYPE	SCHE- MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
R-S, SP CLCKD OR DIRECT	SW	SWF33	A	TTL	0	75		5.0	30		6				12			27,C	238
R-S, SP CLCKD OR DIRECT	SW	SWF30	A	TTL	-55	125		5.0	30	15					12			27,C	238
R-S, SP CLCKD OR DIRECT	SYL	SF31	B	TTL	-55	125		5.0	30	7	1.20	1.70	.75		12	.45	3.00	G,H	238
R-S, SP CLCKD OR DIRECT	SYL	SF30	B	TTL	-55	125		5.0	30	15	1.20	1.70	.75		12	.45	3.00	G,H	238
R-S, SP CLCKD OR DIRECT	SYL	SF32	B	TTL	0	75		5.0	30	12	1.20	1.70	.75		12	.45	3.00	G,H	238
R-S, SP CLCKD OR DIRECT	SYL	SF33	B	TTL	0	75		5.0	30	6	1.20	1.70	.75		12	.45	3.00	G,H	238
R-S, SP CLCKD OR SET DIR	MOTA	MC260	F	DTL	0	75	4.0	-2.0	16					* 90		.55	2.50	13	231
R-S, SP CLCKD OR SET DIR	SIGN	CS704	A	DTL	-55	125	4.0	-2.0	*26	* 8				* 40				B,S	231
R-S, SP CLCKD OR SET DIR	FSC	CS704	A	DTL	-55	125	4.0	-2.0	*26	* 8				* 40				B,S	231
R-S, SPLIT CLOCKED	GI	PC13	H		-55	125	12.0	4.2	*02	* 8		3.00				.30	5.00	90	239
R-S, SPLIT CLOCKED	VARO	8107	E	DTL	-55	125	20.0	-2.0	241	4					1	.50	.72	72	229
R-S, TYPE D	PHIL	I34R	A	RTL	-55	125		3.0	10			.75		120		.50	.83	B,U	240
R-S, TYPE D	MOTA	MC259	F	DTL	0	75	4.0	-2.0	16		.55	2.00		* 90		.55	2.50	13	231
R-S, TYPE D	PHIL	PL913	A	RTL	-55	125		3.0	12	3	.45	.75	.05	* 100		.30	.80	A,51	240
R-S, TYPE D	FSC	MWL913	A	RTL	-55	125		3.0	12	3	.45	.75	.05	* 100		.30	.80	A	240
R-S, TYPE D	PHIL	PL984	A	RTL	-55	125		4.0	15	4	.45	.82		25		.40		41,51	240
R-S, TYPE D	MOTA	MC913	F	RTL	-55	125		3.0	12		.45	.75	.05	* 100		.30	.80	A	240
R-S, TYPE D	SPRG	US-0713	F	RTL	-55	125		3.0	15					* 120				57,62	
R-S, TYPE D	TRAN	TF3512	B	TTL	0	75		5.0	150	15	1.20	1.80	.80		50	.40	3.00	47,H	283
R-S, TYPE D	TRAN	TF3512	B	TTL	0	75		5.0	150	15	1.20	1.80	.80		50	.40	3.00	47,H	283
R-S, 2 INPUT NAND	NSC	NB1018	A	RTL	-55	125		3.0	36	12	.69	.77		20		.15		2	242
R-S, 2 INPUT NAND	NSC	NB2018	A	RTL	0	100		3.0	36	12	.69	.77		20		.15		2	242
R-S, 2 INPUT NAND	MOTA	MC352	A	ECL	0	75		-5.2	35	* 25				10	1.60	.70	13,C	241	
R-S, 2 INPUT NAND	MOTA	MC302	A	ECL	-55	125		-5.2	35	* 25				10	1.60	.70	10,S	241	
R-S, 2 INPUT NAND	SW	SW302	A	ECL	-55	125		-5.2	35	* 25				12	1.60	.70	19,S	241	
R-S, 2 INPUT OR	NSC	NB1020	A	RTL	-55	125		3.0	27	11	.69	.77		20		.15		12	243
R-S, 2 INPUT OR	NSC	NB2020	A	RTL	0	100		3.0	27	11	.69	.77		20		.15		12	243
R-S, 3 INPUT NAND	RAY	RM202	A	DTL	-55	125		6.0	15	10	1.00	1.80		32		.25		FS,21	245
R-S, 3 INPUT NAND	SYL	SF13	B	TTL	0	75		5.0	*45	6	1.20	1.80	.80	* 25	20	.40	3.10	G,H	244
R-S, 3 INPUT NAND	SYL	SF10	B	TTL	-55	125		5.0	*45	15	1.20	1.70	.80	* 25	20	.40	3.20	G,H	244
R-S, 3 INPUT NAND	SYL	SF12	B	TTL	0	75		5.0	*45	12	1.20	1.80	.80	* 25	20	.40	3.10	G,H	244
R-S, 3 INPUT NAND	SYL	SF11	B	TTL	0	75		5.0	*45	7	1.20	1.70	.80	* 25	20	.40	3.20	G,H	244
R-S, 3 INPUT NAND	WMED	WM202	A	DTL	-55	125		6.0	15	10	1.00	1.80		32		.25		21,FS	245
R-S, 3 INPUT NAND	WMED	MC202	A	DTL	0	75		6.0	8	6	1.00	1.80		30		.45		21,F	245
R-S, 3 INPUT NAND EX	RAY	RM212	A	DTL	-55	125		6.0	15	10	1.00	1.80		32		.25		F,21	245
R-S, 3 INPUT NAND EX	WMED	WM212	A	DTL	-55	125		6.0	15	10	1.00	1.80		32		.25		21,FS	245
R-S, 3 INPUT NAND EX	WMED	MC212	A	DTL	0	75		6.0	8	6	1.00	1.80		30		.45		21,F	245
R-S, 4 INPUT NAND EX	RAD	RD308	C	DTL	-55	125		5.0		4				8		.40	4.00	F	245
R-S, 4 INPUT NAND EX	RAD	RD508	C	DTL	0	75		5.0		7				8		.40	4.00	F	245
R-S, 4 INPUT NAND EX	RAD	RD208	C	DTL	-55	125		5.0		8				8		.40	4.00	F	245
REGULATOR, -1.15 VDC	MOTA	MC354	A	ECL	0	75		-5.2	18	* 25						.40	4.00	F	245
REGULATOR, -1.15 VDC	MOTA	MC304	A	ECL	-55	125		-5.2	*24	* 25								13,C	246
REGULATOR, -1.15 VDC	SW	SW304	A	ECL	-55	125		-5.2	18	* 25								10,S	246
REGULATOR, -12.0 VDC	GI	PC503	H		-55	125		-16.0	*05									19,S	246
REGULATOR, -12.0 VDC	GI	NCPC513	H		-55	125		-16.0	*05									93	260K
REGULATOR, -24.0 VDC	GI	PC514	H		-55	125		-28.0	*05									18,90	261
REGULATOR, -24.0 VDC	GI	PC504	H		-55	125		-28.0	*05									90	261K
REGULATOR, -24.0 VDC	GI	PC504	H		-55	125		-28.0	*05									93	260K
REGULATOR, -6.0 VDC	GI	PC523	H		-55	125		-10.0	*05									93	262K

