



RF & Microwave

PRODUCT SELECTION
GUIDE

MACOM[®]

Partners from RF to Light

macom.com

MACOM's 2023 RF & Microwave Product Selection Guide features our catalog of thousands of products, which include integrated circuits (ICs), multi-chip modules (MCMs), power pallets and transistors, MMICs, diodes, amplifiers, switches and switch limiters, passive and active components, and complete subsystems. Inside are detailed product specifications designed to help engineers quickly evaluate and select the right products to differentiate their designs. Our selection guide includes application diagrams and key technologies to further assist you in your selection process.

Additional product information can be found on our website at [macom.com](https://www.macom.com). Contact our worldwide sales offices, authorized representatives, and industry-leading distributors to request samples, test boards, and application support. All contacts are listed on our website at: www.macom.com/contact



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- > Capacitors
 - Beam Lead Capacitors
 - Binary Chip Capacitors
 - DC Floating/RF Bypass Mounting Capacitors
 - High Q MNOS Series Chip Capacitors
 - MNOS Series Capacitors
 - MNS Chip Capacitors
- > Diodes
 - Multiplier Step Recovery Diodes
 - PIN Limiter Diodes
 - PIN Switch and Attenuator Diodes
 - Schottky Mixer and Detector Diodes
 - Schottky THz Barrier Diodes
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Partners from RF to Light

MACOM Technology Solutions Holdings, Inc. (MACOM) supplies key enabling technologies for the Cloud Connected Apps Economy and Modern Networked Battlefield. Recognized for its broad catalog portfolio of technologies and products, MACOM provides high-performance analog RF, microwave, millimeterwave, and lightwave semiconductor products for diverse applications ranging from high speed optical, satellite communications, wired and wireless infrastructure networks, to military and civil radar systems. A pillar of the semiconductor industry, we thrive on over 70 years of solving our customers' most complex problems as their trusted partner for solutions from RF to Light. Headquartered in Lowell, Massachusetts, MACOM has achieved certification to the IATF16949 automotive standard, the ISO9001 international quality standard and the ISO14001 environmental management standard. MACOM has design centers and sales offices throughout North America, Europe, and Asia.

RF to Light Capabilities

MACOM offers end-to-end customer solutions and support, from proprietary process technologies to high-quality customer service. MACOM can produce and process semiconductor materials, design and manufacture complex devices, and combine these devices into multifunction components. We offer dual-use technologies that enable us to service commercial and aerospace and defense markets. We have unique technologies and capabilities to create innovative design solutions, including:

- > Si, GaAs, AlGaAs, InGaAs, InP, GaN-on-Si, SiPh, SiGe, SAEFT™, and RF CMOS IC products
- > Unique processes: HMIC™, GMIC™, and AlGaAs
- > In-house design, fabrication, assembly, and screening capabilities
- > Foundry service
- > Build-to-print turnkey assembly capabilities
- > Multiple design and sales locations to provide global coverage
- > Wide spectrum coverage across RF, microwave, and millimeterwave frequencies
- > One of the broadest selections of standard and custom products in the industry

Commercial, Industrial and Military Products

This guide features our catalog of thousands of products. We work with you, engineer-to-engineer, to provide custom products to meet your unique application-specific requirements.

If you cannot find a product that meets your needs in this guide, please contact us and we will work together to develop or recommend an appropriate solution. Our team of product managers and engineers is available to support all product and design needs, and offer the experience and attention to detail that ensure success.

Quality and Reliability

MACOM is committed to delivering high-quality products and services that meet our customers' and internal operations' needs in terms of delivery, reliability, performance and value. Process controls are implemented to ensure that tasks are performed properly the first time, so that products and services meet established, agreed-to requirements. It is the personal responsibility of every MACOM employee to ensure quality, customer satisfaction, continual improvement, maintenance of our quality management system and compliance with customer and regulatory requirements.

Design and Manufacturing Facilities

MACOM has multiple design centers, Si, GaAS, and InP fabrication, manufacturing, assembly and test, and operational facilities throughout North America, Europe, and Asia.

How to Purchase

Sales Representatives and Distribution Partners

Find solutions for your most complex applications today! You can purchase MACOM products online, direct through our sales offices, and through one of our many distribution and sales representative partners.

Visit our website to see a list of our industry-leading distributors and to get additional information about ordering samples and product.

To see inventory availability from MACOM and our Distributors click on the Order tab on your selected product page at macom.com

MACOM produces custom products and modifications to standard products to meet your specific requirements.

Please contact us with your specifications if you cannot find a standard product for your application.

See the back cover of this catalog for contact information.

Or visit us at macom.com for more information.



Aluminium Gallium Arsenide (AlGaAs)

Band gap engineering has been used to produce novel semiconductor structures in the microwave industry for over two decades. These band gap principles have been applied to the development of MACOM's AlGaAs technology, resulting in a significant advancement in the RF performance of PIN diodes. Key applications include industrial, scientific and medical, test and measurement, wireless backhaul, aerospace and defense.

Gallium Arsenide (GaAs)

For over three decades, MACOM has been the world leader in the advancement of GaAs technology, producing state-of-the-art, high performance discrete devices; control components; mixed signal processing and converters; driver amplifiers; CATV amplifiers; LNAs; and power amplifiers as single purpose and multi-function MMICs. Key applications include industrial, scientific and medical, CATV and wired broadband, wireless backhaul, aerospace and defense, satellite communication.

Gallium Nitride (GaN)

MACOM is driving the commercialization of GaN into mainstream RF Power applications designing solutions with GaN-on-Si and GaN-on-SiC. Our **MACOM PURE CARBIDE** series of GaN-on-SiC power amplifiers is our most recent addition and offers high performance and reliability for the most demanding applications. We offer the RF and microwave industry a broad portfolio of GaN products spanning a wide range of package options for pulsed and continuous wave applications and address key applications in all markets including aerospace and defense, 5G wireless infrastructure, and industrial, scientific and medical.

Heterolithic Microwave Integrated Circuit (HMIC™)

Developed at MACOM, this process joins two different materials—glass and silicon—into a single monolithic structure. This technology integrates the best properties of each material and therefore allows monolithic circuit solutions that reduce both size and cost. Key applications include CATV and wired broadband, wireless backhaul, industrial, scientific and medical, test and measurement, chip and wire high frequency microwave applications.

Indium Phosphide (InP)

MACOM has assumed a key position in the market as a premier supplier of both photonic devices such as lasers, and optoelectronics products such as high speed modulator drivers, based on InP technology. *Key applications include laser diodes for silicon photonics, data and metro markets, modulator drivers for 100G and 400G coherent networks, metro networks, and data centers.*

SAEFT™

MACOM's patented Self Aligning Etched Technology (SAEFT™) allows self-alignment of a laser either in edge-emitting or surface-emitting format to a silicon PIC, forming a Laser-PIC (L-PIC). *Key applications include base stations, FTTx/PON, wireless fronthaul/backhaul, cloud data centers, metro, and long haul.*

Silicon (Si)

Leveraging our deep understanding of silicon technology, MACOM offers a broad portfolio of product offerings ranging from PIN and varactor tuning diodes to multi-hundred watt silicon power MOSFETs. *Key applications include aerospace and defense, industrial, scientific and medical, test and measurement, CATV and wired broadband, wireless networking.*

Silicon Germanium (SiGe)

Building upon a long history in designing integrated circuits and subsystems for radar and mmW markets, MACOM leads the way in applying SiGe BiCMOS technology to both commercial and military needs. We see SiGe as a high value, differentiating technology which we will continue to leverage in MACOM's core product segments. *Key applications include high-speed optical network transceivers, base stations, wired broadband communications, high speed cross-point switches.*

Silicon Photonics (SiPh)

MACOM is focused on integrated silicon microphotronics. These technologies enable high performance optics with low power in small form factors. Silicon microphotronics in particular brings the benefits of high-density, low-cost and performance scalability, similar to silicon CMOS chip manufacturing. *Key applications include 100G/400G datacom, telecom-metro and long haul applications, functional passive optical elements including AWGs, optical filters, couplers, and splitters.*

MACOM produces and processes semiconductor materials, and offers unique technologies and capabilities to create innovative design solutions to solve our customers' most complex challenges.



Wireless Networking and Communication

- > Wireless Network Infrastructure
- > Wireless Backhaul
- > Wireless LAN (WiFi)
- > SatCom/VSAT
- > 5G Communications
- > Hybrid Optoelectronic Assembly and Package Capability

Optical Networking

- > FTTx/PON
- > Wireless Fronthaul
- > Cloud Data Center
- > Network Security
- > Long Haul & Metro



Industrial, Scientific and Medical

- > Industrial
- > Test and Measurement
- > Healthcare
- > RF Energy

Wired Broadband

- > DOCSIS Infrastructure/CPE



MARKETS AND APPLICATIONS

MACOM



Broadcast Video

- > Cameras
- > Distribution Amplifiers
- > Format Conversion
- > Monitors
- > Routers and Switches
- > CoaXPress



Aerospace & Defense

- > Communication
- > EW
- > Radar
- > MACOM in Active Active Antennas
- > Space & Hi-Rel
- > Free-space Optical Communication



Surveillance

- > Cameras
- > DVRs



Enterprise Solutions

- > Backplane Connectivity
- > Packet Switchers and Routers
- > Storage Area Networks
- > Transport Networks/OTN

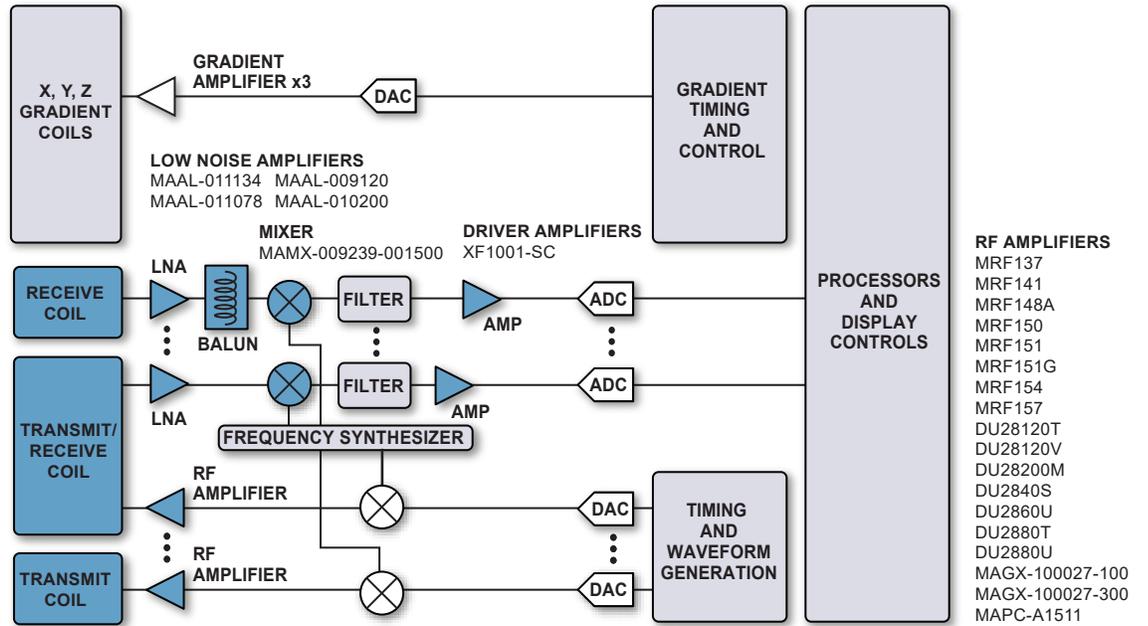
Recognized for our broad portfolio of technologies and products, MACOM serves a range of diverse markets and thrives on more than 70 years of solving our customers' most complex problems.

MACOM is your partner for applications from RF to Light.

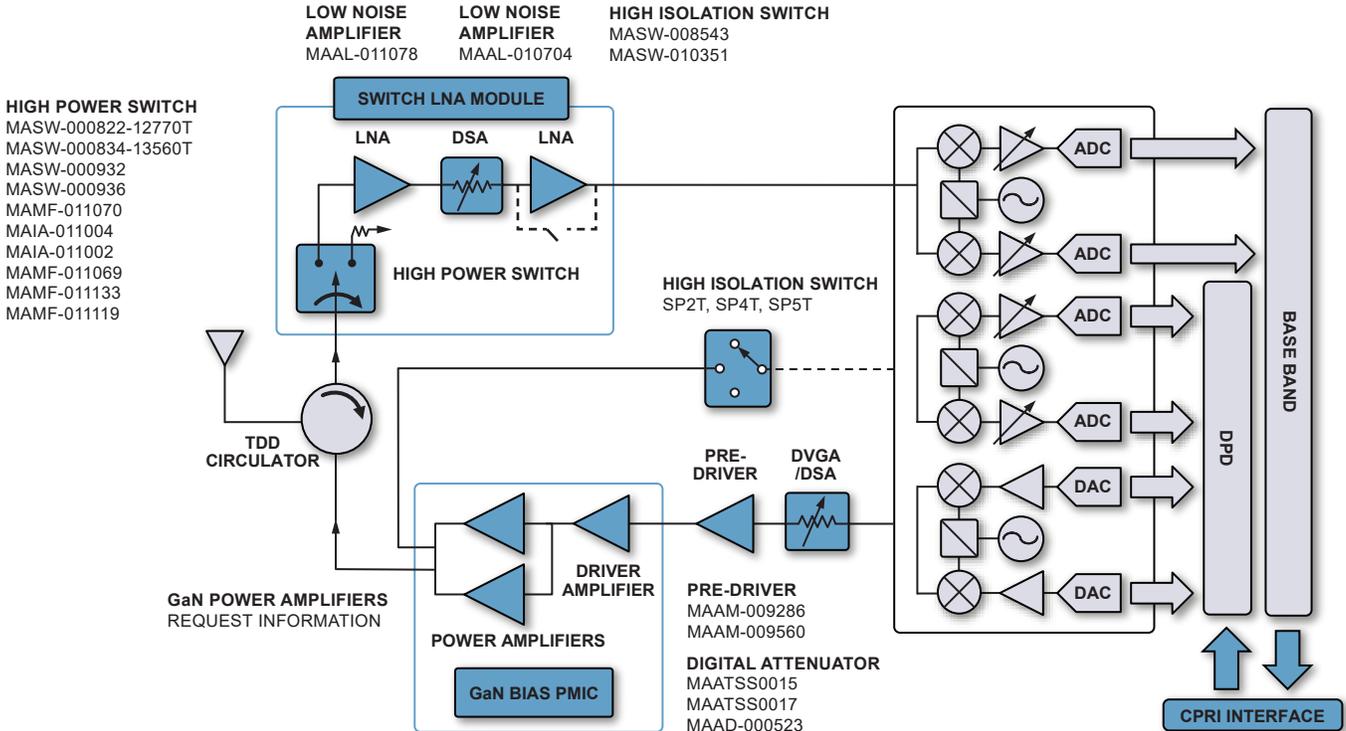
For more in-depth information, visit macom.com/applications

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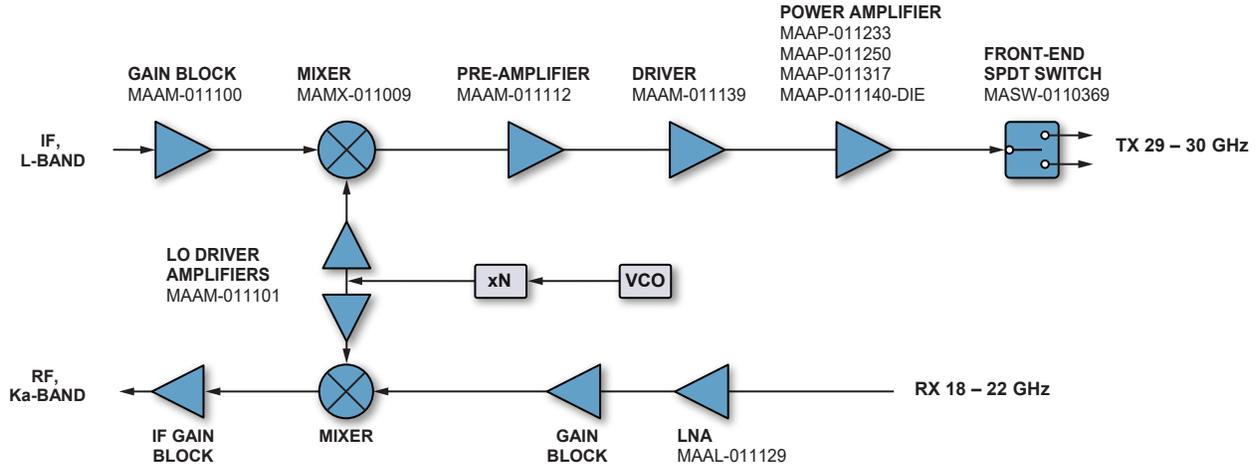
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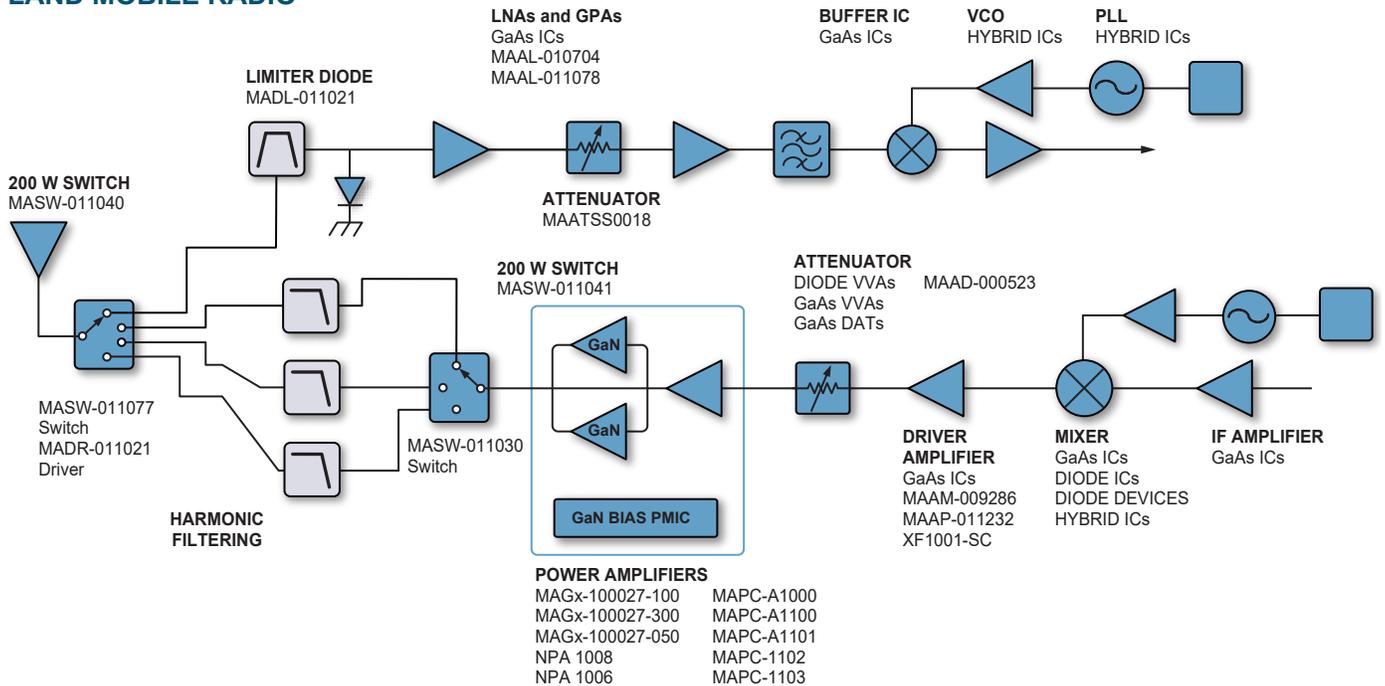
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Ka-BAND SATCOM



LAND MOBILE RADIO





RF Power Products

MACOM offers a broad range of RF power semiconductor products as discrete devices, modules, and pallets designed to operate from DC to 12 GHz. These high power amplifiers are ideal for civil avionics, military communications, 5G networks, radar, industrial, scientific, and medical applications. Our product portfolio leverages MACOM's more than 70-year heritage of providing both standard and custom solutions using GaN, bipolar, and MOSFET technologies to meet the most demanding specifications. The MACOM PURE CARBIDE **MACOM PURE CARBIDE** line is our latest addition to the GaN portfolio.