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T TYPE	E OF LOG	OPER TEMP		SUPPLY VOLTAGE		PWR DIS	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
REGULATOR, 12.0 VDC	GI	PC501	H		-55	125		16.0	*D5									93	260
REGULATOR, 12.0 VDC	GI	NCPC511	H		-55	125		16.0	*D5									18,90	261K
REGULATOR, 24.0 VDC	GI	PC502	H		-55	125		28.0	*D5									93	260
REGULATOR, 24.0 VDC	GI	PC512	H		-55	125		28.0	*D5									90	261
REGULATOR, 5.0 VDC	GI	NCS675A	H		-55	125		11.0	*D5									93	
REGULATOR, 6.0 VDC	GI	PC521	H		-55	125		10.0	*D5									93	262
RS, TYPE D	TRAN	TFF3511	B	TTL	-55	125		5.0		15	1.20	1.80	.80		50	.40	3.00		
RS, TYPE D	TRAN	TFF3513	B	TTL	-55	125		5.0		7	1.20	1.80	.80		50	.40	3.00		
SCHMITT TRIGGER	INTX	STXXXXX	L	TTL	-55	125		* 12.0	135	2		3.50		25	1.50			78	247
SCHMITT TRIGGER	GI	NCPC17	H	DTL	-55	125	12.0	4.2	*D2	9,8		1.20		25	5	.30	5.00	0,90	248
SHIFT REGISTER, R-S	TI	SN735	A	RTL	-55	125		3.0	15	3				70				58	
STEERING GATE, DUAL	GI	NCPC9	H		-55	125	12.0	4.2		* 5		3.00			20	.30	5.00	90,0	253
SWITCH ANALOG 4 CHANNEL	PHIL	PL4S01	K	MOS	-55	125	-15.0	-30.0	150		2.00	8.00		500				C,77	256
SWITCH, ANALOG 1 INPUT	GI	PC401	H	DTL	-55	125	45.0	28.0						50	# .20			90	254
SWITCH, ANALOG 2 INPUT	GI	PC402	H	DTL	-55	125	45.0	28.0						50	# .20			90	255
SWITCH, DUAL ANALOG	GESP	4JPA358	A		-55	125	6.0	-3.0	*52					1250					292
SWITCH, DUAL ANALOG	GESP	4JPA345	A		-55	125	6.0	-3.0	*43					1000					292
VOLTAGE REGULATOR	NSC	LM100	A		-55	125		* 40.0	500									2	335
2J-2K, CLOCKED	TRAN	TNG3168	B	TTL	0	75		5.0	75	7	1.20	1.80	1.00	16	30	.40	3.10	H,47*	
2J-2K, CLOCKED	TRAN	TNG3167	B	TTL	-55	125		5.0	75	7	1.20	1.70	1.00	16	30	.40	3.20	H,47*	
2J-2K, CLOCKED	TRAN	TNG3165	B	TTL	-55	125		5.0	75	15	1.20	1.70	1.00	16	30	.40	3.20	H,47*	
2J-2K, CLOCKED	TRAN	TNG3166	B	TTL	0	75		5.0	75	15	1.20	1.80	1.00	16	30	.40	3.10	H,47*	
3J-3K CLOCKED OR DIRECT	TRAN	TFF3163	B	TTL	-55	125		5.0	75	7	1.20	1.70	1.00	16	30	.40	3.20	H,47*	282
3J-3K CLOCKED OR DIRECT	TRAN	TFF3164	B	TTL	0	75		5.0	75	7	1.20	1.80	1.00	16	30	.40	3.10	H,47*	282
3J-3K CLOCKED OR DIRECT	TRAN	TFF3161	B	TTL	-55	125		5.0	75	15	1.20	1.70	1.00	16	30	.40	3.20	H,47*	282
3J-3K CLOCKED OR DIRECT	TRAN	TFF3162	B	TTL	0	75		5.0	75	15	1.20	1.80	1.00	16	30	.40	3.10	H,47*	282
3J-3K, DUAL CLOCKED	TRAN	TFF3181	B	TTL	-55	125		5.0	75	15	1.20	1.70	1.00	16	30	.40	3.20	97,47	282
3J-3K, DUAL CLOCKED	TRAN	TFF3182	B	TTL	0	75		5.0	75	15	1.20	1.80	1.00	16	30	.40	3.10	97,47	282
3J-3K, DUAL CLOCKED	TRAN	TFF3183	B	TTL	-55	125		5.0	75	7	1.20	1.70	1.00	16	30	.40	3.20	97,47	282
3J-3K, DUAL CLOCKED	TRAN	TFF3184	B	TTL	0	75		5.0	75	7	1.20	1.80	1.00	16	30	.40	3.10	97,47	282

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# **LINEAR CIRCUITS**



MFR	MFRS PART NUMBER	PAGE NO.	LINE NO.
AMEL	T2107B	4	7
AMEL	T2108B	4	11
AMEL	T2109B	4	10
AMEL	T2110B	4	9
AMEL	T2114B	4	8
AMEL	T2404B	1	6
AMEL	T2405B	1	3
AMEL	T800B	1	5
AMEL	T800D	1	8
AMEL	T801B	1	9
AMEL	T801D	1	13
AMEL	T805B	1	12
AMEL	T805C	1	7
AMEL	T806B	1	4
AMEL	T806C	1	11
AMEL	T807B	1	10
AMEL	T831A	1	32
AMEL	T831B	1	34
AMEL	T831C	1	33
AMEL	T831D	1	35
AMEL	T901B	1	45
AMEL	T901C	1	44
AMEL	T903B	1	43
AMEL	T903C	1	42
FSC	TA702	2	9
FSC	TA702A	2	11
FSC	TA702C	2	10
FSC	TA709	2	13
FSC	TA709C	2	15
FSC	TA710	2	14
FSC	TA710C	2	12
FSC	TA711	3	28
FSC	TA711C	3	29
GELM	T473104	4	14
GELM	T7736078	4	12
GELM	T7736134	4	13
GELM	T7739750	4	6
GESP	T12X2071	1	46
GESP	T12X2072	1	47
GESP	T12X218	3	42
GESP	T4JPA107	2	16
GESP	T4JPA112	3	43
GESP	T4JPA113	2	7
GESP	T4JPA114	2	5
GESP	T4JPA126	2	6
GESP	T4JPA135	2	17
GI	TNCPC101	3	44
GI	TPC200	2	23

MFR	MFRS PART NUMBER	PAGE NO.	LINE NO.
GI	TPC201	2	18
GI	TPC210	2	20
GI	TPC212	2	19
GI	TPC250	2	22
GI	TPC251	2	21
MOTA	TMC1519A	2	28
MOTA	TMC1519B	2	24
MOTA	TMC1524	2	8
MOTA	TMC1525	2	27
MOTA	TMC1526	2	26
MOTA	TMC1527	2	29
MOTA	TMC1528	2	25
MOTA	TMC1530	2	30
MOTA	TMC1531	2	31
NORD	TNM1003	3	39
NORD	TNM1005	2	35
NORD	TNM1008	3	40
NORD	TNM2002	2	34
NORD	TNM2007	2	33
NORD	TNM2012	2	32
PHIL	TPA702	2	37
PHIL	TPA710	2	36
PHIL	TPA712	2	38
PHIL	TPA713	3	45
PHIL	TPA713	3	32
PHIL	TPA7600	4	1
PHIL	TPA7601	3	34
PHIL	TPA7602	1	41
PHIL	TPA7709	1	14
PHIL	TPA7711	1	36
RAD	TCA339	1	15
RAD	TRA238	1	18
RAD	TRA239	1	17
RAD	TRA240	1	22
RAD	TRA338	1	19
RAD	TRA340	1	21
RAD	TRA538	1	20
RAD	TRA539	1	16
RAD	TRA540	1	23
RCA	TCA3000	2	40
RCA	TCA3001	2	39
RCA	TCA3002	2	41
RCA	TCA3004	2	45
RCA	TCA3005	2	44
RCA	TCA3006	2	43
RCA	TCA3007	2	42
RCA	TCA3008	2	46
RCA	TCA3010	2	47



MFR	MFRS PART NUMBER	PAGE NO.	LINE NO.
RCA	TCA3011	1	25
RCA	TCA3012	1	26
RCA	TCA3013	1	27
RCA	TCA3014	1	28
RCA	TCA3015	1	37
RCA	TCA3016	1	38
RCA	TCA3020	2	4
RCA	TCA3021	4	4
RCA	TCA3022	4	2
RCA	TCA3023	4	3
RCA	TCA3028	1	24
RCA	TCA3029	1	39
RCA	TCA3030	1	40
RCA	TCA3031	1	2
RCA	TCA3032	1	1
SIGN	TSE500	3	35
SIGN	TSE501	3	46
SIGN	TSE505	3	2
SIGN	TSE506	2	48
SIGN	TSE518	3	1
SPER	T203	3	3
SYL	TSA10	3	37
SYL	TSA11	3	36
SYL	TSA20	4	5
TI	TSN1312	3	27
TI	TSN521	3	16
TI	TSN522	3	17
TI	TSN523	3	4
TI	TSN5231L	3	11
TI	TSN524	3	18
TI	TSN525	3	14
TI	TSN526	3	15
TI	TSN52702	3	9
TI	TSN52709	3	10
TI	TSN52710	3	6
TI	TSN52711	3	31
TI	TSN5500	3	38
TI	TSN5510	3	13
TI	TSN723	3	7
TI	TSN7231L	3	12
TI	TSN72709	3	8
TI	TSN72710	3	5
TI	TSN72711	3	30
TI	TSN7500	1	31
TI	TSN7501	1	29
TI	TSN7502	1	30
TI	TSN7510	3	47
VARO	T8502	1	48

MFR	MFRS PART NUMBER	PAGE NO.	LINE NO.
WMED	TWC183	2	3
WMED	TWM1108	2	2
WMED	TWM1146	3	33
WMED	TWM169	3	41
WMED	TWS107	2	1
WMED	TWS112	3	48
WMED	TWS115	3	23
WMED	TWS123	3	20
WMED	TWS141	3	19
WMED	TWS142	3	22
WMED	TWS143	3	21
WMED	TWS144	3	24
WMED	TWS161	3	26
WMED	TWS167	4	16
WMED	TWS174	3	25
WMED	TWS934	4	15

INDEX OF LINEAR CIRCUIT PRINTOUT (continued)

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T C	OPER TEMP CENT		SUPPLY VOLTAGE VDC		SUPPLY POWER MILI-WATTS	IMPEDANCE IN-PUT KOHM	IMPEDANCE OUT-PUT OHMS	GAIN				COM. MODE REJ. DB	DIFF. OFF-SET MV		H.D. %	OUTPUT SWING P-P VOLTS	POWER MILI-WATTS	PACK-AGE TYPE	SCHE-MATIC NO.
				MIN	MAX	NO. 2	NO. 1				VOLT-AGE V/V	POW-ER DB	3 DB B.W. MHZ	N.F. DB		DB	MV					
AMP DIFF HIGH GAIN	RCA	CA3032	A	0	70	-6.0	12.0	90	20.0	200	P3100		7.0		80	* 10		*10.0		A	572	
AMP DIFF HIGH GAIN	RCA	CA3031	A	-55	125	-6.0	12.0	85	25.0	130	P3100		7.0		85	* 5		*10.0		A	572	
AMP OPERATIONAL	AMEL	2405B	A			-30.0	30.0			1000			100			3		50.0		B	576	
AMP OPERATIONAL	AMEL	806B	A	-55	125	-12.0	12.0			1000	150		94			3		20.0		B	576	
AMP OPERATIONAL	AMEL	800B	A	-40	125	-12.0	12.0			1000	400		86			5		20.0		B	506	
AMP OPERATIONAL	AMEL	2404B	A			-15.0	15.0			1000	500		100			3		22.0		B	576	
AMP OPERATIONAL	AMEL	805C	A	0	100	-15.0	15.0			1000	150		94			3		26.0		B	576	
AMP OPERATIONAL	AMEL	800D	A	-55	125	-12.0	12.0			500	400		86			10		18.0		K	506	
AMP OPERATIONAL	AMEL	801B	A	-40	125	-12.0	12.0			1000	400		86			5		20.0		K	506	
AMP OPERATIONAL	AMEL	807B	A	-55	125	-15.0	15.0			1000	150		94			1		26.0		B	576	
AMP OPERATIONAL	AMEL	806C	A	0	100	-12.0	12.0			1000	150		94			3		20.0		B	576	
AMP OPERATIONAL	AMEL	805B	A	-55	125	-15.0	15.0			1000	150		94			3		26.0		B	576	
AMP OPERATIONAL	AMEL	801D	A	-55	125	-12.0	12.0			500	400		86			10		18.0		B	506	
AMP OPERATIONAL	PHIL	PA7709	A	-55	125	-15.0	15.0	165	400	150	45000					1		28.0		A	552	
AMP,DIFF BROAD BAND	RAD	CA339	T	-55	125	-15.0	25.0	160	10	500	1000					70	7	18.0		F	563	
AMP,DIFF BROAD BAND	RAD	RA539	T	0	75	-15.0	25.0	160	10	500	1000					70	7	18.0		F	563	
AMP,DIFF BROAD BAND	RAD	RA239	T	-55	125	-15.0	25.0	160	25	150	2700		70	.2		70	2	21.0		F	563	
AMP,DIFF GEN PURPOSE	RAD	RA238	T	-55	125	-15.0	25.0	90	70	250	2700		70	E .6		70	2	21.0		F	563	
AMP,DIFF GEN PURPOSE	RAD	RA338	T	-55	125	-15.0	25.0	90	30	500	1000					70	7	18.0		F	563	
AMP,DIFF GEN PURPOSE	RAD	RA538	T	0	75	-15.0	25.0	90	30	500	1000					70	7	18.0		F	563	
AMP,DIFF HIGH GAIN	RAD	RA340	T	-55	125	-15.0	25.0	90	60	2000	10000					70	7	11.0		F	564	
AMP,DIFF HIGH GAIN	RAD	RA240	T	-55	125	-15.0	25.0	90	150	1000	30000		90	D .4		70	2	10.0		F	564	
AMP,DIFF HIGH GAIN	RAD	RA540	T	0	75	-15.0	25.0	90	60	2000	10000					70	7	11.0		F	564	
AMP,DIFF RF-IF	RCA	CA3028	A	-55	125		9.0			56			P32	D2.0	6.7					A	570	
AMP,DIFF WIDE BAND	RCA	CA3011	A	-55	125		7.5	120	3.0	B 31	P3100			20.0	8.7					11	566	
AMP,DIFF WIDE BAND	RCA	CA3012	A	-55	125		7.5	120	3.0	B 31	P3100			20.0	8.7			1.8		11	566	
AMP,DIFF WIDE BAND	RCA	CA3013	A	-55	125		7.5	120	3.0	B 31	P3100			20.0	8.7			1.8		11	568	
AMP,DIFF WIDE BAND	RCA	CA3014	A	-55	125		7.5	120	3.0	B 31	P3100			20.0	8.7			1.8		11	568	
AMP,SENSE-FLIP FLOP	TI	SN7501	A	0	70		-5.0			70										F,T	583	
AMP,SENSE-ONE SHOT	TI	SN7502	A	0	70		-5.0			5.0	70									F,T	582	
AMP,SENSE-ONE SHOT	TI	SN7500	A	0	70		-5.0			5.0	70									F,T	535	
AMPLIFIER DIFF	AMEL	831A	A	-55	125	-12.0	12.0			40	5000			66			3		12.0		K,38	507
AMPLIFIER DIFF	AMEL	831C	A	-25	85	-12.0	12.0			20	5500			64			20		10.0		K,38	507
AMPLIFIER DIFF	AMEL	831B	A	-55	125	-12.0	12.0			20	5500			66			8		12.0		K,38	507
AMPLIFIER DIFF	AMEL	831D	A	0	70	-12.0	12.0			20	6000			64			10		12.0		K	507
AMPLIFIER DIFF	PHIL	PA7711	A	-55	125	-6.0	12.0	130		200	1500									B	554	
AMPLIFIER DIFF	RCA	CA3015	A	-55	125	12.0	12.0	175	7.8	92	P3100			3.2			103	* 5	14.0		25	521
AMPLIFIER DIFF	RCA	CA3016	A	-55	125	12.0	12.0	175	7.8	92	P3100			3.2			103	* 5	14.0		81	521
AMPLIFIER DIFF	RCA	CA3029	A	0	70	-6.0	6.0	30	14.0	200	P1000			3.0			94	* 5	7.0		H	521
AMPLIFIER DIFF	RCA	CA3030	A	0	70	-12.0	12.0	175	7.8	92	P3100			3.2			103	* 5	14.0		H	521
AMPLIFIER EMIT COUP	PHIL	PA7602	A	-55	125		*12.0	200	25	50			76				90	5	6.0		69,8	585
AMPLIFIER RF/IF	AMEL	903C	A	0	70	-6.0	12.0							15					8.0		11	537
AMPLIFIER RF/IF	AMEL	903B	A	-55	125	-6.0	12.0							15					8.0		11	537
AMPLIFIER VIDEO	AMEL	901C	A	0	70	-12.0	12.0			550	500			24			260		14.0		A	538
AMPLIFIER VIDEO	AMEL	901B	A	-55	125	-12.0	12.0			550	500			24			260		14.0		A	538
AMPLIFIER, AUDIO	GESP	12X2071	M	-55	125	25.0	25.0		# 10	*700	* 850			E .4					16.8		15	501
AMPLIFIER, AUDIO	GESP	12X2072	M	-55	125	25.0	25.0		# 10	D*16	* 700			E .4					12.6		15	501
AMPLIFIER, AUDIO	VARO	8502	E	-55	85		20.0	100	# 10	1000	200			.2							72	502