GaN-on-SiC *MACOM PURE CARBIDE*

- > Includes RF Power products as discrete devices, modules, and pallets
- > Designed to operate from 1 MHz to 12 GHz
- > Market leading high power/high voltage solutions exceeding 6 kW
- > Excellent RF performance, long-term reliability and ruggedness for pulsed and CW applications

Bipolar

- > Discrete devices, modules, and pallets from 1 MHz to 3.5 GHz
- > For civil avionics, communications, networks, radar, and industrial, scientific, and medical applications
- > All gold metallization fabrication processes ensure high performance and long-term reliability

GaN-on-Si

- > Discrete and integrated amplifiers
- > Includes a broad range of RF power products as discrete devices, modules, and pallets
- > Designed to operate from 1 MHz to 6 GHz
- > Market leading high power/high voltage solutions exceeding 6 kW
- > Excellent RF performance, long-term reliability and ruggedness for pulsed and CW applications

MOSFET

- > TMOS and DMOS RF Power MOSFET transistor products as discrete devices from 1 MHz to 1 GHz
- > All gold metallization fabrication processes ensures high performance and long-term reliability

Pallets

- > Easy to use 50 Ω matched building blocks easily cascaded and/or parallel combined to achieve high system power levels
- > Standard and custom options available
- > Single and multi-stage pallets with connector options
- > Pallet options with MACOM's Power Management IC (PMIC) to facilitate sequencing, control and monitoring

RF Power Amplifier: High Voltage GaN								
Part Number	Max Freq (MHz)	Min Freq (MHz)	Supply Voltage (V)	Output Power P _{SAT} (W)	Gain (dB)	Efficiency (%)	Test Freq (GHz)	Package
MAPC-A1602	1215	960	130	2500	22	65	1.15	AC-780
MAPC-A1604	1215	960	150	5000	20	60	1.08	AC-1230
MAPC-A1605	1215	960	150	7000	20	57	1.06	AP-1230

RF Power Amplifier: MMICs									
Part Number	Description	Max Frequency (MHz)	Min Frequency (MHz)	Output P1dB (number)	PSAT (number)	Gain (number)	OIP3 (number)	Package	
CGY2135UH	Power Amplifier, 33 dBm	23000	18000	31.2	33	25	—	DIE	
CGY2651UH	37 – 43 GHz 41 dBm GaN Power Amplifier	43000	37000	—	40	18	—	DIE	

RF Power Amplifier: GaN: <i>MACOM PURE CARBIDE</i>								
Part Number	Max Freq (MHz)	Min Freq (MHz)	Supply Voltage (V)	Output Power P _{sat} (W)	Gain (dB)	Efficiency (%)	Test Freq (GHz)	Package
MAPC-A1511	300	3	100	3000	19	79	0.13	AC-1230
MAPC-A1502	460	400	50	1250	17	83	400	AC-1230
MAPC-A1508	930	900	50	700 (CW)	16.5	73	0.915	AC-780
MAPC-A1507	930	900	50	1400 (CW)	16	73	0.915	AC-1230
MAPC-A1501	1215	960	65	1300	17.2	64.5	1.06	AC-780B-2
MAPC-A1500	1215	960	65	2600	18.5	66.2	1.06	AC-1230S-4
MAPC-A1504	1400	1200	50	500	17	54	1400	AC-780
MAPC-A1513	1850	1300	52	450	14	59	1.6	AP-780
MAPC-A1506	2400	2000	52	450	14	58	2.9	AP-780
MAPC-A1516	2500	2400	50	500 (CW)	14.5	70	2450	AC-780
MAPC-A1103	2700	0	50	270	18.4	68.2	2.6	AC-650S-4
MAPC-A1000	2700	30	50	25	13	51	2.7	7 x 6.5 mm DFN
MAPC-A2021	2700	1800	30	8	16.2	67	2.7	4 x 4 mm QFN
MAPC-A1522	3100	2700	65	1000	14.5	61	2900	AP-1230S-4
MAPC-A1505	3300	2700	50	700	14	68	2.2	AC-1230
MAPC-A1101	3500	0	50	85	15	70	3.5	AC-360S-2
MAPC-A1102	3500	0	50	150	13	65	3.5	AC-360S-2
MAPC-A1100	3500	1	50	65	18	71	3.5	AC-360S-2
MAPC-S1000	3500	30	50	15	13	—	3.5	5 x 5 mm
MAPC-A2004	3800	3300	50	90	14.5	52	3.6	7 x 6.5 mm DFN
MAPC-A2517	3800	3400	50	29	14	52.3	3.6	AC-780S-4
MAPC-A2002	4000	3400	50	50	16.2	61	3.6	7 x 6.5 mm DFN
MAPC-A2001	4000	3400	50	50	17.2	62	3.85	7 x 6.5 mm DFN
MAPC-A2500	4000	3400	50	450	13	52	3.6	AC-780S-4
MAPC-A2506	4000	3700	50	29	12.5	52.3	3.85	AC-780S-4
MAPC-A2011	4000	3700	50	90	14.5	52	3.8	7 x 6.5 mm DFN
MAPC-S1504	5900	5200	50	60	16.7	50.5	5.6	AC-400B-2N
MAPC-S1101	12000	0	50	15	16	58	3.5	3 x 3 mm

RF Power Amplifiers: GaN								
Part Number	Max Freq (MHz)	Min Freq (MHz)	Operating Voltage (V)	Output Power P _{sat} (W)	Gain (dB)	Efficiency (%)	Test Freq (GHz)	Package
MAGE-100809-500G00	928	896	50	500	18	76	0.93	AC-780S-4
NPA1006A	1000	20	28	12.5	14	>45	0.9	6 x 5 mm DFN-8
MAGX-101011-700E00	1100	1000	50	700	19.3	70	1.09	AC-780B-2
MAGX-101214-500L00	1400	1200	50	500	16	73.5	3	AC-780B-2
NPA1003QA	1500	20	28	7	15	>40	1	4 x 4 mm QFN-16

Note: Part numbers are RoHS compliant. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

RF Power Amplifiers: GaN (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	Operating Voltage (V)	Output Power Psat (W)	Gain (dB)	Efficiency (%)	Test Freq (GHz)	Package
NPA1007	2500	30	28	10	10	>50	2	6 x 5 mm DFN-8
MAGE-102425-300S00	2500	2400	50	300	16.7	75	2.45	AC-780S-2
MAMG-100227-010COL	2600	225	28	10	23	45	2.6	14 x 18 mm
MAGX-100027-002SOP	2700	0	50	2	18.7	58.5	4	6 x 3 mm DFN
MAGX-100027-015SOP	2700	0	50	15	17.2	60	2.5	6 x 3 mm DFN
MAGX-100027-050COP	2700	0	50	50	16.8	72	2.5	TO-272S-2
MAGX-100027-100COP	2700	0	50	100	15.1	59	2.5	TO-272S-2
MAGX-100027-300COP	2700	0	50	300	16.3	5	2	TO-272S-4I
NPA1008A	2700	20	28	5	12	>45	1.9	4 x 4 mm PQFN-24
NPT25100B	2700	2100	28	90	16	>60	3	AC-780B-2
MAGB-102327-010B0P	2700	2300	50	8	17.2	23	2.5	4 x 4 mm DFN-6
MAGB-102327-012B0P	2700	2300	50	10	17.3	21	2.7	4 x 4 mm DFN-6
NPT25015	3000	1	28	23	14	>60 PEP	2.5	SOIC-8NE
NPT2018	3500	1	50	12.5	17.5	>50	2.5	6 x 3 mm PDFN-14
MAGB-101836-025B0P	3600	1800	50	25	16.9	29	3.5	5 x 7 mm QFN
NPT35015	3800	1	28	18	11	>48 PEP	3.5	SOIC-8NE
MAGB-103440-005B0P	3800	3300	50	5	17	15.5	3.6	4 x 4 mm DFN-6
MAGB-103338-050SOP	3800	3300	50	44	16.3	15.1	3.6	6 x 6.5 mm DFN
MAGB-103438-020SOP	3800	3400	50	20	17	28	3.5	5 x 7 mm QFN
NPTB00025B	4000	1	28	25	13	>50	3	AC-360B-2
MAGB-103440-010B0P	4000	3300	50	10	18.1	18.3	3.8	4 x 4 mm DFN-6
MAGB-103340-015B0P	4000	3300	50	15	16.4	17	3.6	4 x 4 mm DFN-6
MAGB-103740-008B0P	4000	3700	50	8	17.9	16.2	3.9	4 x 4 mm DFN-6
MAGX-101050-002SOP	5000	1000	50	2	15	50	4	4 x 4 mm DFN
MAGX-011086A	6000	1	28	4	9	>50	5.8	4 x 4 mm QFN-24
NPTB00004B	6000	1	28	5	17	>50	2.5	SOIC-8NE

RF Power Amplifiers: Silicon Bipolar and MOSFET

Part Number	Max Freq (MHz)	Min Freq (MHz)	Pout (W)	Gain (dB)	Efficiency (%)	Package
MRF421	30	1	100	10	40	Flange Ceramic
MRF448A	30	1	250	12	45	Flange Ceramic
MRF426	30	2	25	22	35	Flange Ceramic
MRF455	30	2	60	13	55	Flange Ceramic
MRF454	30	2	80	12	50	Flange Ceramic
MRF422	30	2	150	10	40	Flange Ceramic
MRF428	30	2	150	13	45	Flange Ceramic
MRF448	30	2	250	12	45	Flange Ceramic
MRF429	60	2	150	13	45	Flange Ceramic
MRF154	80	5	600	17	45	Flange Ceramic
MRF157	80	5	600	21	45	Flange Ceramic
MRF157H	80	5	600	21	45	Flange Ceramic
MRF140	150	5	150	15	40	Flange Ceramic
MRF150	150	5	150	17	45	Flange Ceramic
MRF148A	175	5	30	18	40	Flange Ceramic
MRF173	175	5	80	11	60	Flange Ceramic
MRF173CQ	175	5	80	13	60	Flange Ceramic
MRF151	175	5	150	13	40	Flange Ceramic

Note: Part numbers are RoHS compliant. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

RF Power Amplifiers: Silicon Bipolar and MOSFET (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	Pout (W)	Gain (dB)	Efficiency (%)	Package
MRF151A	175	5	150	13	40	Flange Ceramic
MRF141	175	5	150	18	40	Flange Ceramic
MRF141G	175	5	300	12	50	Flange Ceramic
MRF151G	175	5	300	14	50	Flange Ceramic
DU2805S	175	30	5	11	55	Flange Ceramic
DU2810S	175	30	10	13	55	Flange Ceramic
DU1215S	175	30	15	9.5	60	Flange Ceramic
DU2820S	175	30	20	13	60	Flange Ceramic
DU2840S	175	30	40	13	60	Flange Ceramic
DU2860U	175	30	60	13	60	Flange Ceramic
DU2880T	175	30	80	13	60	Flange Ceramic
DU2880U	175	30	80	13	60	Flange Ceramic
DU28120T	175	30	120	13	60	Flange Ceramic
DU28120V	175	30	120	13	60	Flange Ceramic
DU28200M	175	30	200	13	55	Flange Ceramic
MRF174	200	5	125	9	50	Flange Ceramic
MRF314	200	30	30	10	50	Flange Ceramic
MRF316	200	30	80	10	55	Flange Ceramic
MRF317	200	30	100	9	55	Flange Ceramic
MRF171A	200	100	45	17	60	Flange Ceramic
MRF175GV	225	5	200	14	65	Flange Ceramic
MRF176GV	225	5	200	15	50	Flange Ceramic
MRF134	400	5	5	11	50	Flange Ceramic
MRF136	400	5	15	16	60	Flange Ceramic
MRF136Y	400	5	30	14	54	Flange Ceramic
MRF137	400	5	30	13	60	Flange Ceramic
MRF175LU	400	5	100	10	55	Flange Ceramic
MRF177	400	5	100	12	60	Flange Ceramic
MRF175GU	400	5	150	12	55	Flange Ceramic
MRF176GU	400	5	150	12	45	Flange Ceramic
MRF313	400	100	1	15	45	Flange Ceramic
MRF392	400	100	125	10	55	Flange Ceramic
MRF321	400	150	10	12	50	Flange Ceramic
MRF323	400	150	20	10	50	Flange Ceramic
2N6439	400	225	60	7.8	55	Flange Ceramic
MRF327	400	225	80	7.3	50	Flange Ceramic
MRF158	500	5	2	16	55	Flange Ceramic
MRF160	500	5	4	16	55	Flange Ceramic
MRF166C	500	5	20	13.5	50	Flange Ceramic
MRF166W	500	5	40	14	50	Flange Ceramic
MRF275L	500	5	100	8.8	55	Flange Ceramic
MRF275G	500	5	150	10	50	Flange Ceramic
MRF587	500	100	—	13	—	Flange Ceramic
UF2805B	500	100	5	10	50	Flange Ceramic
UF2810P	500	100	10	10	50	Flange Ceramic
UF2815B	500	100	15	10	50	Flange Ceramic
UF2820P	500	100	20	10	50	Flange Ceramic

Note: Part numbers are RoHS compliant. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

RF Power Amplifiers: Silicon Bipolar and MOSFET (continued)						
Part Number	Max Freq (MHz)	Min Freq (MHz)	Pout (W)	Gain (dB)	Efficiency (%)	Package
UF2840G	500	100	40	10	50	Flange Ceramic
UF2840P	500	100	40	10	50	Flange Ceramic
MRF393	500	100	100	9.5	55	Flange Ceramic
UF28100M	500	100	100	10	50	Flange Ceramic
UF28100V	500	100	100	10	50	Flange Ceramic
UF28150J	500	100	150	8	55	Flange Ceramic
LF2805A	1000	500	5	10	50	Flange Ceramic
MAPRST1030-1KS	1030	1030	1000	8	45	Flange Ceramic
PHI090-15L	1090	1030	15	9	40	Flange Ceramic
PHI090-75L	1090	1030	75	9	45	Flange Ceramic
PHI090-175L	1090	1030	175	8.3	55	Flange Ceramic
PHI090-350L	1090	1030	350	8	55	Flange Ceramic
PHI090-550S	1090	1030	550	7.4	55	Flange Ceramic
PHI090-700B	1090	1030	700	7.5	50	Flange Ceramic
MRF10150	1150	1025	150	9.5	40	Flange Ceramic
MRF10350	1150	1025	350	8.5	40	Flange Ceramic
MAPR-001090-350S00	1150	1025	350	9	45	Flange Ceramic
MRF10502	1150	1025	500	8.5	40	Flange Ceramic
MAPR-001011-850S00	1150	1025	850	7.8	42	Flange Ceramic
MRF1000MB	1215	960	0.7	10	—	Flange Ceramic
MRF1004MB	1215	960	4	10	40	Flange Ceramic
MRF10005	1215	960	5	8.5	45	Flange Ceramic
MRF10031	1215	960	30	9	40	Flange Ceramic
MAPRST0912-50	1215	960	50	9.1	40	Flange Ceramic
MRF1090MB	1215	960	90	8.4	35	Flange Ceramic
MRF10120	1215	960	120	8	50	Flange Ceramic
MRF1150MB	1215	960	150	7.8	35	Flange Ceramic
MAPRST0912-350	1215	960	350	9.4	45	Flange Ceramic
MAPR-000912-500S00	1215	960	500	9	45	Flange Ceramic
PHI214-2M	1400	1200	2	7	40	Flange Ceramic
PHI214-6M	1400	1200	6	7	45	Flange Ceramic
PHI214-12M	1400	1200	12	9	45	Flange Ceramic
PHI214-25M	1400	1200	25	9.5	50	Flange Ceramic
PHI214-40M	1400	1200	40	8.5	50	Flange Ceramic
PHI214-55EL	1400	1200	55	6.6	50	Flange Ceramic
PHI214-80M	1400	1200	80	7.5	50	Flange Ceramic
PHI214-100EL	1400	1200	100	6	52	Flange Ceramic
PHI214-110M	1400	1200	110	7.4	50	Flange Ceramic
PHI214-220M	1400	1200	220	7.4	50	Flange Ceramic
PHI214-300M	1400	1200	300	8.75	50	Flange Ceramic
PHI617-2	1700	1600	2	10	35	Flange Ceramic
PH2226-50M	2600	2200	50	8	45	Flange Ceramic
PH2226-110M	2600	2200	110	7	40	Flange Ceramic
PH2729-25M	2900	2700	25	9.2	45	Flange Ceramic
PH2729-65M	2900	2700	65	8.5	40	Flange Ceramic
PH2729-110M	2900	2700	110	6.8	35	Flange Ceramic
PH2729-130M	2900	2700	130	7.5	40	Flange Ceramic

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RF Power Amplifiers: Silicon Bipolar and MOSFET (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	Pout (W)	Gain (dB)	Efficiency (%)	Package
MAPR-002729-170M00	2900	2700	170	9	45	Flange Ceramic
PH2731-5M	3100	2700	5	7	30	Flange Ceramic
PH2731-20M	3100	2700	20	8.2	45	Flange Ceramic
PH2731-75L	3100	2700	75	7	40	Flange Ceramic
PH3134-10M	3400	3100	10	8	35	Flange Ceramic
PH3134-20L	3400	3100	20	7.5	35	Flange Ceramic
PH3134-55L	3400	3100	55	7.5	35	Flange Ceramic
PH3135-5M	3500	3100	5	8.5	30	Flange Ceramic
PH3135-20M	3500	3100	20	7.5	35	Flange Ceramic
PH3135-25S	3500	3100	25	7.5	35	Flange Ceramic
PH3135-65M	3500	3100	65	7.5	35	Flange Ceramic
PH3135-90S	3500	3100	90	7.5	35	Flange Ceramic

Pallets: GaN-on-SiC

Part Number	Max Freq (MHz)	Min Freq (MHz)	Pout (W)	Gain (dB)	Efficiency (%)	Package
MAPC-P1026	930	900	1300	15	70	Pallet
MAPC-P1012	1090	1030	2000	17	65	Pallet
MAPC-P1008	1215	960	2000	17	60	Pallet
MAPC-P1015	1850	1300	400	15	55	Pallet
MAPC-P1009	2900	2700	700	14	60	Pallet
MAPC-P1010	3100	2700	250	28	52	Pallet
MAPC-P1017	36000	3000	120	30	43	Pallet

Pallets: Silicon Bipolar and MOSFET Pallets: Silicon Bipolar and MOSFET

Part Number	Max Freq (MHz)	Min Freq (MHz)	Pout (W)	Gain (dB)	Efficiency (%)	Package
PHA2729-300M	2900	2700	300	7.5	36	Pallet
PHA2731-190M	3100	2700	190	7.5	33	Pallet
PHA3135-130M	3500	3100	130	7.4	35	Pallet

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AMPLIFIERS

For Voice, Data and Point-to-Point Applications for A&D and Commercial Markets

MACOM designs, manufactures, and supports a wide variety of amplifiers for RF, microwave, and millimeterwave applications. Our products cover frequency ranges from 40 kHz to 90 GHz. We use a variety of semiconductor processes such as GaAs MESFET for linearity, pHEMT for power and low noise, and HBT for linearity and high gain. Additionally, our 50 to 1100 MHz cable band amplifiers exhibit best-in-class composite linearity performance. MACOM amplifiers are used in a variety of commercial and aerospace and defense applications.