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T C	OPER TEMP CENT		SUPPLY VOLTAGE VDC		SUPPLY POWER MILLI-WATTS	IMPEDANCE IN-KOHM	OUT-PUT OHMS	GAIN		3 DB B.W. MHZ	N.F. DB	COM. MODE REJ. DB	DIFF. OFF-SET MV	H.D. %	SWING P-P VOLTS	SIG. POWER MILLI-WATTS	PACK-AGE TYPE	SCHE-MATIC NO.	
				H	MIN	MAX	NO. 2				NO. 1	V/V										DB
AMPLIFIER, AUDIO	WMED	WS107	A	-55	125				250		2000		E .5				3.0		5000			
AMPLIFIER, AUDIO	WMED	WM1108	A	-55	125		12.0		B 10		20		.1				3.0	5.0	S		503	
AMPLIFIER, AUDIO	WMED	WC183	A	-55	75		1.5	135	40		400	C1.2					8.0	# 3	21,F		556	
AMPLIFIER, AUDIO PWR	RCA	CA3020	A	-55	150		6.0	84	40.0				58				1.0	300	25		565	
AMPLIFIER, AUDIO VF	GESP	4JPA114	F				6.0	75	.5	2000	B* 24		#1.0					45	N		504I	
AMPLIFIER, AUDIO VF	GESP	4JPA126	F				6.0	150	.5	1000	B* 24		#1.0					90	N		504	
AMPLIFIER, AUDIO VF	GESP	4JPA113	A	-55	125		9.0	180	E 5	B 20			31				T1.5	50	R		504H	
AMPLIFIER, AUDIO VF	MOTA	MC1524	A	-55	125	6.0	-6.0	18	8.6	E5.8	11.6	* 17	.8				3.0	1000	10		505	
AMPLIFIER, DIFF	FSC	A702	A	-55	125	12.0	-6.0	70	25	200	2600		1.1		80	5		10.6	A,S		515	
AMPLIFIER, DIFF	FSC	A702C	A	-25	100	12.0	-6.0	80	20	200	2300		1.1		80	15		10.6	A,S		515	
AMPLIFIER, DIFF	FSC	A702A	A	-55	125	12.0	-6.0	70	25	200	2600		.8		80	5		10.6	A,S		515	
AMPLIFIER, DIFF	FSC	A710C	A	0	70	12.0	-6.0	110		200	1200		20.0			8				A,S		563
AMPLIFIER, DIFF	FSC	A709	A	-55	125	15.0	15.0	80	400	150	45000		*.4		90	5		#20.0	A		552	
AMPLIFIER, DIFF	FSC	A710	A	-55	125	12.0	-6.0	110		200	1500		20.0			5			A,S		553	
AMPLIFIER, DIFF	FSC	A709C	A	0	70	15.0	15.0	80	250	150	45000		*.4		90	8		#20.0	A		552	
AMPLIFIER, DIFF	GESP	4JPA107	A	0	125	12.0	12.0	120	750	100	3500		E1.0		100	8		#20.0	R		560	
AMPLIFIER, DIFF	GESP	4JPA135	A	0	125	6.0	-6.0	30	1000	100	2000		E1.4		80	8		# 8.0	R		560	
AMPLIFIER, DIFF	GI	PC201	H	-55	125	12.0	12.0		200	200	B#P 2		E .2		100	5		8.0			509	
AMPLIFIER, DIFF	GI	PC212	K	-55	125	12.0	12.0	90	100	50	P1600		1.2		80	3		12.0			551	
AMPLIFIER, DIFF	GI	PC210	K	-55	125	18.0	18.0	200	90	50	P3200		1.5		80	3		14.0			551	
AMPLIFIER, DIFF	GI	PC251	K	-55	85	12.0	12.0		M 10		320		E .3		42	50					83	
AMPLIFIER, DIFF	GI	PC250	K	-55	85	12.0	12.0		M 10		320		E .3		42	50					83	
AMPLIFIER, DIFF	GI	PC200	H	-55	125	12.0	12.0	65	100	200	4500		E .2		80	5		*21.0			508	
AMPLIFIER, DIFF	MOTA	MC1519B	J	-55	125	12.0	12.0	*300	1.2	P48	180		8.0		86	6		10.0			510	
AMPLIFIER, DIFF	MOTA	MC1528	J	-55	125	12.0	12.0	*300	80	B*11	65		.9		# 80	7		# 7.0			512	
AMPLIFIER, DIFF	MOTA	MC1526	J	-55	125	12.0	12.0	*300	60	B*11	65		.5		# 80	7		# 7.0			512Z	
AMPLIFIER, DIFF	MOTA	MC1525	J	-55	125	12.0	12.0	*300	2	B*11	140		1.4		# 80	5		# 7.0			511Z	
AMPLIFIER, DIFF	MOTA	MC1519A	J	-55	125	12.0	12.0	*300	2.6	DP27	4500		1.0		89	6		14.0			510	
AMPLIFIER, DIFF	MOTA	MC1527	J	-55	125	12.0	12.0	*300	2	B*11	140		1.4		# 80	5		# 7.0			511	
AMPLIFIER, DIFF	MOTA	MC1530	A	-55	125	6.0	-6.0	110	20	25	5000		1.2		75	5		10.4			513P	
AMPLIFIER, DIFF	MOTA	MC1531	A	-55	125	6.0	-6.0	110	2000	25	3500		.4		75	10		10.4			513	
AMPLIFIER, DIFF	NORD	NM2012	F	-55	125		13.0	26			300		*1.0			5					550	
AMPLIFIER, DIFF	NORD	NM2007	F	-55	125		13.0	26			300		*1.0			20					550	
AMPLIFIER, DIFF	NORD	NM2002	F	-55	125		13.0	26			300		*1.0			10					550	
AMPLIFIER, DIFF	NORD	NM1005	F	-55	125	12.0	-6.0	162	3.2		18				70	4		16.0			549	
AMPLIFIER, DIFF	PHIL	PA710	A	-55	125	12.0	-6.0	110		200	1500					5				A,69	553	
AMPLIFIER, DIFF	PHIL	PA702	A	0	70	12.0	-6.0	80	20	200	2300		1.2		80	7		10.6		A,69	516	
AMPLIFIER, DIFF	PHIL	PA712	A	-55	125	6.0	-3.0	17	40	300	700		.8		80	5		5.4		A,69	515	
AMPLIFIER, DIFF	RCA	CA3001	A	-55	125	6.0	-6.0	80	50	70	P 80		16.0	5	70	T1.5		5.0		25	517	
AMPLIFIER, DIFF	RCA	CA3000	A	-55	125	6.0	-6.0	30	P195	BP 8	P 40		.6		98	8		6.4		11	516	
AMPLIFIER, DIFF	RCA	CA3002	A	-55	125	6.0	-6.0	55	100	70	P 160		11.0	4		T1.2		5.5		11	518	
AMPLIFIER, DIFF	RCA	CA3007	A	-55	125	6.0	-6.0	30	4	60			22		77	5		E2.8		25	520	
AMPLIFIER, DIFF	RCA	CA3006	A	-55	125	6.0	-6.0	26					# 14 D1.0	* 9	101	1				25	519R	
AMPLIFIER, DIFF	RCA	CA3005	A	-55	125	6.0	-6.0	26					# 14 D1.0	* 9	101	5				25	519R	
AMPLIFIER, DIFF	RCA	CA3004	A	-55	125	6.0	-6.0	26					# 10 D1.0		98	5				25	519	
AMPLIFIER, DIFF	RCA	CA3008	A	-55	125	6.0	-6.0	30	14	200	1000		.3		94	5		6.7		25	521	
AMPLIFIER, DIFF	RCA	CA3010	A	-55	125	6.0	-6.0	30	14	200	1000		.3		94	5		6.7		82	521	
AMPLIFIER, DIFF	SIGN	SE506	A			15.0	15.0	160	200		17000		.3		100	5		22.0	0	S,B	562	

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T E C H	OPER TEMP CENT		SUPPLY VOLTAGE VDC		SUPPLY POWER MILI-WATTS	IMPEDANCE IN-PUT OHMS		VOLTAGE V/V	GAIN POW-ER DB	3 DB B.W. MHZ	N.F. DB	COM. MODE REJ. DB	DIFF OFF-SET MV	H.D. %	OUTPUT SWING P-P VOLTS	SIG. POWER MILI-WATTS	PACK-AGE TYPE	SCHE-MATIC NO.
				MIN	MAX	NO. 2	NO. 1		IN-PUT	OUT-PUT											
AMPLIFIER, DIFF	SIGN	SE518	A			4.0	-2.0	70	2		500		8.0			5			S, B	561	
AMPLIFIER, DIFF	SIGN	SE505	A	-55	125	4.0	-3.0	25	4		1800		1.0	100	4		4.3	S, B	522		
AMPLIFIER, DIFF	SPER	203	B	-55	125		18.0	*150	150	100	150		.8	80	7		6.5	A, S	523		
AMPLIFIER, DIFF	TI	SN523	F	-55	125	12.0	12.0	90	10		4500		.1	90	12		26.0	F	526		
AMPLIFIER, DIFF	TI	SN72710	A	0	70	-6.0	12.0	110		200	1200				* 10			A, T	583		
AMPLIFIER, DIFF	TI	SN52710	B	-55	125	-6.0	12.0	110		200	1500				* 6			A, T	553		
AMPLIFIER, DIFF	TI	SN723	A	0	70	-12.0	12.0	100	10	250	3000		1.5	80	* 15		* 2.0	F	580		
AMPLIFIER, DIFF	TI	SN72709	A	0	70	-12.0	*12.0	200	250	150	45000			90	* 10		28.0	A, T	552		
AMPLIFIER, DIFF	TI	SN52702	B	-55	125	-6.0	12.0	70	25	200	2600			80	* 6		11.0	A, T	515		
AMPLIFIER, DIFF	TI	SN52709	B	-55	125	-12.0	*12.0	165	400	150	45000			90	* 6		28.0	A, T	552		
AMPLIFIER, DIFF	TI	SN5231L	B	-55	125	-15.0	15.0	100	15	200	4000		1.8	90	12		24.0	B	584		
AMPLIFIER, DIFF	TI	SN7231L	A	0	70	-15.0	15.0	100	10	250	3000		1.5	80	15		20.0	B	584		
AMPLIFIER, DIFF	TI	SN5510	F	-55	125	6.0	-6.0	165	3.5	50	200		40.0	60	3		4.0	T	528		
AMPLIFIER, DIFF	TI	SN525	F	-55	125	12.0	12.0	100	80	B 10	50000		.1	100	T 1		34.0	F			
AMPLIFIER, DIFF	TI	SN526	F	-55	125	12.0	12.0	100	2000	B 12	2400		.1	80	T 3		34.0	F			
AMPLIFIER, DIFF	TI	SN521	F	-20	85	A 6.0	-9.0	28	12	B 10	1250		E .5	60	DS20		# .5	T	524		
AMPLIFIER, DIFF	TI	SN522	F	-20	85	A 6.0	-9.0	72	12	160	1250		E .5	60	DS20		# .5	T	525		
AMPLIFIER, DIFF	TI	SN524	F	-55	125	12.0	12.0	120	2000		1250		62	.1	T 12		15.0	T	527		
AMPLIFIER, DIFF	WMED	WS141	A	-55	125	6.0	12.0	* 65	# 50		# 150		E# .5	80	10		#17.5	F	531N		
AMPLIFIER, DIFF	WMED	WS123	A	-55	125	12.0	-6.0	67	#150	*500	# 250		# .1	90	2		14.0	F	530		
AMPLIFIER, DIFF	WMED	WS143	A	-55	125	D 6.0	12.0	* 72	# 10		#1000		E# .5	80	10		#17.5	F	531		
AMPLIFIER, DIFF	WMED	WS142	A	-55	125	6.0	12.0	*232	# 20		# 150		# .1	80	15		17.5	F	531N		
AMPLIFIER, DIFF	WMED	WS115	A	-55	125	12.0	-6.0	26	#300	8000	# 50		.2	80	7		13.0	F	529		
AMPLIFIER, DIFF	WMED	WS144	A	-55	125	D 6.0	12.0	*267	* 2		#1500		# .1	80	1	5.0	#17.5	F	531		
AMPLIFIER, DIFF	WMED	WS174	A	-55	125	12.0	12.0	375	#100		50000		.5	# 60			*22.0	S	555		
AMPLIFIER, DIFF	WMED	WS161	A	-55	125	12.0	12.0		300		2000		.5	83	10		#14.0	S	532		
AMPLIFIER, DIFF	TSS	TI	SNX1312	B	-25	100	-12.0	*12.0	250	100	45K	800		.5	80	* 5	2.0	19	S	579	
AMPLIFIER, DUAL DIFF	FSC	A711	A	-55	125	12.0	-6.0	65		200	1500		20.0			5		B	554		
AMPLIFIER, DUAL DIFF	FSC	A711C	A	0	70	12.0	-6.0	65		200	1500		20.0			8		B	554		
AMPLIFIER, DUAL DIFF	TI	SN72711	A	0	70	-6.0	12.0	230		200	1500				* 6			B	554		
AMPLIFIER, DUAL DIFF	TI	SN52711	B	-55	125	-6.0	*12.0	200		200	1500				* 6			B	554		
AMPLIFIER, RF-IF	PHIL	PA713	A	-55	125		6.0	21					11	D2.0	10			B, 69	534		
AMPLIFIER, RF-IF	WMED	WM1146	A	-55	125		12.0	48	A 82	1900			23	40.0	4		4.0	S	557		
AMPLIFIER, RF-IF	PHIL	PA7601	A	-55	100	6.0	-6.0	180	A250	315			18	D1.0				1	B	559	
AMPLIFIER, SENSE	SIGN	SE500	A	-55	100		13.0				30		3.0			T2		S, B	533		
AMPLIFIER, SENSE	SYL	SA11	A	-55	125	B-12	25.0	125										G	571		
AMPLIFIER, SENSE	SYL	SA10	A	-55	125	B-12	25.0	125							2V			G	571		
AMPLIFIER, SENSE	TI	SN5500	F	-55	125	4.5	-4.5	*200	* .3						4			T	535		
AMPLIFIER, SERVO	NORD	NM1003	R	-55	100		30.0	6000	10	500	500							8000	89	548	
AMPLIFIER, SERVO	NORD	NM1008	R	-55	100		30.0	6000	10	300	200							8000	89	548	
AMPLIFIER, SERVO	WMED	WM169					28.0		# 10										09		
AMPLIFIER, UNITY GAIN	GESP	I2X218	M	-25	125		25.0		#A10	D#15	E#9.9		.5						92		
AMPLIFIER, VIDEO	GESP	4JPA112	H				15.0	400	A 20	500	500	20					1.0	R		539	
AMPLIFIER, VIDEO	GI	NCPC101	H	-55	125		6.0		E 12	500	100		20.0				4.5	O, 90		540	
AMPLIFIER, VIDEO	PHIL	PA713	A	-55	125		6.0	21			7		55.0					B, 69		534	
AMPLIFIER, VIDEO	SIGN	SE501	A	-55	125		6.0	20	E 13	7.5	20		12.0	4			3.0	S, B		541	
AMPLIFIER, VIDEO	TI	SN7510	A	0	70	-6.0	6.0	165	6	35	* 240		40.0		85		5.0	A		581	
AMPLIFIER, VIDEO	WMED	WS112	A	-55	125		12.0	60			160		70.0					21, S		542	

CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T C	OPER TEMP		SUPPLY VOLTAGE		SUPPLY POWER MILI-WATTS	IMPEDANCE		GAIN			COM. MODE REJ. DB	DIFF. SET HV	H.D. %	OUTPUT SWING P-P VOLTS	SIG. POWER MILI-WATTS	PACK-AGE TYPE	SCHE-MATIC NO.
				MIN	MAX	NO. 2	NO. 1		IN-PUT KOHM	OUT-PUT OHMS	VOLT-AGE V/V	POW-ER DB	3 DB B.W. MHZ							
AMPLIFIER, VIDEO VF	PHIL	PA7600	A	-55	125		6.0	84										E 25	B	558
AMPLIFIER, WIDE BAND	RCA	CA3022	A	-55	125		6.0	13	1.3	120	P 700		5.0	4.4					25	567
AMPLIFIER, WIDE BAND	RCA	CA3023	A	-55	125		6.0	35	.3	100	P 450		10.0	6.5					25	567
AMPLIFIER, WIDE BAND	RCA	CA3021	A	-55	125		6.0	4	4.0	300	P 630		4.0	4.2					25	567
AMPLIFIER, WIDE BAND	SYL	SA20	A	-55	125		24.0		1.6	2.0	21		80.0	15.0			14.0		J	569
AMPLIFIER, 400 CPS	GELM	7739750	M	-55	85	25.0	25.0	150	20	10		24					30.0		86	543
ANALOG SWITCH	AMEL	2107B	A			-12.0	12.0								6		12.0		B	578
ANALOG SWITCH	AMEL	2114B	A			-15.0	15.0								9		18.0		30	
ANALOG SWITCH	AMEL	2110B	A			-18.0	18.0								10		20.0		B	578
ANALOG SWITCH	AMEL	2109B	A			-12.0	12.0								9		17.0		B	578
ANALOG SWITCH	AMEL	2108B	A			-18.0	18.0								7		13.0		B	578
FILTER, 30 MCS	GELM	7736078	P	-20	85				.1	100		-3	9.0						86	547
OSCILLATOR, 120 MCPS	GELM	7736134	M	-55	85		12.0	66											86	545
OSCILLATOR, 16 MCPS	GELM	473104	M	-55	75		12.0	228		300							2.0		87	546
PREAMPLIFIER, READ	WMED	WS934	A	0	60	9.0	-9.0	41	20	100	* 32		1.0						F	544
PREAMPLIFIER, SERVO	WMED	WS167							E2.5	D 39	300		.2							