Active Splitters

- > Available in 2, 3, 4, 5, 6, and 8-way splits
- > Designed for today's advanced CATV, FTTx, and direct broadcast satellite (DBS) subscriber equipment
- > Used in high definition flat screen TVs, set top boxes (STBs), embedded multi media terminal adapter (eMTAs), cable modems, and PCTV cards
- > Surface mount PDFN and PQFN plastic packages

Amplifier Gain Blocks

- > Frequencies from DC to 45 GHz
- > 50 Ω and 75 Ω applications include: networks, commercial, and aerospace and defense
- > Plastic packaging and bare die

Linear and Power Amplifiers

- > 40 kHz to 90 GHz frequencies for both linear and saturated applications including: network infrastructure, radar, test and measurement, and communication systems
- > Many of the power amplifiers include an on-chip temperature-compensated detector

Low Noise Amplifiers

- > Frequencies from 20 MHz to 86 GHz
- > For network infrastructure, radar, and communication systems
- > Available in a variety of packages

CATV Amplifiers

- > Single-ended and Push-Pull 75 Ω broadband amplifiers cover head-end, HFC infrastructure nodes, network, and drop amplifiers
- > Flat gain response, low distortion, and high linearity
- > Offered in small, plastic leaded and leadless packages

Hybrid Amplifiers

- Gain Block
- Low Noise Amplifiers
- Limiting Amplifiers
- > 10 kHz to 6 GHz
- > Unconditionally stable with excellent cascading capability
- > Designed using thin film technology
- > Hermetically sealed and screened up to space level, these amplifiers are perfect for military applications



Active Splitters

Part Number	Max Freq (MHz)	Min Freq (MHz)	Splits (#)	Gain (dB)	Noise Figure (dB)	CSO (dBc)	CTB	Bias Current/Voltage (mA)/(V)	Package
MAAM-009811	1100	50	2	2.4	4.5	-55	-65	90/3	2 mm PDFN-8
MAAM-008818	1100	50	2	3.2	3.4	-60	-63	120/5	2 mm PDFN-8
MAAM-009879	1100	50	2	3.5	3.8	-60	-65	100/5	3 mm PQFN-12
MAAM-007805	1100	50	2	8.5	4	-60	-75	100/5	3 mm PQFN-12
MAAM-008819	1100	50	3	2.6	3.8	-60	-63	120/5	2 mm PDFN-8
MAAM-009451	1100	50	3	3	3.5	-55	-67	90/3	2 mm PDFN-8
MAAM-009450	1100	50	3	3.5	3.8	-65	-65	100/5	3 mm PQFN-12
MAAM-007239	1100	50	3	6	4.5	-65	-77	125/5	3 mm PQFN-16
MAAM-009452	1100	50	4	2.5	3.5	-56	-65	96/3.3	3 mm PQFN-12
MAAM-009778	1100	50	4	2.5	4.5	-60	-65	100/5	3 mm PQFN-12
MAAM-008820	1100	50	4	3	3.8	-62	-70	120/5	3 mm PQFN-12
MAAM-009779	1100	50	5	1.5	3.9	-60	-65	110/5	3 mm PQFN-12
MAAM-008821	1100	50	5	3.5	3.8	-60	-70	120/5	3 mm PQFN-12
MAAM-010237	1100	50	8	1.9	4.4	-50	-65	190/5	4 mm PQFN-24
MAAM-008970	2150	950	2	4.8	5	—	—	60/5	3 mm PQFN-12

Amplifier Gain Block

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Output P1dB (dBm)	OIP3 (dBm)	Bias Current (mA)	Package
MAAM-008198-00A162	Cascadable, High Eff	1200	10	13	6	18	15	TO-8
MAAM02350-A2	Wideband Amplifier	3000	200	18	14	24	65	CR-3
MAAM02350	Wideband Amplifier	3000	200	19	14	24	65	DIE
MAAM-011229	Broadband Low Noise	4000	50	19	20	34	80	2 mm PDFN-8
MAAM-011229-CQ3	Broadband Low Noise	4000	50	19	20	36	80	3 mm CQFN-12
XF1001-SC	Packaged HFET	6000	0	15.5	30	46.5	300	SOT-89
MAAM-011326	Gain Block	6000	500	21	20	36	90	2 mm PDFN-8
MAAM-011326-DIE	Gain Block	6000	500	21	20	36	90	DIE
MAAM-011326-DIE	Wideband Amplifier	6000	500	21	20	36	90	DIE
MAAM-011305	Broadband Low Noise	8000	30	15.25	20	35	65	2 mm PDFN-8
MAAM-011305-DIE	Broadband Amplifier	8000	30	16	20	37	66	DIE
MAAM-011252	Broadband Low Noise	8000	30	20	20	34	56	2 mm PDFN-8
MAAM-011252-DIE	Broadband Amplifier	8000	30	20	20	34	60	DIE
MAAM-011252-CQ3	Broadband Low Noise	8000	30	20	20	34	65	3 mm CQFN-12
MAAM28000-A1	Wideband Amplifier	8000	2000	17	14	24	70	CR-3
MAAM28000-A1G	Wideband Amplifier	8000	2000	17	14	24	70	CR-10
MAAM28000	Wideband Amplifier	8000	2000	18	14	24	60	DIE
XB1007-QT	Buffer Amplifier	11000	4000	23	19	31	100	3 mm PQFN-16
XB1007-BD	Buffer Amplifier	11000	4000	23	20	30	100	DIE
CMM0511-QT	Driver Amplifier	14000	5000	20	11	22	90	3 mm PQFN-16
MAAM-011206	Driver Amplifier	15000	DC	13.5	18	28	72	1.5 x 1.2 mm TDFN-6
CGY2731UH	Gain Block	15000	12000	19	—	—	—	DIE
MAAM-011101	Wideband Amplifier	20000	4000	16	19	30	45	1.5 x 1.2 mm TDFN-6
MAAM-011289-DIE	Driver Amplifier	20000	5000	15	19.5	31	100	DIE
MAAM-011289	Driver Amplifier	20000	5000	16.5	20	30	102	3 mm AQFN-12
MAAM-011290-DIE	Driver Amplifier	20000	5000	20	19.5	32	115	DIE
MAAM-011290	Driver Amplifier	20000	5000	20.5	20	29	110	3 mm AQFN-12
XB1008-QT	Buffer Amplifier	21000	10000	17	18	32	100	3 mm PQFN-16
XB1008-BD	Buffer Amplifier	21000	10000	18	20	30	100	DIE

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Amplifier Gain Block (continued)

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Output P1dB (dBm)	OIP3 (dBm)	Bias Current (mA)	Package
MAAM-011132	Driver Amplifier	23600	17700	23	21	33	180	4 mm PQFN-16
XB1004-BD	Buffer Amplifier	30000	16000	21	19	29	100	DIE
MAAM-011112	Buffer Amplifier	37000	20000	24	18	30	335	3 mm PQFN-1
XB1006-BD	Buffer Amplifier	38000	18000	21	15	25	50	DIE
MAAM-011109	Wideband Amplifier	40000	100	13	18	22	170	5 mm LGA-9
XB1005-BD	Buffer Amplifier	45000	35000	23	16	26	50	DIE
MAAM-010651	Buffer Amplifier	45000	37000	21	20	30.5	50	3 mm PQFN-16

GSIC140 GaN-SiC MMIC Amplifiers

Part Number	Max Freq (MHz)	Min Freq (MHz)	Supply Voltage (V)	Output Power Psat (W)	Gain (dB)	Efficiency [(%)	Test Freq (GHz)
MAPC-MP0011-DIE	8400	7900	32	50	27	30	8.25
MAPC-MP0009-DIE	15500	13000	22	44	27	36	14.25
MAPC-MP0008-DIE	15500	13000	24	24	27	38	14.25
MAPC-MP0041-DIE	16000	13500	22	12	27.5	30	14.75
MAPC-MP0030-DIE	16000	13500	22	12.6	28	40	14.75
MAPC-MP0028-DIE	20000	2000	22	6	26	22	11
MAPC-MP0002-DIE	20000	2000	38	12.6	23	18	11
MAPC-MP0029-DIE	20000	2000	38	20	22	16	11
MAPC-MP0031-DIE	21200	17300	20	20	25	30	19.25
MAPC-MP0020-DIE	22000	17000	22	17.5	26	35	20
MAPC-MP0013-DIE	31000	27000	22	6	25	27	29
MAPC-MP0003-DIE	31000	27000	22	11.5	25	27	29
MAPC-MP0010-DIE	31000	27000	22	17.5	26	35	29
MAPC-MP0004-DIE	31000	27000	22	24	24	30	29
MAPC-MP0040-DIE	37000	33000	22	8	18	25	35
MAPC-MP0005-DIE	37000	33000	22	16	24	25	35
MAPC-MP0042-DIE	40000	17000	22	3	18	10	28.5

Power Amplifiers

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Output P1dB (dBm)	Psat (dBm)	Gain (dB)	OIP3 (dBm)	Package
MAAP-011232	Power Amplifier	3000	100	29	30	25	40	3 mm PQFN-16
MAAP-010168	10 W Power Amplifier	3000	500	39	41	24	—	Ceramic Flanged-10
MAAP-011022	7 W Pulsed High Power Amplifier	3000	2700	37.5	38.3	23	—	6 mm PQFN-28
MAAP-010171	8 W Power Amplifier	3500	2500	38	39	27.3	—	5 mm PQFN-20
MAAP-011027	8 W Power Amplifier	5900	5200	—	39	20	—	5 mm PQFN-20
MAAM26100-B1	Power Amplifier	6000	2000	27	30.5	19	39	CR-2
MAAM26100-P1	Power Amplifier	6000	2000	28	30.5	20	40	CR-15
MAAP-010169	10 W Power Amplifier	6000	2000	38	41	18	—	Ceramic Flanged-10
MAAM26100	GaAs MMIC Power Amplifier	6500	2000	28	30.5	19	39	DIE
XP1039-QJ	2.5 W Power Amplifier	7100	5600	33	34	17	48	6 mm QFN-24
MAAP-011161	4 W Power Amplifier	7900	7100	35.5	36.5	22	46.5	7 mm SMT
MAAP-011193	4 W Power Amplifier	8500	7700	35.5	36.5	20	46.5	7 mm SMT
XP1035-QH	0.5 W Power Amplifier	9500	5900	28	29	26	39	4 mm PQFN-24
MAAM71100	GaAs MMIC Power Amplifier	11000	7000	28	31	18	38	DIE
MAAP-015035-DIE	12 W Power Amplifier	11500	8500	40	41	36	—	DIE
MAAP-015030-DIE	13 W Power Amplifier	11750	8500	38	41	25	—	DIE
MAAP-008924	1.2 W Power Amplifier	13300	10000	31	32	20	44	5 mm PQFN-20

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Power Amplifiers (continued)								
Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Output P1dB (dBm)	Psat (dBm)	Gain (dB)	OIP3 (dBm)	Package
MAAP-011313	4 W Power Amplifier	15000	13500	34.5	36	36	—	5 mm AQFN-32
MAAP-011333-DIE	4 W Power Amplifier	15000	13500	37	—	26	—	Bare Die
MAAP-010150	10 – 15.35 GHz Power Amplifier	15350	10000	33.5	36	27	42	7 mm QFN-48
MAAP-011202	2.5 W Power Amplifier	15400	12700	33.5	34.5	30	41	5 mm QFN-24
MAAP-010517	3 W Power Amplifier	15400	14400	35	36.4	24	42	5 mm PQFN-24
XP1042-QT	0.5 W Power Amplifier	16000	12000	25	27	21	38	3 mm PQFN-16
XP1043-QH	1.5 W Power Amplifier	16000	12000	30	32	21.5	41	4 mm PQFN-24
MAAP-011145-STD	2 W Power Amplifier	19750	17650	33	34.5	25	43	7 mm Cavity
MAAP-011327	1 W Power Amplifier	22000	1	28.5	30.5	13.5	47	5 mm AQFN-32
MAAP-011327-DIE	1 W Power Amplifier	22000	1	30	32	14	47	DIE
MAAP-011146-STD	2 W Power Amplifier	23650	21150	34	35	24	41	7 mm Cavity
MAAP-118260	Power Amplifier	26000	18000	28.5	31	28.5	37	5 mm 24-lead QFN
MAAP-011324-DIE	0.25 W, DC – 40 GHz Power Amplifier	27000	0	25	—	18	35	DIE
MAAP-011324	0.25 W, DC – K-Band Power Amplifier	27000	0	25.5	—	18	35	5 mm AQFN-32
MAAP-011319	0.5 W, Ka-Band Power Amplifier	30000	24000	26	—	24	37	4 mm AQFN-24
MAAP-011358-DIE	6 W, Ka-Band Power Amplifier	30000	27000	37.5	39	27	—	DIE
MAAP-011250	4 W, Ka-Band Power Amplifier	30000	27500	34.8	36	24	—	5 mm AQFN-32
MAAP-011289	3 W, Ka-Band Power Amplifier	30000	28000	34	36	24	—	5 mm AQFN-32
MAAP-011316	2 W, Ka-Band Power Amplifier	31000	27000	33.5	—	26	—	5 mm AQFN-32
MAAP-011317	4 W Power Amplifier	31000	27500	36.5	—	27.5	—	5 mm QFN-32
MAAP-011139	4 W Power Amplifier	31000	28500	34.5	36	23	—	5 mm AQFN-32
MAAP-011233	4 W, Ka-Band Power Amplifier	31000	28500	34.5	37	25	—	5 mm AQFN-32
MAAP-011139-DIE	4 W Power Amplifier	31000	29000	34.5	36.5	22	—	DIE
MAAP-011340-DIE	0.25 W, Ka-Band Amplifier	31500	27000	24	—	24	33	DIE
MAAP-011340	0.25 W, Ka-Band Amplifier	31500	27000	24	—	25	33	4 mm AQFN-24
MAAP-011341	0.5 W, Ka-Band Power Amplifier	31500	27000	27	—	28	36	4 mm AQFN-24
MAAP-011246	Power Amplifier	31500	27500	30	33	23	—	5 mm AQFN 32
MAAP-011298	2.3 W, Ka-Band Power Amplifier	31500	28000	32.5	33.5	24.5	—	5 mm AQFN-32
MAAP-015016-DIE	4 W Ka-Band Power Amplifier	38000	32000	—	37	18	—	DIE
MAAP-011325-DIE	0.25 W, DC – 40 GHz Power Amplifier	40000	0	27	—	11	35	DIE
MAAP-011170	Power Amplifier	40000	37000	27	28	27	38	7 mm SMD-16
XP1080-QU	38 GHz Power Amplifier	40000	37000	27	28.9	25	38	7 mm LGA-16
MAAP-010512	42 GHz Power Amplifier	43500	40500	27	29	22	38	7 mm LGA-16
MAAP-011205	0.25 W Power Amplifier	86000	71000	21	—	19	—	7 mm AQFN-16
MAAP-011218-DIE	0.5 W Power Amplifier	86000	71000	26	27	20	31	DIE
MAAP-011199	Power Amplifier	100000	80000	22	24	12	—	DIE
MAAP-011341-DIE	0.5 W, Ka-Band Power Amplifier	315000	27000	26.5	—	27	36	DIE

Linear Amplifiers							
Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	OIP3 (dBm)	Output P1dB (dBm)	Package
MAAM-011106	Power Amplifier Module	1627	1616	30.5	—	33	DIE
MAAM-011117	Broadband, Low Distortion	2700	50	16	35	19.5	2 mm PDFN-8
XP1044-QL	Power Amplifier Module	5900	4000	18.5	46	34	7 mm SMD-28
XF1001-SC	Packaged HFET	6000	DC	15.5	47	30	SOT-89
MAAM-011326	21 dB Gain Amplifier	6000	500	21	36	20	2 mm PDFN-8
XP1050-QJ	2.5 W Power Amplifier	8500	7100	15.5	47	33	6 mm QFN-24
MAAP-015035-DIE	12 W Power Amplifier	11500	8500	36	—	—	DIE

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Linear Amplifiers (continued)

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	OIP3 (dBm)	Output P1dB (dBm)	Package
MAAP-015024-DIE	8 W Power Amplifier	17500	14500	21	—	—	DIE
XP1027-BD	Power Amplifier	31000	27000	25	43	—	DIE
XP1026-BD	Power Amplifier	32000	27000	21	40	32	DIE
MAAM-011139	Driver Amplifier	33400	27500	21	32	20	4 mm QFN-24
XP1017-BD	Power Amplifier	36000	30000	16	33	24	DIE
MAAM-011167	Medium Power Amplifier	86000	71000	18	27	21	DIE
MAAP-011205	Power Amplifier	86000	71000	19	—	21	DIE
MAAP-011106	Power Amplifier	86000	71000	20	30	23	DIE
MAAP-011388-DIE	1 W High Linearity Power Amplifier	86000	71000	28	42	—	4 x 4.3 mm DIE