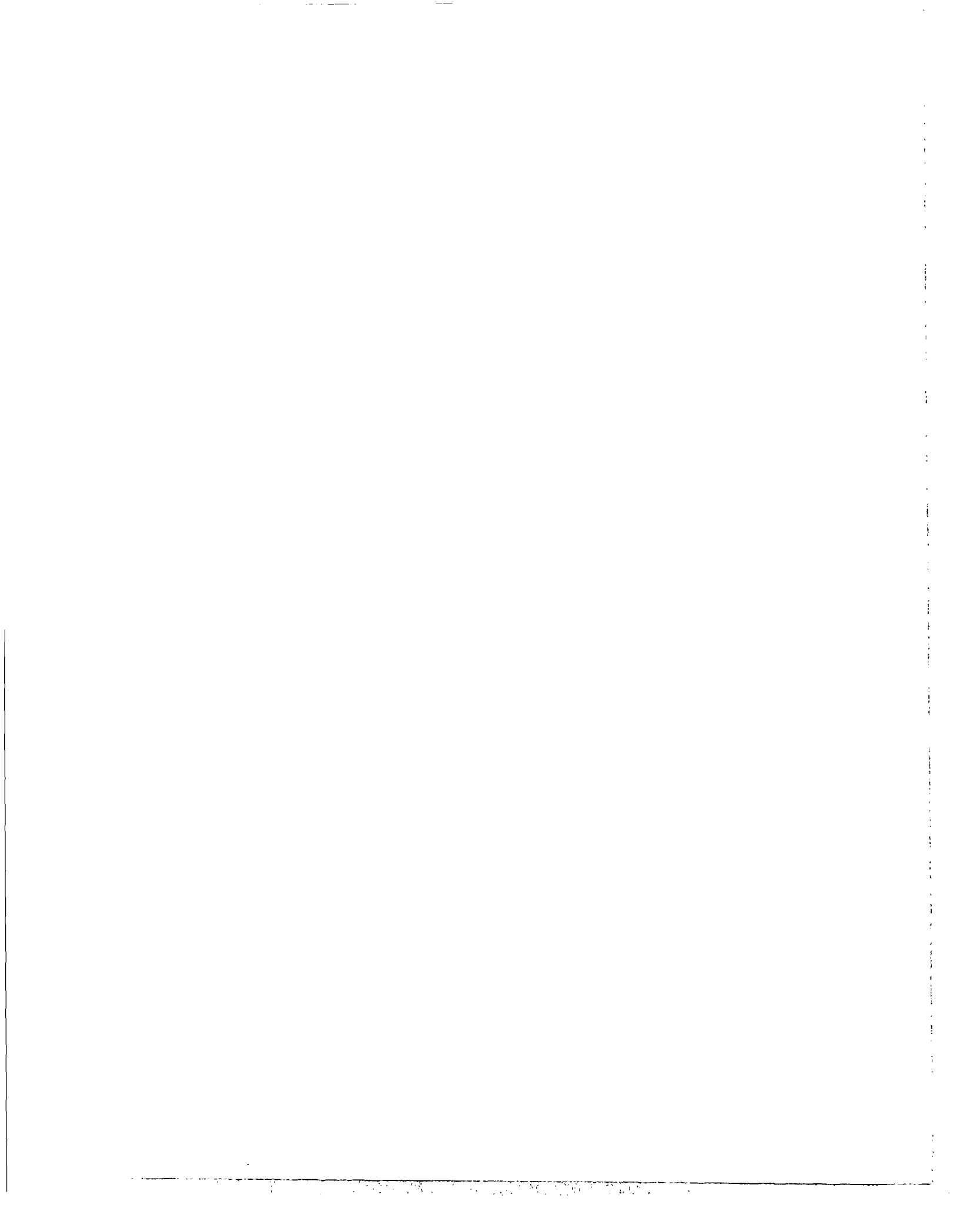
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AMEL	112C	3	41
AMEL	114A	3	43
AMEL	114B	3	42
AMEL	114C	3	37
AMEL	117A	3	21
AMEL	117B	3	19
AMEL	117C	3	20
AMEL	141A	2	45
AMEL	141B	2	46
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AMEL	5551	3	46
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GI	MEM1000	1	6
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GI	MEM3021	4	3
GI	MEM507	4	1
GI	MEM508	3	48
GI	MEM509	4	4
ITT	MIC933	1	37
MOTA	MC1116	2	10
MOTA	MC1117	2	11
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NSC	NB1005	3	24
NSC	NB2005	3	25
NSC	NC1008	2	48
NSC	NC2008	3	6
PHIL	PL4C01	1	18
PHIL	PL4R01	4	5
PHIL	PL4R02	4	6
PHIL	PL5R00	3	13
PHIL	PL5R16	3	14
PHIL	PL5R32	3	11
PHIL	PL5R40	3	12
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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T TYPE	OPER	SUPPLY		PWR DIS	INPUT		NOISE	OPER- NANO- SPEED	OUTPUT		PACK- AGE TYPE	SCHE- MATIC NO.			
					TEMP	VOLTAGE		THRESHOLD	IMMU- NITY			LEVEL	ONE					
			LOG- IC	CENT	GRDE	NO. 2	NO. 1	FAN- OUT	ZERO	ONE	SECS	MHZ	ZERO	ONE				
ADDER 4 BIT FULL	TI	SN7483N	A TTL	0	70		5.0	390	10	.80	2.00	.40		.40	2.40	67	316	
ADDER,DEP CARRY	SYL	SM21	A TTL	-55	125		5.0	125				1.00		.25	3.30	H,G		
ADDER,DEP CARRY	SYL	SM22	A TTL	0	75		5.0	125				1.00		.25	3.30	H,G		
ADDER,DEP CARRY	SYL	SM23	A TTL	0	75		5.0	125				1.00		.25	3.30	H,G		
ADDER,DEP.CARRY	SYL	SM20	A TTL	-55	125		5.0	125				1.00		.25	3.30	H,G		
ADDER,DUAL	GI	MEM1000	K	-55	125	-12.0	-26.0	40		9.00	4.00	1.00		10.0	.10	82		
ADDER,FULL	SYL	SM12	A TTL	0	75		5.0	90				1.00		.25	3.30	H,G		
ADDER,FULL	SYL	SM13	A TTL	0	75		5.0	90				1.00		.25	3.30	H,G		
ADDER,FULL	SYL	SM11	A TTL	-55	125		5.0	90				1.00		.25	3.30	H,G		
ADDER,FULL	SYL	SM10	A TTL	-55	125		5.0	90				1.00		.25	3.30	H,G		
ADDER,FULL	TI	SN7480	A TTL	0	70		5.0		10	.80	2.00	.40		.40	2.40	F	312	
ADDER,FULL	TI	SN5480	B TTL	-55	125		5.0		10	.80	2.00	.40		.40	2.40	F	312	
ADDER,INDEP CARRY	SYL	SM32	A TTL	0	75		5.0	125				1.00		.25	3.30	H,G		
ADDER,INDEP CARRY	SYL	SM30	A TTL	-55	125		5.0	125				1.00		.25	3.30	H,G		
ADDER,INDEP CARRY	SYL	SM31	A TTL	-55	125		5.0	125				1.00		.25	3.30	H,G		
ADDER,INDEP CARRY	SYL	SM33	A TTL	0	75		5.0	125				1.00		.25	3.30	H,G		
COUNTER,DECADE	TI	SN7490N	A TTL	0	70		5.0	128	10	.80	2.80	.40		.40	2.40	H	313	
COUNTER,DECADE	PHIL	PL4C01	K MOS	-55	125	-12.0	-24.0	75		3.00	9.00	1.00	800	.10	2.00	10.00	88	119
COUNTER,DIVIDE BY 12	TI	SN7492N	A TTL	0	70		5.0	128	10	.80	2.00	.40	60	18	.40	2.40	H	313
COUNTER,4 BIT	TI	SN7493N	A TTL	0	70		5.0	128	10	.80	2.00	.40	75	18	.40	2.40	H	313
DECADE DIVIDER	SYL	SM50	A TTL	-55	125		5.0	120	15			1.00	24	30	.25	3.30	H,G	
DECADE DIVIDER	SYL	SM53	A TTL	0	75		5.0	120	6			1.00	24	30	.25	3.30	H,G	
DECADE DIVIDER	SYL	SM51	A TTL	-55	125		5.0	120	6			1.00	24	30	.25	3.30	H,G	
DECADE DIVIDER	SYL	SM52	A TTL	0	75		5.0	120	15			1.00	24	30	.25	3.30	H,G	
DECODER,CARRY	SYL	SM43	A TTL	0	75		5.0	25				1.00		.25	3.30	H,G		
DECODER,CARRY	SYL	SM42	A TTL	0	75		5.0	25				1.00		.25	3.30	H,G		
DECODER,CARRY	SYL	SM41	A TTL	-55	125		5.0	25				1.00		.25	3.30	H,G		
DECODER,CARRY	SYL	SM40	A TTL	-55	125		5.0	25				1.00		.25	3.30	H,G		
DIODE ARRAY	RCA	CA3019	A	-55	125		6.0	120									11	333
DIODE ARRAY,DUAL 3 INP	SILX	S1933	A DTL	-55	125		* 8.0	K30				L 3					38	113
DIODE ARRAY,DUAL 3 INP	PHIL	25400	A DTL	-55	125		* 8.0					L 4					A,U	113F
DIODE ARRAY,DUAL 3 INP	FSC	CS709	A	-55	125		* 8.0	K30				L 3					S,B	113F
DIODE ARRAY,DUAL 3 INP	MOTA	MC217	A DTL	-55	125		* 8.0	K30				*L 4					13,S	113F
DIODE ARRAY,DUAL 3 INP	SIGN	CS709	A DTL	-55	125		* 8.0	K30				*L 4					S,B	113F
DIODE ARRAY,DUAL 3 INP	MOTA	MC267	F DTL	0	75		* 8.0	K30				L 4					13,50	
DIODE ARRAY,DUAL 4 INP	PHIL	PL9933	A DTL	-55	125		* 8.0	K10				L 4					41	113F
DIODE ARRAY,DUAL 4 INP	ITT	MIC933	A DTL	-55	125		8.0					L 3					C,E	113
DIODE ARRAY,DUAL 4 INP	PHIL	PL933	A DTL	-55	125		* 8.0	K10				*L 4					41	
DIODE ARRAY,DUAL 4 INP	FSC	DTL933	A DTL	-55	125		* 8.0	K10				*L 4					44	
DIODE ARRAY,DUAL 4 INP	FSC	FL93329	A DTL	0	70		* 8.0	K10				*L 4					44	
DIODE ARRAY,DUAL 4 INP	MOTA	MC833F	A DTL	0	75		* 8.0	K10									C	113F
DIODE ARRAY,DUAL 4 INP	MOTA	MC933F	A DTL	-55	125		* 8.0	K10									C	113F
DIODE ARRAY,DUAL 4 INP	SH	SN933	A DTL	-55	125		* 5.0	K50				L 3					27,C	113F
DIODE ARRAY,DUAL 5 INP	SIGN	SE106	A DTL	-55	125		* 8.0	K30				*L 4					X	113F
DIODE ARRAY,DUAL3-4 INP	RAY	RM217	A DTL	-55	125		* 15.0	K30				*L 4					FS,21	113F
DIODE ARRAY,DUAL3-4 INP	WMED	WM217	A DTL	-55	125		* 15.0	K30				*L 4					21,F	113F
DIODE ARRAY,DUAL3-4 INP	WMED	WC217	A DTL	0	75		6.0	8	6	1.00	1.80		30	.45			21,F	113F
DIODE ARRAY,DUAL3-4 INP	MOTA	MC833G	A DTL	0	75		* 8.0	K10									B	113F