High Frequency

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	OIP3 (dBm)	Package
MAAP-011215-DIE	Power Amplifier	70000	55000	25	32	DIE
MADC-011021	E-Band Direct Downconverter	86000	71000	—	—	8 x 8 mm SMT
MAAM-011167	Power Amplifier	86000	71000	18	27	DIE
MAAP-011205	Power Amplifier	86000	71000	18	27	7 x 7 mm SMT
MAAP-011106	Power Amplifier	86000	71000	20	30	DIE
MAAP-011218-DIE	0.5 W Power Amplifier	86000	71000	20	31	DIE
MAMF-011142	E-Band Direct Upconverter	86000	71000	30	25.5	12 x 8 mm SMT
MAAP-011199-DIE	Power Amplifier	100000	80000	12	—	DIE

Low Noise Amplifiers

Part Number	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Noise Figure (dB)	OIP3 (dBm)	Output P1dB (dBm)	Bias Voltage (V)	Bias Current (mA)	Package
MAAL-011204 †	128.74	62.87	28	0.6	28	11.5	3	37	4 mm PDFN-8
MAAL-011136	1218	45	20.5	1.2	32	17.5	5	50	SOT-89 Plastic
MAAL-010705	1600	500	21	0.5	32	18.5	4	60	2 mm PDFN-8
MAALSS0042	1600	1500	27	1.15	13	1	5	20	Lead-Free SOIC-8
MAAM-011297	1800	5	17	2.0	42	24	5	290	SOIC-8EP
MAAM-011299	1800	5	18.7	2.5	42	24	5	290	SOIC-8EP
MAALSS0048	2000	1400	18	1.6	13	1	3	7	SOT-26
MAAL-009120	3000	70	11	1.4	35	18.5	3	80	SOT-363
MAAL-010200	3000	70	11	1.4	36	17.5	3	77	SOT-89
CGY2106XHV	3000	100	19	0.45	35	19	2.5	50	QFN
MAAL-007304	3000	500	25.5	0.7	19	7	3	12	SOT-26
MAAL-009053	3000	800	11	1.4	35	18	3	80	SOT-363
MAAL-010570	3500	100	16	0.75	34	18.8	5	15	SOT-363
MAAL-010704	3500	100	16	0.8	34	19	3	60	SOT-363
MAAL-011138	3500	2500	21	1	28	—	5	55	2 mm PDFN-8
MAAM-011229-CQ3	4000	50	19	1.3	38	19.0	5	80	3 mm CQFN-12
MAAM-011229	4000	50	19	1.3	45	19.5	5	80	2 mm QFN-8
CGY2105XHV	4000	500	19	0.42	35	21	3	50	QFN
MAAL-010706	4000	1400	17.5	0.6	34.5	19	4	60	2 mm PDFN-8
MAAL-011207-Q	6000	150	23	0.35	33	17.5	3	50	2 mm PDFN-8
MAAL-011207-Q	6000	150	23	0.4	33	17.5	3-5	30 - 80	2 mm PDFN-8
CGY2108GS	6000	500	21	0.6	36	10	5	50	Hermetic Ceramic
MAAM-011326	6000	500	21	1.5	36	20	5	90	2 mm PDFN-8
CGY2108HV	6000	500	21.5	0.5	36	22	5	50	Hermetic Ceramic

Note: Part numbers are RoHS compliant. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

Low Noise Amplifiers (continued)									
Part Number	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Noise Figure (dB)	OIP3 (dBm)	Output P1dB (dBm)	Bias Voltage (V)	Bias Current (mA)	Package
CGY2107HV	6000	500	24	0.5	36	19	5	50	QFN
MAAL-011134	6000	700	15	0.85	28	15	3	50	2 mm PDFN-8
MAAL-011134-CQ3	6000	700	15	0.85	28	15	3	50	3 mm CQFN-12
MAAL-011078	6000	700	23	0.35	33	17.5	3	50	2 mm PDFN-8
MAAL-011188	6000	1000	35	0.79	31	17.5	5	80	3 mm PQFN-16
CGY2178UH	6000	5000	30	1	22	15	3	40	DIE
MAAM37000	7000	3500	17	1.8	24	14	4	75	DIE
MAAM37000-A1	7000	3500	17	2.2	25	14	4	75	Ceramic-8
MAAM37000-A1G	7000	3500	17	2.2	25	14	4	75	Ceramic Gull Wing-8
CGY2120XUH	7000	5000	13	0.5	—	12	1	50	DIE
MAAM-011305	8000	30	15.3	1.7	35	20	5	65	2 mm PDFN-8
MAAM-011305-DIE	8000	30	16	1.6	37	20	5	55	DIE
MAAM-011252	8000	30	20	1.2	34	19.5	5	56	2 mm 8-lead PDFN
MAAM-011252-DIE	8000	30	20	1.2	34	20	5	60	DIE
MAAM-011252-CQ3	8000	30	20	1.4	34	20	5	65	3 mm CQFN-12
CGY2220UH	12000	1000	36	1.5	12	—	1.5	54	DIE
MAAM71200-H1	12000	7500	15.5	2.7	21	11	4	40	Leadless Ceramic
MAAM71200	12000	7500	16.5	2.3	22	12	4	40	DIE
CGY2221UH	12000	8000	16	1.6	29	17	5	82	DIE
MAAL-010528	12000	8000	20	1.6	26	14	4	60	3 mm PQFN
CGY2124UH	12000	8000	33	1.1	20	10	5	55	DIE
CGY2221HV	13000	7500	16	1.6	29	17	5	82	QFN
CGY2221HV	13000	7500	17	1.6	—	17	5	82	QFN
CGY2232UH	14750	12750	24	1.3	—	0	3	24	DIE
CGY2125AUH	15000	13000	25	1.5	—	8	3.3	20	DIE
CGY2230UH	18000	1000	35	1.5	12	0	1.5	50	DIE
MAAL-011151	18000	2000	15	3.5	—	5	3	2	5 mm PQFN-32
MAAL-011130	18000	2000	21	1.4	24	14	3	80	2 mm PQFN-8
CGY2290SUH	18000	6000	8.5	3	—	13	5	30	DIE
MAAL-011181	20000	9	15	2.5	29	18	5	—	5 mm PQFN-32
MAAL-011181-DIE	20000	9	15	2.5	29	18	5	—	DIE
MAAL-011182	20000	2000	15	1.5	24	14	5	65	5 mm PQFN-32
MAAL-011182-DIE	20000	2000	15	2.5	25	14	5	65	DIE
MAAL-011146	21500	17250	17	1.4	14	12	2	30	3 mm PQFN-16
CGY2121XUH	26000	18000	19	1.3	5	7	1.5	60	DIE
MAAL-011141	28000	DC	17.5	1.4	27.5	16	6	75	5 mm AQFN-32
MAAL-011141-DIE	28000	DC	17.5	1.4	27.5	16	6	75	DIE
MAAL-011129	31500	18000	23	2.5	25	16	3	80	2 mm PQFN-8
CGY2128UH	34000	24000	23	1.6	17.5	8.5	3.5	47	DIE
MAAL-011138	35000	25000	21	1	28	—	5	80	3 mm PDFN-8
XL1002-BD	36000	20000	23	2.6	16	4	5	85	DIE
MAAL-011198	37000	32000	18.5	3	23	18	3.3	90	2 mm PDFN-8
XL1010-BD	38000	20000	17	3	—	—	4	45	DIE
XL1010-QT	38000	20000	17	3	—	6	4	45	3 mm QFN-16
MAAL-011111	38000	22000	19	2.5	—	5	3	55	3 mm QFN-16
XL1000-BD	40000	20000	20	2	16	9	3	35	DIE
CGY2122XUH	43000	25000	32	1.5	10	1.2	1.1	30	DIE

Note: Part numbers are RoHS compliant. ♦ indicates non-RoHS compliant. † Indicates Non-magnetic. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

Low Noise Amplifiers (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Noise Figure (dB)	OIP3 (dBm)	Output P1dB (dBm)	Bias Voltage (V)	Bias Current (mA)	Package
CGY2260UH	44000	24000	25.5	1.7	22	6	1.5	50	DIE
MAAL-011186	55000	20000	20	2.5	24	14	3.5	130	5 mm SMT
MAAL-011186-DIE	60000	20000	20	2.5	24	14	3.5	130	DIE
CGY2272UH	69000	44000	29	1.7	—	5	1.5	46	DIE
CGY2190UH	110000	75000	23	2.8	—	1	1	33	DIE

Low Phase Noise Amplifiers

Part Number	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Noise Figure (dB)	Phase Noise (dBc/Hz)	Package
MAAL-011154-DIE	8000	4000	15	5.1	-165	DIE
MAAL-011154	8000	4000	15.7	5	-165	4 mm PQFN-16
MAAL-011155-DIE	12000	6000	15	5.1	-167	DIE
MAAL-011155	12000	6000	15.5	5	-167	4 mm PQFN-16
MAAL-011151	18000	2000	15	4	-154	5 mm PQFN-32
MAAL-011159-DIE	27000	2000	23	4	-164	DIE
MAAL-011158-DIE	28000	2000	12	4	-172	DIE

Variable Gain Amplifiers

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	OIP3 (dBm)	Output P1dB (dBm)	Atten Range	Package
MAAM-011100	Variable Gain Amplifier	20000	400	12	25	70/+5.-5	30	1.5 x 1.2 mm TDFN-6

CATV Amplifiers

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	OIP3 (dBm)	Bias Current (mA)	Bias Voltage (V)	Noise Figure (dB)	Package
MAAM-011156	Amplifier, CATV Return Path Differential	300	5	19	44	210	8	7	3 mm PQFN-16
MAAM-011184	CATV Return Path Single-ended Amplifier	300	5	21	43	95	5	2.5	MSOP 8-EP
MAAM-011185	CATV Return Path Differential Amplifier	300	5	21.2	43	290	5	3.1	3 mm PQFN-16
MAAM-011186	Differential CATV Variable Gain Amplifier	300	5	39	42	280	8	3	7 mm PQFN-48
MAAM-011168	Differential CATV Variable Gain	300	5	40	44	290	8	2.6	7 mm PQFN-48
MAAMSS0067	Low Noise, Low Distortion Amplifier	1000	50	12.2	32	190	5	3.3	4 mm PQFN-20
MAAMSS0044	Low Noise, Low Distortion Amplifier	1000	50	12.2	42	225	5	3.3	4 mm PQFN-20
MAAM-009100	Broadband CATV Amplifier	1000	50	14.3	34	105	5	3	SOT-89
MAAM-007724	Low Noise, Low Distortion Amplifier	1005	50	12.2	32	190	5	3.3	4 mm PQFN-20
MAAM-010373	Broadband CATV Amplifier	1100	50	22	40	148	8	1.66	SOT-89
MAAM-011169	CATV 75 Ω Push Pull Amplifier	1200	45	25	54	480	12	4.4	5 x 7 mm PQFN-40
MAAMSS0041	Low Noise, Low Distortion Amplifier	1200	50	15	36	100	8	2.7	SOT-89
MAAMSS0042	Low Noise, Low Distortion Amplifier	1200	50	15	38	110	5	3	SOT-89
MAAMSS0060	Low Noise, Low Distortion Amplifier	1200	50	17	37	120	8	1.8	SOT-89
MAAM-009633	Broadband CATV Amplifier	1200	50	17	37	120	8	1.9	SOT-89
MAAM-011251	75 Ω, High Linearity, Low Noise CATV Amplifier	1218	5	15	37	100	5	1.9	SOT-89
MAAM-011258	75 Ω, High Linearity, Low Noise CATV Amplifier	1218	5	15	37	100	5	2.2	SOT-89
MAAM-011240	75 Ω, Differential RF Amplifier	1218	5	17	44	290	5	1.7	SOIC-8EP
MAAM-011163	75 Ω, Differential RF Amplifier	1218	5	19	42	290	5	1.7	SOIC-8EP
MAAM-011182	75 Ω, 8 V RF Amplifier	1218	45	18	38	130	8	2.7	2 mm PDFN-8
MAAM-011297	75 Ω, RF Differential Amplifier	1800	5	17	42	290	5	2	SOIC-8EP
MAAM-011299	75 Ω, RF Differential Amplifier	1800	5	18.7	42	290	5	2	SOIC-8EP
MAAL-011119	Satellite TV Amplifier	2200	900	10.5	32	80	2.5	1.5	SOT-363
MAAL-009053	Satellite TV Amplifier	3000	800	11	35	80	3	1.4	SOT-363
MAAL-011139	Low Noise Amplifier	4000	5	21	34	85	5	1	SOT-89

Note: Part numbers are RoHS compliant.
 Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
 All specifications are subject to change.

Distributed Amplifiers (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Gain Flatness (dB)	Noise Figure (dB)	OIP3 (dBm)	Output P1dB (dBm)	Package
MAAM-011289	20000	5000	16	1	5	30	20	3 mm AQFN-12
MAAM-011290	20000	5000	20	2.5	4	29	20	3 mm AQFN-12
MAAP-011327-DIE	22000	2000	13	—	—	42	28	DIE
MAAP-011327	22000	2000	13	—	—	45	28	5 mm AQFN-32
MAAP-011324	27000	DC	18	—	—	34	25	5 mm AQFN-32
MAAP-011325-DIE	40000	DC	11	—	—	35	27	DIE
MAAM-011275-DIE	40000	0.03	15	0.75	5	33	21	DIE
MAAM-011286-DIE	40000	0.03	16	1	4	30	22	DIE
MAAM-011109	40000	100	13	18	3.5	22	18	5 mm LGA-9
MAAM-015023-DIE	40000	18000	26	0.5	6	30	21	DIE
CGY2145UH	45000	500	12.7	—	4.5	—	18	DIE
MAAM-011291-DIE	45000	20000	19	—	—	35	28.5	DIE
MAAM-011277-DIE	45000	20000	24.5	—	—	30	23.5	DIE
CGY2141UH	46000	10	16	—	4	—	19	DIE
CGY2160UH	47000	1500	14.5	—	1.5	—	17	DIE
MAAM-011275	50000	0.03	15	0.75	5	29	20	5 mm AQFN-12
MAAM-011238	50000	0.1	14	3.5	5.5	27	17	5 mm LGA-12
MAAM-011231-DIE	50000	0.1	15	1.5	3.5	24	15	DIE
XD1001-BD	50000	18000	17	1	5	24	15	DIE
CGY2144UH	54000	10	13	—	2.5	—	15	DIE
MAAM-011238-DIE	67500	0.1	15	2	7	27	17.6	DIE

FTTx Amplifiers

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	OIP3 (dBm)	Bias Current (mA)	Bias Voltage (V)	Noise Figure (dB)	Package
MAAM-007807	CATv and 2nd Stage FTTx Amplifier	1000	50	9	35	60	5	3.8	SOT-89
MAAM-008863	FTTx RF Amplifier	1000	50	37	—	220	5	4.8	4 mm PQFN-24
MAAM-010333	Optical Node RF Amplifier	1200	50	33	—	260	5	—	4 mm PQFN-24

Hybrid Amplifiers: Gain Blocks

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	OIP3 (dBm)	Package
A72	Cascadable, High Efficiency	500	5	15	26	TO-8
SMA72	Cascadable, High Efficiency	500	5	15	26	SMT
A54	Cascadable	500	5	15.5	21	TO-8
A77	Cascadable	500	5	16.5	30	TO-8
CA77 ♦	Cascadable	500	5	16.5	30	Connectorized
SMA77	Cascadable	500	5	16.5	30	SMT
A88	Cascadable	500	5	18.7	30	TO-8
SMA88	Cascadable	500	5	18.7	30	SMT
A74-2	Cascadable, High Efficiency	500	5	26	10	TO-8
RA89	Cascadable, High Gain	500	5	26.5	35	TO-8B
CRA89 ♦	Cascadable, High Gain	500	5	26.5	35	Connectorized
A55	Cascadable	500	10	14.7	24	TO-8
A57	Cascadable	500	10	14.7	28	TO-8
SMA57	Cascadable	500	10	14.7	28	SMT
PA512	Cascadable, Medium Power	500	10	18	40	TO-8
MAAM-007502-CPA512 ♦	Cascadable, Medium Power	500	10	18	40	Connectorized
SMA513	Cascadable	500	10	20	30	SMT

Note: Part numbers are RoHS compliant. ♦ indicates non-RoHS compliant. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

Hybrid Amplifiers: Gain Blocks (continued)						
Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	OIP3 (dBm)	Package
MAAM-008200-000A83	Cascadable, High Efficiency	500	10	30	10	TO-8
RA89-1	Cascadable, High Gain	500	10	30	36	TO-8B
CRA89-1 ♦	Cascadable, High Gain	500	10	30	36	Connectorized
SMRA89-1	Cascadable, High Gain	500	10	30	36	SMT
A77-1	Cascadable	600	5	16	30	TO-8
CA77-1 ♦	Cascadable	600	5	16	30	Connectorized
SMA77-1	Cascadable	600	5	16	30	SMT
A5-6	Cascadable	600	6	15.5	21	TO-8
SMA5-6	Cascadable	600	6	16	21	SMT
A59-1	Cascadable, High Dynamic Range	700	10	10.5	36	TO-8
SMA59-1	Cascadable, High Dynamic Range	700	10	10.5	36	SMT
A89	Cascadable	800	50	22	30	TO-8
SMA89	Cascadable	800	100	22	30	SMT
AMC-184-SMA ♦	Cascadable	1000	5	20	20	Connectorized
AMC-145-SMA ♦	Cascadable	1000	10	10.7	32	Connectorized
A19-1	Cascadable Amplifier	1000	10	11.5	35	TO-8
CA19-1 ♦	Cascadable	1000	10	11.5	35	Connectorized
SMA19-1	Cascadable	1000	10	11.5	35	SMT
A17	Cascadable Amplifier	1000	10	12	27	TO-8
CA17 ♦	Cascadable	1000	10	12	27	Connectorized
SMA17	Cascadable	1000	10	12	27	SMT
RA69	Cascadable, High Gain	1000	10	25	34	TO-8B
CRA69 ♦	Cascadable, High Gain	1000	10	25	34	Connectorized
SMRA69	Cascadable, High Gain	1000	10	25	34	SMT
A1021	Cascadable, High Gain	1000	10	26	26	TO-8
CA1021 ♦	Cascadable, High Gain	1000	10	26	26	Connectorized
SMA1021	Cascadable, High Gain	1000	10	26	26	SMT
A66-1	Cascadable, High Gain	1000	10	27.5	28	TO-8
CA66-1	Cascadable, High Gain	1000	10	27.5	28	Connectorized
SMA66-1	Cascadable, High Gain	1000	10	27.5	28	SMT
RA66	Cascadable, High Gain	1000	10	37	30	TO-8B
CRA66 ♦	Cascadable, High Gain	1000	10	37	30	Connectorized
SMRA66	Cascadable, High Gain	1000	10	37	30	SMT
AMC-155-SMA ♦	Cascadable, High Dynamic Range	1000	300	12.3	30	Connectorized
A66	Cascadable	1200	10	23.5	28	TO-8
CA66 ♦	Cascadable	1200	10	23.5	28	Connectorized
SMA66	Cascadable	1200	10	23.5	28	SMT
A64	Cascadable, High Gain	1200	10	26	20	TO-8
CA64 ♦	Cascadable, High Gain	1200	10	26	20	Connectorized
SMA64	Cascadable, High Gain	1200	10	26	20	SMT
A27	Cascadable	1500	5	8.5	28	TO-8
A25	Cascadable Amplifier	1500	5	10	21	TO-8
A24	Cascadable	1500	5	20	21	TO-8
CA24 ♦	Cascadable	1500	5	20	21	Connectorized
SMA24	Cascadable	1500	5	20	21	SMT
A29-1	Cascadable	1500	10	9	32	TO-8
CA29-1 ♦	Cascadable	1500	10	9	32	Connectorized