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T C	TYPE OF LOG-IC	OPER TEMP CENTGRDE		SUPPLY VOLTAGE VDC		PMR DIS MW	FAN-OUT	INPUT THRESHOLD VOLTS		NOISE IMMUNITY VOLTS	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
DIODE ARRAY,DUAL3-4 INP	MOTA	NC933G	A	DTL	-55	125		* 8.0	K10									B	113F
DIODE ARRAY,QUAD 2 INP	SIGN	CS731	A	DTL	-55	125		* 8.0	K30				*L 4					X	113F
DIODE ARRAY,TRIPLE3-3-4	WMED	WM227	A	DTL	-55	125		* 15.0	K30				*L 4					F	113F
DIODE ARRAY,TRIPLE3-3-4	RAY	RM227	A	DTL	-55	125		* 15.0	K30				*L 4					F	113F
DIODE ARRAY,TRIPLE3-3-4	WMED	WC227	A	DTL	0	75		6.0	B	6	1.00	1.00			.45			F	113F
DIODE ARRAY,12 INPUT	SIGN	CS732	A	DTL	-55	125		* 8.0	K30				*L 4					X	113F
DIODE ARRAY,6 INPUT	SILX	A04	A	DTL	-55	125		* 6.0	K2				*L 4					20,F	113F
DIODE ARRAY,8 INPUT	FSC	FSA2003	A		-65	175		* 40	*D4				*L 25					S	113F
DIODE ARRAY,8 INPUT	FSC	FSA2002	A		-65	175		* 40	*D4				*L 25					S	113F
DIODE ARRAY,9 INPUT	MOTA	MC1116	F	DTL	-55	125		* 40.0	KD3				L 90					13	113F
DIODE ARRAY,9 INPUT	MOTA	MC1117	F	DTL	-55	125		* 40.0	KD3				L 90					13	
DIODE MATRIX 10X10	RAD	RM65	S		-55	125		* 60.0	450				L 10					96	269
DIODE MATRIX 10X5	RAD	RM68	S		-55	125		* 60.0	450				L 10					96	269
DIODE MATRIX 5X10	RAD	RM71	S		-55	125		* 60.0	450				L 10					96	269
DIODE MATRIX 5X5	RAD	RM77	S		-55	125		* 50.0	450				L 20					F	269
DIODE MATRIX 5X5	RAD	RM74	S		-55	125		* 60.0	450				L 10					F	269
DIODE MATRIX 5X8	RAD	RM10	S		-55	125		* 60.0	450				L 7					F	269
DIODE MATRIX 5X8	RAD	RM12	S		-55	125		* 60.0	450				L 11					F	269
DIODE MATRIX 5X8	RAD	RM13	S		-55	125		* 50.0	450				L 20					F	269
DIODE MATRIX 6X8	RAD	RM31	S		-55	125		* 60.0	450				L 11					F	269
DIODE MATRIX 6X8	RAD	RM30	S		-55	125		* 60.0	450				L 7					F	269
DIODE MATRIX 6X8	RAD	RM34	S		-55	125		* 50.0	450				L 20					F	269
DIODE MATRIX 8X5	RAD	RM14	S		-55	125		* 50.0	450				L 20					F	269
DIODE MATRIX 8X5	RAD	RM19	S		-55	125		* 60.0	450				L 7					F	269
DIODE MATRIX 8X5	RAD	RM17	S		-55	125		* 60.0	450				L 7					F	269
DIODE MATRIX,10X10	RAD	RM65	C		-55	125		* 60.0	KD1				L 10					96	
DIODE MATRIX,10X15	RAD	RM59	C		-55	125		* 60.0	KD1				L 10					96	
DIODE MATRIX,10X5	RAD	RM68	C		-55	125		* 60.0	KD1				L 10					96	
DIODE MATRIX,15X10	RAD	RM53	C		-55	125		* 60.0	KD1				L 10					96	
DIODE MATRIX,15X15	RAD	RM50	C		-55	125		* 60.0	KD1				L 10					96	
DIODE MATRIX,15X5	RAD	RM56	C		-55	125		* 60.0	KD1				L 10					96	
DIODE MATRIX,2X4	FSC	FSA2001	A		-65	175		* 40	*D4				*L 25					S	121
DIODE MATRIX,2X4	FSC	FSA1400	A		-65	175		* 50	*D4				*L 4					B,S	121
DIODE MATRIX,2X8	FSC	FSA2000	A		-65	175		* 40	*D4				*L 25					S	121
DIODE MATRIX,2X8	MOTA	MC1118	F		-55	125		* 40.0	KD3				L 90					13	121
DIODE MATRIX,5X10	RAD	RM71	C		-55	125		* 60.0	KD1				L 10					96	
DIODE MATRIX,5X15	RAD	RM62	C		-55	125		* 60.0	KD1				L 10					96	
DIODE MATRIX,5X5	RAD	RM74	C	DTL	-55	125		* 60.0	KD1				L 10					42	
DIODE MATRIX,5X8	RAD	RM12	C		-55	125		* 60.0	KD1				L 11					38	
DIODE MATRIX,5X8	RAD	RM10	C		-55	125		* 60.0	KD1				L 7					38	
DIODE MATRIX,6X8	RAD	RM31	C		-55	125		* 60.0	KD1				L 11					38	
DIODE MATRIX,6X8	RAD	RM30	C		-55	125		* 60.0	KD1				L 11					38	
DIODE MATRIX,6X8	RAD	RM30	C		-55	125		* 60.0	KD1				L 7					38	
HALF ADDER	PHIL	PL9605	A	RTL	-55	125		3.0		3	.49	.82	.06	18		.35	.88	69	279
HALF ADDER	PHIL	134A	A	RTL	-55	125		3.0	10	4				105		.50	.83	A,U	144
HALF ADDER	AMEL	141A	F	RTL	-55	125		3.0	42	10			.30			.25	.81	B,C	
HALF ADDER	AMEL	141B	F	RTL	-55	125		3.0	42	6			.26			.25	.81	B,C	
HALF ADDER	PHIL	134A	A	RTL	-55	125		3.0	10	4				105		.50	.83	3,70	
HALF ADDER	NSC	NC1008	A	RTL	-55	125		3.0	10	4,3	.69	.77		75		.15			