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Hybrid Amplifiers: Gain Blocks (continued)

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	OIP3 (dBm)	Package
SMA29-1	Cascadable	1500	10	9	32	SMT
A28	Cascadable	1500	10	11	29	TO-8
CA28 ♦	Cascadable	1500	10	11	29	Connectorized
SMA28	Cascadable	1500	10	11	29	SMT
A26	Cascadable Amplifier	1500	10	20.5	27	TO-8
CA26 ♦	Cascadable	1500	10	20.5	27	Connectorized
SMA26	Cascadable	1500	10	20.5	27	SMT
A39	Cascadable	2000	10	7.5	34	TO-8
SMA39	Cascadable	2000	10	7.5	34	SMT
A38	Cascadable	2000	10	9.5	30	TO-8
CA38 ♦	Cascadable	2000	10	9.5	30	Connectorized
SMA38	Cascadable	2000	10	9.5	30	SMT
A35	Cascadable	2000	10	10	21	TO-8
CA35 ♦	Cascadable	2000	10	10	21	Connectorized
SMA35	Cascadable	2000	10	10	21	SMT
A37	Cascadable	2000	10	10	28	TO-8
SMA37	Cascadable	2000	10	10	28	SMT
A34	Cascadable	2000	100	16	18	TO-8
SMA34	Cascadable	2000	100	16	18	SMT
A36	Cascadable	2000	100	16.5	23	TO-8
SMA36	Cascadable	2000	100	16.5	23	SMT
RA36	Cascadable, High Gain	2000	100	24	22	TO-8
CRA36 ♦	Cascadable, High Gain	2000	100	24	22	Connectorized
SMRA36	Cascadable, High Gain	2000	100	24	22	SMT
SMPA2010	Cascadable, Medium Power	2000	200	10	33	SMT
CA36-1 ♦	Cascadable	2300	100	16.2	23	Connectorized

Hybrid Amplifiers: Low Noise Amplifiers

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
A101	Cascadable, High Linearity	100	5	17	3	36	TO-8
SMA101	Cascadable, High Linearity	100	5	17	3	36	SMT
AMS-162-PIN ♦	Cascadable, High Dynamic Range	100	10	12.5	1.5	30	TO-8
AMC-162-SMA ♦	Cascadable, Low Noise, High Dynamic Range	100	10	12.5	1.5	30	Connectorized
AM-162-PIN ♦	Cascadable, High Dynamic Range	100	10	12.5	1.1	32	TO-8
A80-1	Cascadable	200	10	27.3	2	28	TO-8
SMA80-1	Cascadable	200	10	27.3	2	28	SMT
MAAM-007844-OCA801 ♦	Cascadable	200	10	27.3	2	28	Connectorized
A74-1	Cascadable, High Gain	250	5	31	4.5	21	TO-8
A70	Cascadable, High Dynamic Range	250	10	8	1.6	24	TO-8
SMA70	Cascadable, High Dynamic Range	250	10	8	1.6	24	SMT
A70-1	Cascadable, High Dynamic Range	250	10	8	1.8	28	TO-8
SMA70-1	Cascadable, High Dynamic Range	250	10	8	1.8	28	SMT
A70-2	Cascadable, High Dynamic Range	250	10	8	2.2	38	TO-8
CA70-2 ♦	Cascadable, High Dynamic Range	250	10	8	2.2	38	Connectorized
A231	Cascadable, High Gain	250	10	26	1.7	22	TO-8
CA231 ♦	Cascadable, High Gain	250	10	26	1.7	22	Connectorized
SMA231	Cascadable, High Gain	250	10	26	1.7	22	SMT

Note: Part numbers are RoHS compliant. ♦ indicates non-RoHS compliant. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

Hybrid Amplifiers: Low Noise Amplifiers (continued)

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
A83-1	Cascadable	250	10	35.5	2.5	9	TO-8
CA83-1 ♦	Cascadable	250	10	35.5	2.5	9	Connectorized
SMA83-1	Cascadable	250	10	35.5	2.5	9	SMT
A70-3	Cascadable, High Dynamic Range	250	20	8	2.8	40	TO-8
A82-1	Cascadable	250	20	19	2.8	26	TO-8
SMA82-1	Cascadable	250	20	19	2.8	26	SMT
SMA81	Cascadable	250	20	24.5	2.6	28	Ceramic SMT0-8
A81-1	Cascadable	250	20	25	2.5	27	TO-8
SMA81-1	Cascadable	250	20	25	2.5	27	SMT
A82	Cascadable	250	20	25	2.8	31	TO-8
CA82 ♦	Cascadable	250	20	25	2.8	31	Connectorized
SMA82	Cascadable	250	20	25	2.8	31	SMT
A81	Cascadable	250	20	25.5	3	28	TO-8
A78	Cascadable	300	5	14	3.5	35	TO-8
CA78 ♦	Cascadable	300	5	14	3.5	35	Connectorized
SMA78	Cascadable	300	5	14	3.5	35	SMT
SMA70-2	Cascadable, High Dynamic Range	300	10	8	2.2	38	Ceramic SMT0-8
A87-2	Cascadable	300	10	16	2.9	24	TO-8
SMA87-2	Cascadable	300	10	16	2.9	24	SMT
SMA70-3	Cascadable, High Dynamic Range	300	15	8	2.8	40	Ceramic SMT0-8
PAW1027 ♦	Ultra Linear Power, Multi Carrier	350	35	38.5	3.7	43	SOT115J
EA1	Cascadable	400	5	14	4.3	13	TO-5
MAAM-008199-000A51	Cascadable	400	10	15	2.7	10	TO-8
A411	Cascadable	400	10	15.8	3	24	TO-8
SMA411	Cascadable	400	10	15.8	3	24	SMT
A87-1	Cascadable	400	10	16	3.4	31	TO-8
CA87-1 ♦	Cascadable	400	10	16	3.4	31	Connectorized
SMA87-1	Cascadable	400	10	16	3.4	31	SMT
AMC-123-SMA ♦	Cascadable, Low Noise, High Linearity	500	5	10	5.5	30	Connectorized
A58	Cascadable	500	5	11.5	4	34	TO-8
SMA58	Cascadable	500	5	11.5	4	34	SMT
AM-131-PIN	Cascadable, Low Noise, High Linearity	500	5	11.5	4	34	TO-8
A59	Cascadable, High Dynamic Range	500	5	11.5	4.3	36	TO-8
SMA59	Cascadable, High Dynamic Range	500	5	11.5	4.3	36	SMT
AMC-143-SMA ♦	Cascadable	500	5	15.8	2.5	20	Connectorized
A1	Cascadable Amplifier	500	5	16	2.4	11	TO-8
SMA1	Cascadable	500	5	16	2.4	11	SMT
AMC-147-SMA ♦	Cascadable, High Linearity	500	5	17	3.4	33	Connectorized
EA53-2	Cascadable	500	5	19	3.6	24	TO-5
A75	Cascadable Amplifier	500	5	21	2.1	21	TO-8
CA75 ♦	Cascadable	500	5	21	2.1	21	Connectorized
SMA75	Cascadable	500	5	21	2.1	21	SMT
A76-1	Cascadable, High Efficiency	500	5	27.5	3	26	TO-8
SMA76-1	Cascadable, High Efficiency	500	5	27.5	3	26	SMT
A515	Cascadable, High Gain	500	5	27.5	3.5	33	TO-8
MAAM-007272-OCA515 ♦	Cascadable, High Gain	500	5	27.5	3.5	33	Connectorized
MAAM-007272-SMA515	Cascadable, High Gain	500	5	27.5	3.5	33	SMT0-8

Note: Part numbers are RoHS compliant. ♦ indicates non-RoHS compliant. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

Hybrid Amplifiers: Low Noise Amplifiers (continued)

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
SMA76	Cascadable, High Gain	500	5	28	3	28	SMT
CA76 ♦	Cascadable, High Gain	500	5	28	3	28	Connectorized
A76	Cascadable, High Gain	500	5	28	3	28	TO-8
A514	Cascadable, High Gain	500	5	28	4	32	TO-8
MAAM-007272-OCA514	Cascadable, High Gain	500	5	28	4	32	Connectorized
MAAM-007272-SMA514	Cascadable, High Gain	500	5	28	4	32	SMTO-8
A74	Cascadable, High Gain	500	5	30	3	20	TO-8
CA74 ♦	Cascadable, High Gain	500	5	30	3	20	Connectorized
SMA74	Cascadable, High Gain	500	5	30	3	20	SMT
A73	Cascadable, High Gain	500	5	32	3.5	15	TO-8
SMA73	Cascadable, High Gain	500	5	32	3.5	15	SMT
A180	Cascadable	500	10	16.5	3.4	33	TO-8
CA180 ♦	Cascadable	500	10	16.5	3.4	33	Connectorized
SMA180	Cascadable	500	10	16.5	3.4	33	SMT
A511	Cascadable Amplifier	500	10	17	3.4	33	TO-8
CA511 ♦	Cascadable	500	10	17	3.4	33	Connectorized
A75-3	Cascadable	500	10	20.5	1.7	16	TO-8
SMA75-3	Cascadable	500	10	20.5	1.7	16	SMT
MAAM-008317-CA7503 ♦	Cascadable	500	10	20.5	1.7	16	Connectorized
A531	Cascadable	500	10	31.7	2	14	TO-8
CA531 ♦	Cascadable	500	10	31.7	2	14	Connectorized
A81-3	Cascadable	500	20	17	4	20	TO-8
A81-2	Cascadable	500	20	24.5	3	28	TO-8
CA81-2 ♦	Cascadable	500	20	24.5	3	28	Connectorized
SMA81-2	Cascadable	500	20	24.5	3	28	SMT
A80	Cascadable	500	20	29	2.5	27	TO-8
SMA80	Cascadable	550	10	29	2.3	27	Ceramic SMTO-8
A67-1	Cascadable, High Efficiency	600	10	15	3.7	30	TO-8
CA67-1 ♦	Cascadable, High Efficiency	600	10	15	3.7	30	Connectorized
SMA67-1	Cascadable, High Efficiency	600	10	15	3.7	30	SMT
A611	Cascadable, Low Noise, Low Volt	700	5	15	3.2	24	TO-8
SMA611	Cascadable, Low Noise, Low Volt	700	5	15	3.2	24	SMT
A67	Cascadable, High Efficiency	800	10	14	4	30	TO-8
AMC-176-SMA ♦	Cascadable	1000	5	13.2	4	27	Connectorized
A11	Cascadable Amplifier	1000	5	14.7	3.1	10	TO-8
SMA11-2	Cascadable	1000	5	16	2.5	10	SMT
A63	Cascadable	1000	5	16	3	15	TO-8
SMA63	Cascadable	1000	5	16	3	15	SMT
AMC-182-SMA ♦	Cascadable, High Gain	1000	5	28.2	3.5	20	Connectorized
A18-1	Cascadable, High Dynamic Range	1000	10	14.7	3.8	30	TO-8
CA18-1 ♦	Cascadable, High Dynamic Range	1000	10	14.7	3.8	30	Connectorized
SMA18-1	Cascadable, High Dynamic Range	1000	10	14.7	3.8	30	SMT
A12	Cascadable Amplifier	1000	10	16	2.8	22	TO-8
A66-3	Cascadable, High Efficiency	1000	10	26	3	13	TO-8
CA66-3 ♦	Cascadable, High Efficiency	1000	10	26	3	13	Connectorized
SMA66-3	Cascadable, High Efficiency	1000	10	26	3	13	SMT
A1031	Cascadable, High Gain	1000	10	28.5	2.7	22	TO-8

Note: Part numbers are RoHS compliant. ♦ indicates non-RoHS compliant. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

AMPLIFIERS

Hybrid Amplifiers: Low Noise Amplifiers (continued)

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
SMA1031	Cascadable, High Gain	1000	10	28.5	2.7	22	SMT
MAAM-008198-OCA162	Cascadable, High Efficiency	1200	10	13	3.5	18	Connectorized
MAAM-008198-SMA162	Cascadable, High Efficiency	1200	10	13	3.5	18	SMT0-8
CA12 ♦	Cascadable, Low Volt	1200	10	14	2.8	20	Connectorized
A1211	Cascadable Amplifier	1200	10	14	2.8	20	TO-8
SMA1211	Cascadable, Low Volt	1200	10	14	2.8	20	SMT
A1212	Cascadable Amplifier	1200	100	14	1.8	29	TO-8
CA1212 ♦	Cascadable, Low Volt	1200	100	14	1.8	29	Connectorized
SMA1212	Cascadable, Low Volt	1200	100	14	1.8	29	SMT
A25-1	Cascadable	1500	2	13.5	3	22	TO-8
CA25-1 ♦	Cascadable	1500	2	13.5	3	22	Connectorized
A28-2	Cascadable, High Efficiency	1500	10	14	3.5	24	TO-8
CA28-2 ♦	Cascadable, High Efficiency	1500	10	14	3.5	24	Connectorized
SMA28-2	Cascadable, High Efficiency	1500	10	14	3.5	24	SMT
AM-153-PIN ♦	Cascadable, Low Noise	1800	300	12.4	2.5	17	TO-8
A31-1	Cascadable Amplifier	2000	10	11.5	3.5	9	TO-8
A32-1	Cascadable, Low Noise, Low Volt	2000	100	11.5	2.5	25	TO-8
CA32-1 ♦	Cascadable, Low Noise, Low Volt	2000	100	11.5	2.5	25	Connectorized
SMA32-1	Cascadable, Low Noise, Low Volt	2000	100	11.5	2.5	25	SMT
A32	Cascadable, High Linearity	2000	100	13	2.1	32	TO-8
CA32 ♦	Cascadable, High Linearity	2000	100	13	2.1	32	Connectorized
SMA32	Cascadable, High Linearity	2000	100	13	2.1	32	SMT
PA38	Cascadable, Medium Power	2000	200	10	4	34	TO-8
CPA38 ♦	Cascadable, Medium Power	2000	200	10	4	34	Connectorized
SMPA38	Cascadable, Medium Power	2000	200	10	4	34	SMT
MAAM-007501-OA2002	Cascadable	2700	20	11.5	2.5	40	TO-8
MAAM-007501-CA2002	Cascadable	2700	20	11.5	2.5	40	Connectorized
MAAM-007501-SA2002	Cascadable	2700	20	11.5	2.5	40	SMT0-8
A4011	Cascadable, Low Noise, Low Volt	4000	1000	15.5	2	29	TO-8
SMA4011	Cascadable, Low Noise, Low Volt	4000	1000	15.5	2	29	SMT
A45-1	Cascadable	4000	1000	17.5	4	26	TO-8
SMA45-1	Cascadable	4000	1000	17.5	4	26	SMT
A45	Cascadable	4000	1000	17.5	4	29	TO-8
CA45 ♦	Cascadable	4000	1000	17.5	4	29	Connectorized
SMA45	Cascadable	4000	1000	17.5	4	29	SMT
A4012	Cascadable, Low Noise, Low Volt	4000	1000	18	3.5	26	TO-8
SMA4012	Cascadable, Low Noise, Low Volt	4000	1000	18	3.5	26	SMT
A61	Cascadable, Low Noise, Low Volt	6000	2000	7.5	3.2	25	TO-8
SMA61	Cascadable, Low Noise, Low Volt	6000	2000	7.5	3.2	25	SMT
A6011	Cascadable, Low Noise, Low Volt	6000	2000	14.8	1.5	30	TO-8
CA6011 ♦	Cascadable, Low Noise, Low Volt	6000	2000	14.8	1.5	30	Connectorized
SMA6011	Cascadable, Low Noise, Low Volt	6000	1500	14.8	1.5	30	Ceramic SMT0-8

Hybrid Amplifiers: Limiting Amplifiers

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dBm)	Package
LA7	Cascadable, Limiting Amplifier	500	50	12.5	TO-8
CLA7 ♦	Cascadable, Limiting Amplifier	500	50	12.5	SMA

Note: Part numbers are RoHS compliant. ♦ indicates non-RoHS compliant.

Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.

All specifications are subject to change.

Hybrid Amplifiers: Limiting Amplifiers (continued)						
Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dBm)	Package	
SMLA7	Cascadable, Limiting Amplifier	500	50	12.5	Ceramic SMT0-8	
AL7	Cascadable, Limiting Amplifier	500	50	13	TO-8	
CAL7 ♦	Cascadable, Limiting Amplifier	500	50	13	SMA	
SMAL7	Cascadable, Limiting Amplifier	550	20	13	Ceramic SMT0-8	
LA17	Cascadable, Limiting Amplifier	1000	10	11.5	TO-8	
CLA17 ♦	Cascadable, Limiting Amplifier	1000	10	11.5	SMA	
SMLA17	Cascadable, Limiting Amplifier	1000	10	11.5	Ceramic SMT0-8	
L1	Cascadable, Signal Limiter	3000	5	—	TO-8	
SML1	Cascadable, Signal Limiter	3000	5	—	Ceramic SMT0-8	
L42	Cascadable, Signal Limiter	4000	50	—	TO-8	
CL42 ♦	Cascadable, Signal Limiter	4000	50	—	SMA	
SML42	Cascadable, Signal Limiter	4000	50	—	SMT	

Note: Part numbers are RoHS compliant. ♦ indicates non-RoHS compliant. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.



DIODES

For Microwave Circuit Applications from 1 MHz to 80 GHz

MACOM designs, manufactures, and supports one of the widest variety of PIN, Schottky, Varactor, and Multiplier diodes in the industry for microwave circuit applications from 1 MHz to 80 GHz. Our diodes are manufactured in die, SURMOUNT™, plastic, and ceramic packaging for a variety of circuit configurations providing high performance.