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CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T TYPE	OPER		SUPPLY		PWR DIS	INPUT		NOISE	DELAY NANO-SECS	OPER-ATING SPEED MHZ	OUTPUT LEVEL		PACK-AGE TYPE	SCHE-MATIC NO.		
				E OF C LOG	TEMP CENTGRDE	VOLTAGE VDC	NO. 2		NO. 1	THRESHOLD VOLTS				IMMU-NITY VOLTS	ZERO			ONE	ZERO
HALF ADDER	MOTA	MC908	A	RTL	-55	125	3.0	10	4,3	.45	.80		90		.30		A	144	
HALF ADDER	PHIL	PL908	A	RTL	-55	125	3.0	10	4,3	.50	.85	.05	75		.10	.90	A,69	144	
HALF ADDER	FSC	MWL908	A	RTL	-55	125	3.0	10	4,3	.50	.85	.05	75		.10	.90	A	144	
HALF ADDER	AMEL	141C	F	RTL	0	70	3.0	42	5			.25			.25	.81	B		
HALF ADDER	PHIL	PL975	A	RTL	-55	125	4.0	10	5,4	.45	.82		30		.40		01		
HALF ADDER	NSC	NC2008	A	RTL	0	100	3.0	10	4,3	.69	.77		75		.15				
HALF ADDER	TI	SN729	A	RTL	-55	125	3.0	10	4				105				A,74		
HALF ADDER	SPRG	US-0708	F	RTL	-55	125	3.0	10					* 120				T,U	144	
HALF ADDER	PHIL	PL9605	A	RTL	-55	125	3.0		4,3	.49	.82	.06	18		.35	.88			
SCRATCH PAD MEMORY 16	SYL	SM80			0	75	5.0	250									H,G		
SHIFT REG DUAL 16-BIT	PHIL	PL5R32	K	MOS	-55	125	-12.0	-24.0	24		3.00	8.00	1.00	300	* 1	2.00	10.00	B	
SHIFT REG DUAL 20-BIT	PHIL	PL5R40	K	MOS	-55	125	-12.0	-24.0	29		3.00	8.00	1.00	300	* 1	2.00	10.00	B	
SHIFT REG DUAL 50-BIT	PHIL	PL5R00	K	MOS	-55	125	-12.0	-24.0	200		8.00	3.00	1.00	300	* 1	9.00	3.00	B	252
SHIFT REG DUAL 8-BIT	PHIL	PL5R16	K	MOS	-55	125	-12.0	-24.0	12		3.00	8.00	1.00	300	* 1	2.00	10.00	B	
SHIFT REG 16-BIT	PHIL	PL5216	K	MOS	-55	125	-12.0	-24.0	24		4.00	8.00	1.00		* 1	3.00	9.00	B,77	334
SHIFT REG 20-BIT	PHIL	PL5220	K	MOS	-55	125	-12.0	-24.0	29		4.00	8.00	1.00		* 1	3.00	9.00	B,77	334
SHIFT REG 32-BIT	PHIL	PL5232	K	MOS	-55	125	-12.0	-24.0	48		4.00	8.00	1.00		* 1	3.00	9.00	B,77	334
SHIFT REG 8-BIT	PHIL	PL5208	K	MOS	-55	125	-12.0	-24.0	12		4.00	8.00	1.00		* 1	3.00	9.00	B,77	334
SHIFT REGISTER ELEMENT	AMEL	117B	F	RTL	-55	125		3.0	50	2		.26			.25	.81	B,C		
SHIFT REGISTER ELEMENT	AMEL	117C	F	RTL	0	70		3.0	50	2		.25			.25	.81	B		
SHIFT REGISTER ELEMENT	AMEL	117A	F	RTL	-55	125		3.0	50	5		.30			.25	.81	B,C		
SHIFT REGISTER ELEMENT	PHIL	PL905	A	RTL	-55	125		3.0	53	5,4	.56	.82		* 40	.30		A,69	249	
SHIFT REGISTER ELEMENT	PHIL	PL906	A	RTL	-55	125		3.0	36	4	.56	.82		* 40	.30		A,69	249G	
SHIFT REGISTER ELEMENT	NSC	NB1005	A	RTL	-55	125		3.0	53	13	.69	.77		20	.15	2		249	
SHIFT REGISTER ELEMENT	NSC	NB2005	A	RTL	0	100		3.0	53	13	.69	.77		20	.15	2		249	
SHIFT REGISTER ELEMENT	FSC	L905	A	RTL	-55	125		3.0	53	5,4	.56	.82		* 22	.30		A,D	249	
SHIFT REGISTER ELEMENT	FSC	L906	A	RTL	-55	125		3.0	36	4	.56	.82		22	.30		A,D	249G	
SHIFT REGISTER ELEMENT	FSC	FL90529	A	RTL	15	55		3.6	80	13				20			A	249	
SHIFT REGISTER ELEMENT	FSC	L906C	A	RTL	0	100		3.0	36	4	.55	.84		22	.40		A,D	249G	
SHIFT REGISTER ELEMENT	FSC	L905C	A	RTL	0	100		3.0	53	5,4	.55	.84		* 22	.40		A,D	249	
SHIFT REGISTER ELEMENT	MOTA	MC805	F	RTL	0	100		3.0	53	5,4	.55	.84		* 40	.40	.84	A	249	
SHIFT REGISTER ELEMENT	MOTA	MC906	F	RTL	-55	125		3.0	36	4	.56	.82	.02	* 40	.30	.84	A	249G	
SHIFT REGISTER ELEMENT	MOTA	MC905	F	RTL	-55	125		3.0	53	5,4	.56	.82	.02	* 40	.30	.84	A	249	
SHIFT REGISTER ELEMENT	MOTA	MC806	F	RTL	0	100		3.0	36	4	.55	.84		* 40	.40	.84	A	249G	
SHIFT REGISTER J-K	AMEL	112A	F	RTL	-55	125		3.0	84	3		.30			.25	.81	B,C		
SHIFT REGISTER J-K	AMEL	111C	F	RTL	0	70		3.0	84	3		.25			.25	.81	B		
SHIFT REGISTER J-K	AMEL	114C	F	RTL	0	70		3.0	60	3		.25			.25	.81	B		
SHIFT REGISTER J-K	AMEL	111B	F	RTL	-55	125		3.0	84	3		.26			.25	.81	B,C		
SHIFT REGISTER J-K	AMEL	111A	F	RTL	-55	125		3.0	84	3		.30			.25	.81	B,E		
SHIFT REGISTER J-K	AMEL	112B	F	RTL	-55	125		3.0	84	3		.26			.25	.81	B,C		
SHIFT REGISTER J-K	AMEL	112C	F	RTL	0	70		3.0	84	3		.25			.25	.81	B		
SHIFT REGISTER J-K	AMEL	114B	F	RTL	-55	125		3.0	60	3		.26			.25	.81	B,C		
SHIFT REGISTER J-K	AMEL	114A	F	RTL	-55	125		3.0	60	3		.30			.25	.81	B,C		
SHIFT REGISTER 100 BIT	PHIL	PL5100	K	MOS	-55	125	-20.0	-27.0	250		8.00	4.00	1.00		* 1	9.00	3.00	17	252
SHIFT REGISTER 16 BIT	AMEL	5552	A	TTL	-55	125		5.5	160	6		.80		70	.30	2.50	30		
SHIFT REGISTER 20 BIT	AMEL	5551	A	TTL	-55	125		5.5	190	6		.80		70	.30	2.50	30		
SHIFT REGISTER 8 BIT	TI	SN7491N	A	TTL	0	70		5.0	175	10		.80	2.00	.40	25	.40	2.40	H	314
SHIFT REGISTER, 10-BIT	GI	MEM508	K				-12.0	-28.0			8.00	3.00	2.00		.50	10.0	.20		

CIRCUIT DESCRIPTION	MFR	MFRS PART NUMBER	T E C H	TYPE OF LOG- IC	OPER TEMP		SUPPLY VOLTAGE		PWR DIS MW	FAN- OUT	INPUT THRESHOLD VOLTS		NOISE IMMU- NITY VOLTS	DELAY NANO- SECS	OPER- ATING SPEED MHZ	OUTPUT LEVEL		PACK- AGE TYPE	SCHE- MATIC NO.
					MIN	MAX	NO. 2	NO. 1			ZERO	ONE				ZERO	ONE		
SHIFT REGISTER,10-BIT	GI	MEM507	K				- 12.0	- 28.0			8.00	3.00	2.00		.50	10.0	.20		
SHIFT REGISTER,20-BIT	GI	MEM3020	K		-55	125		- 26.0	150						1			P	
SHIFT REGISTER,21-BIT	GI	MEM3021	K		-55	125		- 28.0	150						.50			16	
SHIFT REGISTER,5-BIT	GI	MEM509	K				- 12.0	- 28.0			8.00	3.00	2.00		.50	10.0	.20		
SHIFT REGISTER,9-BIT	PHIL	PL4R01	K	MOS	-20	70	-12.0	-24.0			3.00	9.00	1.00	800	.10	2.00	10.00	88	289
SHIFT REGISTER,9-BIT	PHIL	PL4R02	K	MOS	-55	125	-12.0	-24.0			3.00	9.00	1.00	800	.10	2.00	10.00	88	289
STORAGE REGISTER,4 BIT	SYL	SM71	A	TTL	-55	125		5.0	120		1.50	1.20	1.00		20	.25	3.30	H,G	
STORAGE REGISTER,4 BIT	SYL	SM73	A	TTL	0	75		5.0	120		1.50	1.20	1.00		20	.25	3.30	H,G	
STORAGE REGISTER,4 BIT	SYL	SM72	A	TTL	0	75		5.0	120		1.50	1.20	1.00		20	.25	3.30	H,G	
STORAGE REGISTER,4 BIT	SYL	SM63	A	TTL	0	75		5.0	120		1.50	1.20	1.00		20	.25	3.30	H,G	
STORAGE REGISTER,4 BIT	SYL	SM61	A	TTL	-55	125		5.0	120		1.50	1.20	1.00		20	.25	3.30	H,G	
STORAGE REGISTER,4 BIT	SYL	SM60	A	TTL	-55	125		5.0	120		1.50	1.20	1.00		20	.25	3.30	H,G	
STORAGE REGISTER,4 BIT	SYL	SM62	A	TTL	0	75		5.0	120		1.50	1.20	1.00		20	.25	3.30	H,G	
STORAGE REGISTER,4 BIT	SYL	SM70	A	TTL	-55	125		5.0	120		1.50	1.20	1.00		20	.25	3.30	H,G	
TRANSISTOR ARRAY	RCA	CA3018	A		-55	125		* 20.0	300								11	332	
16 BIT MEMORY CELL	TRAN	TM 3164	B	TTL	0	75		5.0	250		1.20	1.80				.45	5.50	H,47	299
16 BIT MEMORY CELL	TRAN	TMC3162	B	TTL	0	75		5.0	250		1.20	1.80				.45	5.50	H,47	299
16 BIT MEMORY CELL	TRAN	TMC3163	B	TTL	-55	125		5.0	250		1.20	1.80				.45	5.50	H,47	299

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