Variable Varactor Diodes

- > GaAs constant gamma series for higher frequency and high Q applications
- > Plastic packaged silicon varactor diodes for surface mount applications, including VCOs, tunable filters, and phase shifters

Step Recovery Diodes

- > Flip chip series for higher frequency millimeterwave applications
- > Plastic packaged series for microwave frequency surface mount applications
- > Ceramic packaged series for high power waveguide and coaxial applications

PIN Switch and Attenuator Diodes

- > Broadband performance from 1 MHz to 70 GHz
- > Excellent choices for switch, limiter, phase shifter, and attenuator circuit applications
- > Plastic series for cost effective, surface mount applications
- > AlGaAs series for low loss, high isolation millimeter wave frequency applications
- > GaAs and silicon flip chip series for surface mount millimeterwave applications
- > SURMOUNT™ chipscale style for surface mount high performance applications

PIN Limiter Diodes

- > Die series for chip and wire high frequency microwave applications
- > Ceramic packaged series for waveguide, coaxial, and surface mount applications

Schottky Mixer and Detector Diodes

- > Best choice for microwave circuit detector and mixer applications ranging from DC to 80 GHz
- > Available in die form, SURMOUNT™, flip chip, plastic, and ceramic packaging

THz Diodes

- > The intrinsic cutoff frequencies of these Schottky junction devices exceed 1 THz
- > Well-suited for use in mixers and detectors operating in the frequency bands from 60 GHz into the hundreds of GHz bands

Variable Varactor Diodes						
Part Number	Total Capacitance (pF)	Gamma	Quality Factor @ 50 MHz, Min	Breakdown Voltage (V)	Package	
MAVR-011020-1411	0.025	0.9	3000	22	ODS-287/SOT-23	
MAVR-011005-12790T	0.27	1	—	20	ODS-1279 (SC-79)	
MA46600-134 S	0.3	0.5	8000	30	ODS-134 DIE	
MGV075-08	0.3	0.75	4000	22	C01A	
MA46H120	0.35	1	3000	15	Flip Chip DIE	
MAVR-000120-12030W	0.35	1	3000	15	Flip Chip DIE	
MAVR-000120-14110G	0.35	1	3000	20	Flip Chip DIE	
MAVR-000120-14110P	0.35	1	3000	20	Flip Chip DIE	
MGV100-08	0.35	1	4000	22	DIE/Various	
MTV4030-01	0.4	—	5000	30	DIE/Various	
MGV075-09	0.4	0.75	4000	22	C01A	
MGV100-09	0.45	1	4000	22	DIE/Various	
MGV075-10	0.5	0.75	3000	22	C01A	
MA46580-1209	0.5	1.25	3000	18	ODS-1209 DIE	
MA46585-1209	0.5	1.25	3000	18	ODS-1209 DIE	
MA46470-120	0.5	1.25	4000	22	ODS-120	
MA46470-134	0.5	1.25	4000	22	ODS-134 DIE	
MGV100-20	0.55	1	4000	22	DIE/Various	
MTV4030-02	0.6	—	5000	30	DIE/Various	
MA46H070-1056 S	0.6	0.75	4500	20	ODS-1056	
MA46603-134 S	0.6	0.5	6500	30	ODS-134 DIE	
MA46603-276	0.6	0.5	6500	30	ODS-276	
MA46H200-1056	0.6	1.25	3000	22	ODS-1056	
MA46471-134	0.7	1.25	4000	22	ODS-134 DIE	
MTV4030-03	0.8	—	4800	30	DIE/Various	
MTV4030-04	1	—	4800	30	DIE/Various	
MA46H071-1088	1	0.75	4500	20	ODS-1088	
MA46H071-1056 S	1	0.75	4500	20	ODS-1056	
MA46452-134	1	1	3000	22	ODS-134 DIE	
MA46472-94	1	1.25	3000	22	ODS-94	
MA46472-134	1	1.25	3000	22	ODS-134 DIE	
MA46H201-1056	1	1.25	3000	22	ODS-1056	
MA46H201-1088	1	1.25	3000	22	ODS-1088	
MA46413-120	1	1.5	2500	18	ODS-120	
MA46H501-1056	1	1.5	2500	18	ODS-1056	
MTV4030-05	1.2	—	4600	30	DIE/Various	
MA46473-134	1.2	1.25	3000	22	ODS-134 DIE	
MA46473-186	1.2	1.25	3000	22	ODS-186	
MA46474-94	1.5	1.25	3000	22	ODS-94	
MA46474-95	1.5	1.25	3000	22	ODS-95	
MA46474-120	1.5	1.25	3000	22	ODS-120	
MA46474-134	1.5	1.25	3000	22	ODS-134 DIE	
MGV100-26	1.7	1	3000	22	DIE/Various	
MTV4030-08	1.8	—	4200	30	DIE/Various	
MA46416-134 S	1.8	1.5	2500	18	ODS-134 DIE	
MTV4030-09	2.2	—	4000	30	DIE/Various	
MA46477-134	2.2	1.25	3000	22	ODS-134 DIE	
MA46477-186	2.2	1.25	3000	22	ODS-186	

Note: Part numbers are RoHS compliant. **S** indicates these parts are also available with Space and Hi-Rel Screening & Qualification. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

Variable Varactor Diodes (continued)					
Part Number	Total Capacitance (pF)	Gamma	Quality Factor @ 50 MHz, Min	Breakdown Voltage (V)	Package
MTV4030-10	2.7	—	3800	30	DIE/Various
MAVR-000250-0287AT	2.7	1	450	12	SOT-23
MAVR-000250-0287FT	2.7	1	450	12	SOT-23
MAVR-000250-11410T	2.7	1	450	12	SOT-23
MAVR-000250-1146AT	2.7	1	450	12	SC-703LD
MAVR-000250-12790T	2.7	1	450	12	ODS-1279 (SC-79)
MA46H072-1056 S	3	0.75	3000	20	ODS-1056
MAVR-000202-12790T	3	1.25	2000	22	ODS-1279 SC-79
MA46H202-1056	3	1.25	2000	22	ODS-1056
MA46H202-1088	3	1.25	2000	22	ODS-1088
MA4ST1241-1141T	3.4	1	1200	12	ODS-1141 (SOT-323)
MAVR-001240-12790T	3.4	1	1200	12	ODS-1279 (SC-79)
MAVR-000240-0287AT	3.5	1	450	12	ODS-287 (SOT-23)
MAVR-000240-11410T	3.5	1	450	12	ODS-1141 SOD323
MAVR-000240-1146FT	3.5	1	450	12	ODS-1146 (SC-703LD)
MA46480-134	3.8	1.25	2000	22	ODS-134 DIE
MA46461-186	4.7	1	1500	22	ODS-186
MA4ST1231-1141T	4.7	1	1700	12	ODS-1141 (SOT-323)
MAVR-001230-12790T	4.7	1	1700	12	ODS-1279 (SC-79)
MAVR-045436-0287AT	4.7	0.5	1800	30	SOT-23
MAVR-045436-0287FT	4.7	0.5	1800	30	SOT-23
MAVR-045436-12790T	4.7	0.5	1800	30	SC-79
MA46H073-1056 S	5	0.75	2200	20	ODS-1056
MA46H203-1056	5	1.25	1500	22	ODS-1056
MA46H203-1088	5	1.25	1500	22	ODS-1088
MAVR-000083-0287AT	5	1.3	450	12	ODS-287 (SOT-23)
MAVR-000083-0287FT	5	1.3	450	12	ODS-287 (SOT-23)
MA46H503	5	1.5	1200	18	ODS-1056
MTV4030-15	5.6	—	3000	30	DIE/Various
MAVR-001350-12790T	5.9	1	690	12	ODS-1279 (SC-79)
MAVR-001350-1146FT	5.9	1	690	12	ODS-1146 (SC-70-3LD)
MAVR-000350-11410T	6.2	1	400	12	ODS-1141 (SOT-323)
MAVR-045438-0287AT	6.8	0.5	1600	30	SOT-23
MAVR-045438-0287FT	6.8	0.5	1600	30	SOT-23
MA46483-186	6.8	1.25	1500	22	ODS-186
MAVR-000082-0287AT	7.3	1.3	350	12	ODS-287 (SOT-23)
MAVR-001340-11410T	9.2	1	600	12	SOT-323
MAVR-001340-1146FT	9.2	1	600	12	ODS-1146 (SC-70-3LD)
MAVR-001340-12790T	9.2	1	600	12	ODS-1279 (SC-79)
MAVR-000340-11410T	9.5	1	350	12	ODS-1141 (SOT-323)
MAVR-045440-0287AT	10	0.5	1300	30	SOT-23
MAVR-045440-0287FT	10	0.5	1300	30	SOT-23
MAVR-000401-0287AT	10	1	250	22	ODS-287 (SOT-23)
MAVR-000401-0287FT	10	1	250	22	ODS-287 (SOT-23)
MA46485-120	10	1.25	1500	22	ODS-120
MA46H204-1056	10	1.25	1500	22	ODS-1056
MA46H204-1088	10	1.25	1500	22	ODS-1088

Note: Part numbers are RoHS compliant. **S** indicates these parts are also available with Space and Hi-Rel Screening & Qualification. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

Variable Varactor Diodes (continued)

Part Number	Total Capacitance (pF)	Gamma	Quality Factor @ 50 MHz, Min	Breakdown Voltage (V)	Package
MAVR-000081-0287AT	10.1	1.3	300	12	ODS-287 (SOT-23)
MAVR-000081-0287FT	10.1	1.3	300	12	ODS-287 (SOT-23)
MAVR-045441-0287AT	12	0.5	1200	30	SOT-23
MAVR-045441-0287FT	12	0.5	1200	30	SOT-23
MAVR-001330-11410T	13.2	1	530	12	ODS-1141 (SOT-323)
MAVR-001330-1146FT	13.2	1	530	12	ODS-1146 (SC-70-3LD)
MAVR-001330-12790T	13.2	1	530	12	ODS-1279 (SC-79)
MTV4030-20	15	—	2000	30	DIE/Various
MAVR-000403-0287AT	15	1	250	22	SOT-23
MAVR-000403-0287FT	15	1	250	22	ODS-287 (SOT-23)
MTV4030-21	18	—	1800	30	DIE/Various
MAVR-000404-0287FT	18	1	175	22	ODS-287 (SOT-23)
MTV4030-22	22	—	1600	30	DIE/Various
MAVR-000405-0287FT	22	1	175	22	SOT-23
MAVR-000080-0287AT	24.8	1.3	150	12	ODS-287 (SOT-23)
MAVR-000080-0287FT	24.8	1.3	150	12	ODS-287 (SOT-23)
MAVR-000320-11410T	28	1	300	12	ODS-1141 (SOT-323)
MAVR-001320-11410T	28.3	1	350	12	ODS-1141 (SOT-323)
MAVR-001320-1146FT	28.3	1	350	12	ODS-1146 (SC-70-3LD)
MTV4030-24	33	—	1400	30	DIE/Various
MAVR-045446-0287AT	33	0.5	750	30	SOT-23
MAVR-000407-0287AT	33	1	150	22	ODS-287 (SOT-23)
MAVR-000407-0287FT	33	1	150	22	SOT-23
MTV4030-26	47	—	1000	30	DIE/Various
MAVR-000409-0287FT	47	1	150	22	ODS-287 (SOT-23)
MAVR-000079-0287FT	54.1	1.3	80	12	ODS-287 (SOT-23)

Step Recovery Diodes

Part Number	Total Capacitance Max (pF)	Total Capacitance Min (pF)	Reverse Voltage (V)	Lifetime (Typ vs Min) (ns)	Tt (Typ vs Max) (ps)	Package
MMDB45-B11 S	0.2	0.11	25	8	40	B11
MMDB35-B11 S	0.2	0.13	16	4	35	B11
MMDB30-B11 S	0.25	0.15	14	4	30	B11
MMDB45-0402	0.28	0.21	25	8	45	0402
MMDB35-0402	0.28	0.22	16	4	35	0402
MMDB45-0805-2	0.29	0.22	25	8	45	0805-2
MMDB35-0805-2	0.29	0.23	16	4	35	0805-2
MMDB45-E28/28X	0.31	0.24	25	8	45	E28/28X
MMDB35-E28/28X	0.31	0.25	16	4	35	E28/28X
MMDB30-0402	0.32	0.25	14	4	30	0402
MMDB30-0805-2	0.33	0.26	14	4	30	0805-2
MMDB30-E28/28X	0.36	0.28	14	4	30	E28/28X
SMMD840-SOD323	0.4	0.2	15	5	90	SOD323
SMMD840-SOT23-OS	0.4	0.2	15	5	90	SOT23-OS
MMD840-C11 S	0.4	0.2	15	7	70	DIE
MSD700 S	0.4	0.2	15	8	60	DIE/Various
MSD700-12	0.4	0.2	15	8	60	CS12
MMD837-C11 S	0.4	0.2	20	5	70	DIE

Note: Part numbers are RoHS compliant. **S** indicates these parts are also available with Space and Hi-Rel Screening & Qualification. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

Step Recovery Diodes (continued)						
Part Number	Total Capacitance Max (pF)	Total Capacitance Min (pF)	Reverse Voltage (V)	Lifetime (Typ vs Min) (ns)	Tt (Typ vs Max) (ps)	Package
SMMD837-SOD323	0.4	0.2	20	5	90	SOD323
SMMD837-SOT23-0S	0.4	0.2	20	5	90	SOT23-0S
SMMD837-SOT23-1S	0.4	0.2	20	5	90	SOT23-1S
MSD710 S	0.4	0.2	20	11	70	DIE/Various
MSD720 S	0.4	0.2	30	17	100	DIE/Various
MMD840-0805	0.46	0.26	15	7	70	0805-2
MMD837-0805	0.46	0.26	20	5	70	805-2
MMD840-E28	0.48	0.28	15	7	70	E28
MMD840-E28X	0.48	0.28	15	7	70	E28X
MMD837-E28	0.48	0.28	20	5	70	E28
MMD837-E28X	0.48	0.28	20	5	70	E28X
MMD840-H27 S	0.52	0.32	15	7	70	H27
MMD837-H27 S	0.52	0.32	20	5	70	H27
MMD840-T86 S	0.58	0.38	15	7	70	T86
MMD837-T86 S	0.58	0.38	20	5	70	T86
MSD701 S	0.6	0.4	15	8	60	DIE/Various
MSD711 S	0.6	0.4	20	11	70	DIE/Various
MSD731 S	0.6	0.4	40	21	150	DIE/Various
MMD835-C11 S	0.7	0.3	15	10	70	DIE
MMD0840-A15 S	0.75	—	15	—	—	A15
MMD0151-A15 S	0.8	—	15	—	100	A15
MMD832-C11 S	0.8	0.4	20	10	80	DIE
SMMD832-SOD323	0.8	0.4	20	10	100	SOD323
SMMD832-SOT23-0S	0.8	0.4	20	10	100	SOT23-0S
SMMD832-SOT23-1S	0.8	0.4	20	10	100	SOT23-1S
MSD722 S	0.8	0.6	30	17	100	DIE/Various
MMD835-0805	0.86	0.36	15	10	60	0805-2
MMD832-0805	0.86	0.46	20	10	80	0805-2
MMD835-E28	0.88	0.38	15	10	70	E28
MMD835-E28X	0.88	0.38	15	10	50	E28X
MMD832-E28	0.88	0.48	20	10	80	E28
MMD835-H20 S	0.92	0.42	15	10	70	H20
MMD835-T86 S	0.98	0.48	15	10	70	T86
MMD832-H20 S	0.98	0.58	20	10	60	H20
MMD832-T86 S	0.98	0.58	20	10	60	T86
MMD830-C11 S	1	0.5	25	15	80	DIE
SMMD830-SOD323	1	0.5	25	15	110	SOD323
SMMD830-SOT23-0S	1	0.5	25	15	110	SOT23-0S
SMMD830-SOT23-1S	1	0.5	25	15	110	SOT23-1S
MSD703 S	1	0.8	15	8	60	DIE/Various
MSD723 S	1	0.8	30	17	100	DIE/Various
MSD733 S	1	0.8	40	21	150	DIE/Various
MMD830-0805	1.06	0.56	25	15	80	0805-2
MMD830-E28	1.08	0.58	25	15	80	E28
MMD830-E28X	1.08	0.58	25	15	80	E28X
MMD830-T86 S	1.18	0.68	25	10	80	T86
MMD830-H20 S	1.18	0.68	25	15	80	H20

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Step Recovery Diodes (continued)

Part Number	Total Capacitance Max (pF)	Total Capacitance Min (pF)	Reverse Voltage (V)	Lifetime (Typ vs Min) (ns)	Tt (Typ vs Max) (ps)	Package
MA144769-287T	1.2	0.8	30	—	150	ODS-287 (SOT-23)
MAVR-044769-0287FT	1.2	0.8	30	—	150	ODS-287 (SOT-23)
MAVR-044769-12790T	1.2	0.8	30	—	150	ODS-1279 (SC-79)
MSD724 S	1.4	1	30	17	100	DIE/Various
MMD820-C12 S	1.7	1	40	30	100	DIE
SMMD820-SOD323	1.7	1	40	30	125	SOD323
SMMD820-SOT23-0S	1.7	1	40	30	125	SOT23-0S
SMMD820-SOT23-1S	1.7	1	40	30	125	SOT23-1S
MMD820-0805	1.76	1.06	40	30	100	0805-2
MMD820-E28	1.78	1.08	40	30	100	E28
MMD820-E28X	1.78	1.08	40	30	100	E28X
MMD820-H20 S	1.88	1.18	40	30	100	H20
MMD820-T86 S	1.88	1.18	40	30	100	T86
SMMD810-SOD323	2.5	1.5	50	40	250	SOD323
SMMD810-SOT23-0S	2.5	1.5	50	40	250	SOT23-0S
SMMD810-SOT23-1S	2.5	1.5	50	40	250	SOT23-1S
MMD810-T86 S	2.68	1.68	50	40	250	T86
MSD726 S	3	2	30	17	100	DIE/Various
MSD736 S	3	2	40	21	150	DIE/Various
SMMD805-SOD323	3.5	2.5	60	80	300	SOD323
SMMD805-SOT23-0S	3.5	2.5	60	80	300	SOT23-0S
SMMD805-SOT23-1S	3.5	2.5	60	80	300	SOT23-1S
MMD805-0805	3.56	2.56	60	80	300	0805-2
MMD0815-A15 S	4.15	—	50	—	320	A15

PIN Switch and Attenuator Diodes

Part Number	Max Freq (MHz)	Min Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ω)	Tl (ns)	Breakdown Voltage Min (V)	Package
MMP7078 S	100	0.1	—	1	0.5	2500	400	DIE/Various
MMP7078-127-1	100	0.1	5	1	0.5	2500	400	CS127-1
MA4P1450NM-1091T †	300	1	30	1.8	5	8000	50	ODS-1091
MADP-011048	400	5	4.7	3	0.5	200	100	4 mm HQFN-8
MA4P4301B-402	500	DC	10	2	1	15000	100	ODS-402
MA4P4001B-402	500	DC	12	2.2	0.5	20000	100	ODS-402
MA4P4002B-402	500	DC	12	2.2	0.5	20000	200	ODS-402
MA4P4006B-402	500	DC	12	2.2	0.5	20000	600	ODS-402
MA4PK2003 †	500	DC	37.5	3.2	0.2	30000	2000	ODS-1080
MA4PK2004 †	500	DC	37.5	3.2	0.2	30000	2000	ODS-1038
MA4PK2000 †	500	DC	50	3.2	0.2	30000	2000	ODS-1027
MA4PK2001	500	DC	50	3.2	0.2	30000	2000	ODS-1082
MA4PK2002 †	500	DC	50	3.2	0.2	30000	2000	ODS-1048
MA4PK3003	500	DC	50	4	0.2	65000	3000	ODS-1085
MA4PK3004	500	DC	50	4	0.2	65000	3000	ODS-1075
MA4P709-150	500	DC	75	3.3	0.3	10000	1500	ODS-150
MA4PK3000	500	DC	75	4	0.2	65000	3000	ODS-1073
MA4PK3001	500	DC	75	4	0.2	65000	3000	ODS-1084
MA4PK3002	500	DC	75	4	0.2	65000	3000	ODS-1074
MMP7089-127-1	500	0.1	5	0.5	0.6	1000	500	CS127-1

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PIN Switch and Attenuator Diodes (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ω)	TI (ns)	Breakdown Voltage Min (V)	Package
MA4P504-30 S	500	1	7.5	0.4	0.6	1000	500	ODS-30
MA4P504-186 S	500	1	7.5	0.4	0.6	1000	500	ODS-186
MA4P504-255 S	500	1	7.5	0.4	0.6	1000	500	ODS-255
MA4PH611	500	1	10	1	0.4	5000	1000	ODS-1091
MA4P505-255 S	500	1	10.7	0.55	0.5	2000	500	ODS-255
MA4P506-255	500	1	13.6	0.95	0.3	3000	500	ODS-255
MA4P506-258	500	1	13.6	0.95	0.3	3000	500	ODS-258
MA4P506-30 S	500	1	13.6	0.95	0.3	3000	500	ODS-30
MA4P506-31 S	500	1	13.6	0.95	0.3	3000	500	ODS-31
MADP-000015-000030 S	500	1	15	0.55	0.4	2000	500	ODS-30
MA4P604-255 S	500	1	15	0.6	1	3000	1000	ODS-255
MA4P606-30 S	500	1	15	0.8	0.7	4000	1000	ODS-30
MA4P606-258	500	1	20	0.98	0.7	4000	1000	ODS-258
MA4P606-36 S	500	1	20	0.99	0.7	4000	1000	ODS-36
MA4P607-43	500	1	25	2	0.4	5000	100	ODS-43
MA4P607-296 S	500	1	25	2.35	0.4	5000	1000	ODS-296
MA4P607-212	500	1	37.5	1.3	0.4	12000	1000	ODS-212 DIE
MA4P1200-401T	500	5	5.5	1.2	0.5	8000	50	ODS-401
MA4P1200NM-401T †	500	5	5.5	1.2	0.5	8000	50	ODS-401
MA4P1250NM-1072T	500	5	18	0.8	0.5	8000	50	ODS-1072
MA4PH238-1072T	1000	DC	1	0.5	6	2000	200	Ceramic SMT
MA4PH239-1079T	1000	DC	1	0.8	6	2000	200	ODS-1079
MADP-000504-10720T †	1000	DC	2.9	0.5	0.6	1000	500	ODS-1072
MA4P4301F-1091T	1000	DC	5	2	1	15000	100	ODS-1091
MA4P4001F-1091T	1000	DC	7.5	2.2	0.5	20000	100	ODS-1091
MA4P4002F-1091T	1000	DC	7.5	2.2	0.5	20000	200	ODS-1091
MA4P4006F-1091T	1000	DC	7.5	2.2	0.5	20000	600	ODS-1091
MADP-007417-10720T	1000	DC	12	0.7	0.8	6500	1000	ODS-1072
MA4P1450-1091T	1000	DC	30	1.8	0.5	8000	50	ODS-1091
MA47047-54 S	1000	1	0.3	0.3	1.5	1000	200	ODS-54
MA47266-146 S	1000	1	0.5	1.5	0.6	4000	200	ODS-146
MA4P606-4 S	1000	1	1	0.7	0.7	4000	1000	ODS-4
MA4PH237-1079T	1000	1	1	1.5	0.6	3000	200	ODS-1079
MA4P7002B-401T	1000	1	5	0.7	0.9	5000	200	ODS-401
MA4P7006B-401T	1000	1	5	0.7	0.9	5000	600	ODS-401
MA4P7102B-401T	1000	1	6	1	0.5	2500	200	ODS-401
MA4P7104B-401T	1000	1	6	1	0.5	2500	400	ODS-401
MA4P7101F-1072T	1000	1	11.5	1	0.5	2500	100	ODS-1072
MA4P606-131 S	1000	1	15	0.6	0.7	4000	1000	ODS-131 DIE
MA47208	1000	1	15	1.3	0.3	1300	1000	ODS-114
MSWSE-020-10	1000	10	7.5	0.37	0.8	490	250	0503
MSWSE-020-05	1000	10	10	0.62	0.3	600	250	0503
SMPN7335-SOD323	1200	5	0.75	0.3	1.5	500	200	SOD323
MADP-000234-10720T	1500	DC	3	1.7	0.3	3000	500	ODS-1072
MA4P7001F-1072T	1500	DC	10	0.7	0.9	5000	100	ODS-1072
MA4P7002F-1072T	1500	DC	10	0.7	0.9	5000	200	ODS-1072
MA4P7006F-1072T	1500	DC	10	0.7	0.9	5000	600	ODS-1072

Note: Part numbers are RoHS compliant. **S** indicates these parts are also available with Space and Hi-Rel Screening & Qualification. † Indicates Non-magnetic. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

PIN Switch and Attenuator Diodes (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ω)	TI (ns)	Breakdown Voltage Min (V)	Package
MA4P7418-1072T	1500	DC	11.5	0.8	1.2	7000	1100	ODS-1072
MA4P7102F-1072T	1500	DC	11.5	1	0.5	2500	200	ODS-1072
MA4P7104F-1072T	1500	DC	11.5	1	0.5	2500	400	ODS-1072
MA4P505-1072T	1500	DC	15	0.7	0.5	2000	500	ODS-1072
MA4P506-1072T	1500	DC	15	1	0.3	3000	500	ODS-1072
MA4P1250-1072T	1500	DC	18	0.9	0.5	8000	50	ODS-1072
MA4PH235-1072T	1500	1	1	1.2	0.5	300	35	ODS-1072
SMPN7316-SOT23	1500	50	0.75	0.25	0.6	200	100	SOT23
MADP-000488-13740W S	1500	100	3.3	0.16	1.6	4000	900	ODS-1374 DIE
MADP-000135-01340W S	1500	100	5	0.15	1.2	440	200	ODS-134 DIE
MADP-000208-13180W	1800	30	2.6	0.81	0.4	500	90	ODS-1318 SURMOUNT™
MPN3001 S	2000	—	—	0.25	1	—	200	A15
MA4P203-54	2000	DC	0.25	0.25	1.5	100	100	ODS-54
MA4P404-54	2000	DC	0.25	0.3	0.7	1000	250	ODS-54
MA4PH401-54T	2000	DC	0.25	0.3	1.5	1000	50	ODS-54
MA47600-54	2000	DC	0.25	0.3	6	2000	200	ODS-54
MA47123-139	2000	DC	0.25	0.5	3	1000	200	ODS-139
MA4P506-4	2000	DC	0.25	0.85	0.3	2500	500	ODS-4
MA47120-54T	2000	DC	0.25	1	0.5	3000	35	ODS-54
MA4PH301	2000	DC	0.25	1.1	1	4000	200	ODS-146
MA4PH151-139T	2000	DC	0.25	1.2	0.6	1000	100	ODS-139
MSWSE-044-10	2000	1	7.5	0.3	0.5	1200	300	0805P
MA4P404-30 S	2000	5	7.5	0.4	0.6	1000	250	ODS-30
MA4P404-258	2000	5	7.5	0.58	0.7	1000	250	ODS-258
MA4PH236-1072T	2000	10	1	0.5	3	1500	600	ODS-1072
SMPN7316-SOD323	2000	50	0.75	0.25	0.6	200	100	SOD323
MADP-042505-130600 S	2000	50	1.3	0.6	0.8	210	80	ODS-1306 DIE
MADP-042508-130600 S	2000	50	1.3	0.6	0.9	310	100	ODS-1306 DIE
MADP-000165-01340W S	2000	100	5	0.06	2.5	200	200	ODS-134 DIE
MADP-007167-11410T	2500	1	0.2	0.42	16	3000	200	ODS-1141 SOD-323 (2L)
MADP-007167-0287AT	2500	1	0.3	0.42	16	3000	200	ODS-287 SOT-23
MADP-007167-0287BT	2500	1	0.3	0.42	16	3000	200	ODS-287 SOT-23
MADP-007167-0287DT	2500	1	0.3	0.42	16	3000	200	ODS-287 SOT-23
MADP-007167-0287FT	2500	1	0.3	0.42	16	3000	200	ODS-287 SOT-23
MADP-007167-0287GT	2500	1	0.3	0.42	16	3000	200	ODS-287 SOT-23
MA4P604-30 S	2500	1	15	0.5	1	3000	1000	ODS-30
MA4P604-258	2500	1	15	0.68	1	3000	1000	ODS-258
MADP-007455-1146DT	2500	5	0.2	0.42	3	1000	100	ODS-1146 SC70 (3L)
MA4P7455CK-1146T	2500	5	0.2	0.47	3	1000	100	ODS-1146 SC70 (3L)
MA4P7455CA-1146T	2500	5	.25	0.47	3	1000	100	ODS-1146 SC70 (3L)
MA4P7455CA-287T	2500	5	0.3	0.35	3	1000	100	ODS-287 SOT-23
MA4P7455CK-287T	2500	5	0.3	0.35	3	1000	100	ODS-287 SOT-23
MADP-007455-0287DT	2500	5	0.3	0.47	3	400	100	ODS-287 SOT-23
MA4P7455-287T	2500	5	0.3	0.47	3	1000	100	ODS-287 SOT-23
MA4P7455ST-287T	2500	5	0.3	0.47	3	1000	100	ODS-287 SOT-23
MA4P7455ST-1146T	2500	5	0.3	0.47	3	1000	100	ODS-1146 SC-70 (3L)
MA4P7447-1141T	2500	15	0.2	1.31	0.6	1000	100	ODS-1141 SOD-323

Note: Part numbers are RoHS compliant. **S** indicates these parts are also available with Space and Hi-Rel Screening & Qualification. † Indicates Non-magnetic. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

PIN Switch and Attenuator Diodes (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ω)	TI (ns)	Breakdown Voltage Min (V)	Package
MA4P7447-287T	2500	15	0.3	1.32	0.6	1000	100	ODS-287 SOT-23
MA4P7447CA-287T	2500	15	0.3	1.32	0.6	1000	100	ODS-287 SOT-23
MA4P7447CK-287T	2500	15	0.3	1.32	0.6	1000	100	ODS-287 SOT-23
MA4P7447ST-287T	2500	15	0.3	1.32	0.6	1000	100	ODS-287 SOT-23
MADP-007155-0287DT	2500	15	0.3	1.32	0.6	1000	100	ODS-287 SOT-23
MADP-007448-1146DT	2500	25	—	0.25	2	—	100	SMT
MADP-007448-12790T	2500	25	0.2	0.35	2	400	100	ODS-1279 SC-79
MADP-007448-11410T	2500	25	0.2	0.36	2	400	100	ODS-1141 SOD-323
MADP-007448-1146BT	2500	25	0.2	0.37	2	400	100	ODS-1146 SC70 (3L)
MADP-007448-1146GT	2500	25	0.2	0.37	2	400	100	ODS-1146 SC70 (3L)
MA4P7433-1141T	2500	25	0.2	0.46	1.5	200	75	ODS-1141 SOD-323 (2L)
MA4P7433CA-1146T	2500	25	0.2	0.47	1.5	200	75	ODS-1146 SC-70 (3L)
MA4P7433CK-1146T	2500	25	0.2	0.47	1.5	200	75	ODS-1146 SC-70 (3L)
MA4P7433ST-1146T	2500	25	0.2	0.47	1.5	200	75	ODS-1146 SC-70 (3L)
MA4P7436-1141T	2500	25	0.2	1.11	0.5	200	75	ODS-1141 SOD-323
MA4P7436-1146T	2500	25	0.2	1.12	0.5	200	75	ODS-1146 SC-70 (3L)
MA4P7436CA-1146T	2500	25	0.2	1.12	0.5	200	75	ODS-1146 SC-70 (3L)
MA4P7436CK-1146T	2500	25	0.2	1.12	0.5	200	75	ODS-1146 SC70 (3L)
MA4P7436ST-1146T	2500	25	0.2	1.12	0.5	200	75	ODS-1146 SC-70 (3L)
MADP-007436-0287DT	2500	25	0.2	1.12	0.5	200	75	ODS-287 SOT-23
MADP-007436-1146DT	2500	25	0.2	1.12	0.5	200	75	ODS-1141 SOT-323
MADP-007448-0287AT	2500	25	0.3	0.37	2	400	100	ODS-287 SOT-23
MADP-007448-0287BT	2500	25	0.3	0.37	2	400	100	ODS-287 SOT-23
MADP-007448-0287DT	2500	25	0.3	0.37	2	400	100	ODS-287 SOT-23
MADP-007448-0287FT	2500	25	0.3	0.37	2	400	100	ODS-287 SOT-23
MADP-007448-0287GT	2500	25	0.3	0.37	2	400	100	ODS-287 SOT-23
MADP-007433-0287DT	2500	25	0.3	0.42	1.5	200	75	ODS-287 SOT-23
MADP-007433-1146DT	2500	25	0.3	0.42	1.5	200	75	ODS-1146 SC70 (3L)
MA4P7433-287T	2500	25	0.3	0.47	1.5	200	75	ODS-287 SOT-23
MA4P7433CA-287T	2500	25	0.3	0.47	1.5	200	75	ODS-287 SOT-23
MA4P7433CK-287T	2500	25	0.3	0.47	1.5	200	75	ODS-287 SOT-23
MA4P7433ST-287T	2500	25	0.3	0.47	1.5	200	75	ODS-287 SOT-23
MA4P7436-287T	2500	25	0.3	1.12	0.5	200	75	ODS-287 SOT-23
MA4P7436CA-287T	2500	25	0.3	1.12	0.5	200	75	ODS-287 SOT-23
MA4P7436CK-287T	2500	25	0.3	1.12	0.5	200	75	ODS-287 SOT-23
MA4P7436ST-287T	2500	25	0.3	1.12	0.5	200	75	ODS-287 SOT-23
MSWSE-010-16S	3000	1	10	0.15	0.9	1000	250	0402P
MSWSE-040-10	3000	1	40	0.12	0.6	700	250	0805P
MADP-010630-13920T	3000	25	2	0.35	1.5	200	100	ODS-1392
MADP-010631-13920T	3000	25	5	1	0.5	200	100	ODS-1392
MADP-010633-13920T	3000	25	6	0.4	0.6	1000	500	ODS-132
MA4SPS422	3000	50	1.8	0.34	3.1	10000	200	SURMOUNT™ DIE
MSWSE-050-10	3000	100	15	0.53	0.4	3200	500	0805P
MSWSE-050-17	3000	100	60	0.2	0.7	1600	500	0805P
MMP7068	4000	0.5	—	0.3	0.8	2000	500	DIE/Various
MADP-007167-0287HT	4000	1	0.3	0.42	16	3000	200	ODS-287 SOT-23
MADP-000506-014400 S	4000	1	10	0.7	0.3	100	500	ODS-144

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PIN Switch and Attenuator Diodes (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ω)	TI (ns)	Breakdown Voltage Min (V)	Package
MA4P506-131 S	4000	1	13.6	0.7	0.3	3000	500	ODS-131 DIE
MA4P505-36 S	4000	1	15	0.55	0.5	2000	500	ODS-36
MADP-007455-12790T	4000	5	0.2	0.45	3	1000	100	ODS-1279 SC-79
MA4P7455-1225	4000	10	—	0.47	1.4	1000	100	ODS-1225 SOT-25
MA4P303-186 S	4000	20	0.3	0.35	1.5	200	200	ODS-186
MA4P303-1088	4000	20	0.3	0.47	1.5	200	200	ODS-1088
MA4P303-120 S	4000	20	5	0.35	1.5	200	200	ODS-120
MADP-007433-12790T	4000	25	0.2	0.4	1.5	200	75	SC-79
MADP-007436-12790T	4000	25	0.2	1.1	0.5	200	75	ODS-1279 SC-79
MADP-007433-0287HT	4000	25	0.3	0.42	1.5	200	75	ODS-287 SOT-23
MA4P203-1056 S	4000	30	0.3	0.35	1.5	100	100	ODS-1056
MA4P203-30 S	4000	30	5	0.35	1.5	100	100	ODS-30
MA4P202-120 S	4000	50	0.3	0.25	2.5	60	100	ODS-120
MA4P202-276	4000	50	0.3	0.25	2.5	60	100	ODS-276
MADP-042405-130600 S	4000	50	1.3	0.27	0.8	210	80	ODS-1306 DIE
MADP-042408-130600	4000	50	1.5	0.36	0.6	380	100	ODS-1306 DIE
MMP7036	5000	1	—	0.3	0.7	225	200	DIE/Various
MADP-007438-0287FT	5000	5	0.2	0.42	10	3000	200	ODS-287 SOT-23
MA4P7455-1141T	5000	5	0.2	0.46	3	1000	100	ODS-1141 SOT-323
MA4P7437-1141T	5000	5	0.2	0.46	6	2000	200	ODS-1141 SOT-323
MA4P7438-1141T	5000	5	0.2	0.46	10	3000	200	ODS-1141 SOD-323 (2L)
MA4P7438-287T	5000	5	0.2	0.47	10	3000	200	ODS-287 SOT-23
MADP-007437-0287BT	5000	5	0.3	0.42	6	2000	200	ODS-287 SOT-23
MADP-007437-0287DT	5000	5	0.3	0.42	6	2000	200	ODS-287 SOT-23
MADP-007437-0287FT	5000	5	0.3	0.42	6	2000	200	ODS-287 SOT-23
MADP-007438-0287BT	5000	5	0.3	0.42	10	3000	200	ODS-287 SOT-23
MADP-007438-0287DT	5000	5	0.3	0.42	10	3000	200	ODS-287 SOT-23
MA4P7437-287T	5000	5	0.3	0.47	6	2000	200	ODS-287 SOT-23
MA4P7437CA-287T	5000	5	0.3	0.47	6	2000	200	ODS-287 SOT-23
MA4P7438CA-287T	5000	5	0.3	0.47	10	3000	200	ODS-287 SOT-23
MMP7064	6000	0.5	—	0.3	0.8	1500	250	DIE/Various
MMP7092 S	6000	1	—	0.2	0.6	1000	500	DIE/Various
MMP7024 S	6000	1	—	0.25	0.5	60	70	DIE/Various
MPN7420 S	6000	1	2.5	0.06	1	1000	400	C12
MPN7453A S	6000	1	3	0.1	0.7	700	300	C22
MPN7453B S	6000	1	3	0.15	0.6	2500	400	C22
MPN7453C S	6000	1	3	0.18	0.4	1000	300	C22
MADP-017025-1314 S	6000	1	5	0.23	1	2300	1335	ODS-1314 DIE
MADP-017015-1314 S	6000	1	5	0.32	0.7	1300	115	ODS-1314 DIE
MPN7360 S	6000	1	10	0.8	0.2	2500	600	C37
MPN7380 S	6000	1	10	0.4	0.3	2500	800	C38
MPN7370 S	6000	1	10	2	0.2	5000	700	C39
MA4P505-131 S	6000	1	10.7	0.35	0.5	2000	500	ODS-131 DIE
MADP-030025-1314 S	6000	1	11.5	0.5	0.7	2800	135	ODS-1314 DIE
MADP-030015-13140P S	6000	1	11.5	0.78	0.5	1600	115	ODS-1314 DIE
MPN7320-H20 S	6000	5	1	0.2	3	120	150	H20
MPN7345 S	6000	5	4	0.3	0.3	500	300	C40

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PIN Switch and Attenuator Diodes (continued)								
Part Number	Max Freq (MHz)	Min Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ω)	TI (ns)	Breakdown Voltage Min (V)	Package
MADP-008120-12790T	6000	10	0.2	0.15	2.5	200	100	ODS-1279 SC-79
MPN7315-H20 S	6000	10	1	0.26	1.2	180	150	H20
MSWSE-005-15	6000	10	4	0.11	2	180	200	0503
MSWSE-005-10S	6000	10	5	0.08	2	180	200	0402P
MPN7312A-H20 S	6000	20	1	0.26	1.2	150	120	H20
MPN7312B-H20 S	6000	20	1	0.36	0.8	250	120	H20
MADP-042305-130600 S	6000	50	1	0.14	1.3	180	80	ODS-1306 DIE
MADP-042308-130600 S	6000	50	1	0.14	1.3	280	100	ODS-1306 DIE
MA4SPS421	6000	50	1.8	0.13	6.2	5000	200	SURMOUNT™ DIE
MSWSH-040-30	6000	50	40	0.42	0.4	600	500	2012
MPN7306-H20 S	6000	100	1	0.26	1.2	50	70	H20
MSWSH-020-30	6000	100	20	0.13	0.6	600	100	2012
MSWSH-100-30	6000	100	100	0.4	0.4	3400	700	CM22
MMP7063	8000	0.5	—	0.2	1	1000	250	DIE/Various
MMP7067	8000	0.5	—	0.2	1	1500	500	DIE/Various
MMP7023 S	8000	1	—	0.2	0.7	60	70	DIE/Various
MMP7035	8000	1	—	0.2	0.8	225	200	DIE/Various
MA47222 S	8000	1	3.8	0.4	1.6	160	150	ODS-144
MA47223 S	8000	1	7.5	0.4	0.6	1000	500	ODS-144
MA4P504-144 S	8000	1	7.5	0.4	0.6	1000	500	ODS-144
MA4P604-131 S	8000	1	15	0.3	1	3000	1000	ODS-131 DIE
MNP0012A-T55P S	8000	5	0.25	0.31	0.6	650	350	T55p
MNP0012A-T54P S	8000	5	0.25	0.36	0.6	650	350	T54p
MNP0012A-T89P S	8000	5	0.25	0.43	0.6	650	350	T89p
MNP0012A S	8000	5	1	0.18	0.6	650	350	C22p
MNP0012A-ET47P	8000	5	1	0.58	0.6	650	350	ET47p
MA47416-132 S	10000	DC	5	0.15	6	2000	200	ODS-132 DIE
MMP7022 S	10000	1	—	0.15	0.9	60	70	DIE/Various
MMP7028	10000	1	—	0.15	1	100	100	DIE/Various
MMP7034	10000	1	—	0.15	1	225	200	DIE/Various
MNP0014-T55P S	10000	1	0.1	0.25	0.8	750	450	T55p
MNP0014-T54P S	10000	1	0.1	0.32	0.8	750	450	T54p
MNP0014-T89P S	10000	1	0.1	0.37	0.8	750	450	T89p
MNP0014-ET47P	10000	1	0.5	0.52	0.8	750	450	ET47p
MNP0014 S	10000	1	1.5	0.12	1.3	750	500	C22p
MA4P504-132 S	10000	1	7.5	0.2	0.6	1000	500	ODS-132 DIE
MPN7320-0805-2	10000	5	1	0.08	3	120	150	0805-2
MA47418-134 S	10000	5	6	0.15	3	1000	200	ODS-134 DIE
MA4P404-132 S	10000	5	7.5	0.2	0.7	600	250	ODS-132 DIE
MPN7315-0805-2	10000	10	1	0.14	1.2	180	150	0805-2
MPN7312A-0805-2	10000	20	1	0.14	1.2	150	120	0805-2
MPN7312B-0805-2	10000	20	1	0.24	0.8	250	120	0805-2
MSWSHC-040-40	10000	50	40	0.5	—	3000	300	2615
MSWSHB-020-30	10000	50	40	0.5	—	4000	200	2012
MPN7306-0805-2	10000	100	1	0.14	1.2	50	70	0805-2
MSAT-N25	10000	100	2	—	1.5	3000	200	2012
MSAT-P25	10000	100	2	—	1.5	3000	200	2012

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PIN Switch and Attenuator Diodes (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ω)	TI (ns)	Breakdown Voltage Min (V)	Package
MPN7302-0805-2	10000	500	1	0.14	1.2	8	20	0805-2
MMP7062	12000	0.5	—	0.1	1.2	1000	250	DIE/Various
MMP7066-1I	12000	0.5	—	0.1	1.2	1500	500	DIE/Various
MMP7041	12000	1	—	0.07	1.5	400	200	DIE/Various
MNP0012-T55P S	12000	5	0.25	0.21	3.5	350	300	T55p
MNP0012-T54P S	12000	5	0.25	0.28	3.5	350	300	T54p
MNP0012-T89P S	12000	5	0.25	0.33	3.5	350	300	T89p
MPN7320 S	12000	5	1	0.02	3	120	150	C01
MNP0012 S	12000	5	1	0.08	3.5	350	300	C12p
MNP0012-ET47P	12000	5	1	0.48	3.5	350	300	ET47p
MNP0010-ET47P	12000	10	1	0.48	2	300	150	ET47p
MNP0010-T55P S	12000	10	0.25	0.21	2	300	150	T55p
MNP0010-T54P S	12000	10	0.25	0.28	2	300	150	T54p
MNP0010-T89P S	12000	10	0.25	0.33	2	300	150	T89p
MPN7312B S	12000	20	1	0.18	0.8	250	120	C12
MADP-011027-14150T	12000	50	3.3	0.24	1.9	1000	100	1.5 x 1.2 mm TDFN-6
MADP-011028-14150T	12000	50	4.3	0.24	3.4	2000	200	1.5 x 1.2 mm TDFN-6
MADP-011029-14150T	12000	50	7.5	0.31	1.5	1000	400	1.5 x 1.2 mm TDFN-6
MNP0008-T55P S	12000	100	0.25	0.21	2	150	100	T55p
MNP0008-T54P S	12000	100	0.25	0.28	2	150	100	T54p
MNP0008-T89P S	12000	100	0.25	0.33	2	150	100	T89p
MPN7306 S	12000	100	1	0.08	1.2	50	70	C12
MNP0008-ET47P	12000	100	1	0.48	2	150	100	ET47p
MMP7011 S	12000	200	—	0.15	0.8	10	25	DIE/Various
MPN7302 S	12000	500	1	0.08	1.2	8	20	C11
MMP7061	14000	0.5	—	0.08	1.5	1000	250	DIE/Various
MMP7065	14000	0.5	—	0.08	1.5	1500	500	DIE/Various
MMP7026	14000	1	—	0.07	1.5	100	100	DIE/Various
MMP7021 S	14000	1	—	0.1	1	60	70	DIE/Various
MMP7027	14000	1	—	0.1	1.2	100	100	DIE/Various
MMP7033	14000	1	—	0.1	1.6	225	200	DIE/Various
MMP7040	15000	1	—	0.03	2.6	400	200	DIE/Various
MMP7060	16000	0.5	—	0.05	2	1000	250	DIE/Various
MADP-042905-130600 S	16000	50	0.8	0.06	3.1	140	80	ODS-1306 DIE
MADP-042908-130600 S	16000	50	0.8	0.06	3.1	230	100	ODS-1306 DIE
MPN1103-12	17000	500	0.1	0.06	4.0	50	50	Beam Lead
MMP7025 S	18000	1	—	0.03	1.9	100	100	DIE/Various
MMP7031	18000	1	—	0.03	3	225	200	DIE/Various
MMP7020 S	18000	1	—	0.05	1.2	60	70	DIE/Various
MA4P303-134 S	18000	20	5	0.15	1.5	200	200	ODS-134 DIE
MA4P203-134 S	18000	30	5	0.15	1.5	100	100	ODS-134 DIE
MADP-000402-12530P S	18000	50	1	0.04	4.5	200	70	ODS-1253 DIE
MA4SPS402 S	18000	50	1	0.04	5	200	100	ODS-1253 DIE
MADP-000402-12530G S	18000	50	1	0.04	5	200	1000	ODS-1253 DIE
MADP-064908-131000 S	18000	50	1	0.05	5	200	100	ODS-1310 DIE
MA4P7493-134 S	18000	50	2.5	0.05	1.8	80	150	ODS-134 DIE
MA4PBL027 S	18000	100	0.2	0.03	4	150	90	Beam LeadDIE

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PIN Switch and Attenuator Diodes (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ω)	TI (ns)	Breakdown Voltage Min (V)	Package
MA4P161-134 S	18000	100	2.3	0.1	1.5	150	100	ODS-134 DIE
MMPN080045 S	20000	2000	—	—	—	—	200	C50
MA4FCP305	24000	100	0.2	0.06	2.1	25	40	ODS-1269 DIE
MA4SPS302 S	26000	1	0.8	0.4	1.3	460	100	SURMOUNT™ DIE
MA4SPS502 S	26000	1	35	0.14	2.4	2800	275	ODS-1270
MA4SPS552 S	26000	50	1	0.06	1.7	2500	200	ODS-1270
MSWSH-020-24	26000	100	2	—	—	600	200	2020
MADP-000907-14020P	30000	100	0.1	0.03	5.2	4	45	Flip Chip DIE
MADP-000907-14020W	30000	100	0.1	0.03	5.2	4	45	Flip Chip DIE
MA4AGP907	30000	100	0.1	0.03	5.2	4	50	Flip Chip DIE
MA4FCP300	30000	100	0.2	0.03	2.6	140	70	ODS-1269
MA4GP907	30000	100	0.3	0.03	4.2	2	45	Flip Chip DIE
MADP-001907-13050P	30000	100	0.5	0.03	4.2	4	50	Flip Chip DIE
MMPN080150 S	35000	2000	—	—	—	—	200	C51
MA4FCP200	40000	100	0.1	0.02	2.8	100	70	ODS-1264 DIE
MA4AGBLP912 S	40000	100	0.1	0.02	4	5	50	Beam Lead DIE
MA4AGFCP910	40000	100	0.1	0.02	5.2	4	75	Flip Chip DIE
MA4GP905	40000	100	0.1	0.03	3	2	50	DIE
MA4GP030 S	40000	100	0.3	0.06	2	25	100	ODS-277
MA4GP022 S	40000	100	0.3	0.15	1	20	50	ODS-277
MMSPN050-C53 S	40000	1000	40	—	0.6	4000	200	C53
MMSPN050-C54 S	40000	1000	40	—	0.6	4000	200	C54

PIN Limiter Diodes

Part Number	Incident Power, Max (W)	Thermal Resistance	Junction Capacitance (pF)	Resistance (Ω)	Lifetime (ns)	Vb (V)	Package
MADL-011021-14150T	2.5	100	0.4	1.5	10	—	1.5 x 1.2 mm TDFN-6
MADL-011008	30	150	0.3	1.5	15	—	1.2 x 1.5 mm PDFN-6
MLP7140 S	50	100	0.12	2	7	30 - 40	DIE/Various
MLP7100 S	50	100	0.2	1.5	5	20 - 45	DIE/Various
MLP7130 S	50	120	0.12	2	5	15 - 30	DIE/Various
MLP7130-0805-2	50	120	0.12	2	5	15 - 30	DIE/Various
MA4L011-134 S	80	175	0.18	2.1	10	—	ODS-134 DIE
MADL-000011-13880G S	80	175	0.18	2.1	10	—	ODS-13880G DIE
MA4L011-1088	80	175	0.3	2.1	10	—	ODS-1088
MA4L011-137	80	175	0.32	2.1	10	—	ODS-137
MA4L011-186 S	80	175	0.33	2.1	10	—	ODS-186
MA4L011-30 S	80	175	0.36	2.1	10	—	ODS-30
MA4L011-31 S	80	175	0.36	2.1	10	—	ODS-31
MA4L011-1056 S	80	175	0.38	2.1	10	—	ODS-1056
MA4L011-32 S	80	175	0.48	2.1	10	—	ODS-32
MA4L022-134 S	90	175	0.19	2	10	—	ODS-134 DIE
MA4L021-134 S	90	175	0.2	2.1	10	—	ODS-134 DIE
MADL-011021-14210G S	90	175	0.2	2.1	10	—	ODS-1056
MA4L022-120 S	90	175	0.32	2	10	—	ODS-120
MA4L022-137	90	175	0.33	2	10	—	ODS-137
MA4L021-120 S	90	175	0.33	2.1	10	—	ODS-120
MA4L022-186 S	90	175	0.34	2	10	—	ODS-186

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PIN Limiter Diodes (continued)							
Part Number	Incident Power, Max (W)	Thermal Resistance	Junction Capacitance (pF)	Resistance (Ω)	Lifetime (ns)	Vb (V)	Package
MA4L022-30 S	90	175	0.37	2	10	—	ODS-30
MA4L021-31 S	90	175	0.38	2.1	10	—	ODS-31
MADL-000021-003000 S	90	175	0.38	21	10	—	ODS-30
MA4L022-1056 S	90	175	0.39	2	10	—	ODS-1056
MA4L021-1056 S	90	175	0.4	2.1	10	—	ODS-1056
MA4L022-32 S	90	175	0.49	2	10	—	ODS-32
MLP7102 S	100	55	0.7	1	10	20 – 45	DIE/Various
MLP7141 S	100	70	0.2	1.5	7	30 – 60	DIE/Various
MLP7131 S	100	80	0.2	1.5	5	15 – 30	DIE/Various
MLP7101 S	100	80	0.5	1.2	10	20 – 45	DIE/Various
MADL-011023-14150T	100	175	0.2	1.3	10	—	1.5 x 1.2 mm TDFN-6
MA4L032-134 S	125	150	0.2	2.5	15	—	ODS-134 DIE
MA4L031-134 S	125	150	0.21	2	20	—	ODS-134 DIE
MADL-000031-13880G S	125	150	0.21	2.1	20	—	ODS-1388
MADL-000032-003000 S	125	150	0.21	2.1	20	—	ODS-3000
MADL-011010-01340W S	125	150	0.24	1.5	15	—	ODS-134
MA4L032-186 S	125	150	0.35	2.5	15	—	ODS-186
MA4L031-186 S	125	150	0.36	2	20	—	ODS-186
MA4L032-31 S	125	150	0.38	2.5	15	—	ODS-31
MA4L031-31 S	125	150	0.39	2	20	—	ODS-31
MA4L032-1056 S	125	150	0.4	2.5	15	—	ODS-1056
MA4L031-1056 S	125	150	0.41	2	20	—	ODS-1056
MA4L032-32 S	125	150	0.5	2.5	15	—	ODS-32
MLP7110 S	200	80	0.2	1.5	10	45 – 75	DIE/Various
MA4L062-134 S	200	150	0.15	2.5	10	—	ODS-134 DIE
MADL-000062-13880G S	200	150	0.15	2.5	10	—	ODS-13880G DIE
MADL-011011-01340W S	200	150	0.17	2.3	10	—	ODS-134
MADL-000062-105600 S	200	150	0.35	2.5	10	—	ODS-1056
MA4L101-134 S	250	30	0.15	2	90	—	ODS-134 DIE
MADL-000101-13880G S	250	30	0.15	2	90	—	ODS-13880G DIE
MA4L101-186 S	250	30	0.3	2	90	—	ODS-186
MA4L101-30 S	250	30	0.33	2	90	—	ODS-30
MLP7111 S	400	60	0.5	1.2	15	45 – 75	DIE/Various
MADL-000301-01340W S	500	30	0.2	1.5	200	—	ODS-134 DIE
MADL-000301-13870G S	500	30	0.2	1.5	200	—	ODS-1370
MA4L301-31 S	500	30	0.38	1.5	200	—	ODS-31
MA4L301-1056 S	500	30	0.4	1.5	200	—	ODS-1056
MADL-011052-14280W S	500	36	0.19	2	222	—	ODS-134 Die
MLP7112 S	795	40	0.7	1	20	45 – 75	DIE/Various
MADL-000401-13870G S	1000	25	0.3	1.2	800	—	ODS-13870G DIE
MA4L401-134 S	1000	25	0.3	1.2	800	—	ODS-134 DIE
MA4L401-120 S	1000	25	0.43	1.2	800	—	ODS-32
MA4L401-30 S	1000	25	0.48	1.2	800	—	ODS-30
MA4L401-31 S	1000	25	0.48	1.2	800	—	ODS-31
MA4L401-1056 S	1000	25	0.5	1.2	800	—	ODS-1056
MLP7120 S	1000	40	0.2	1.5	50	120 – 180	DIE/Various
MLP7120-2012	1000	45	0.2	1.5	50	120 – 180	2012

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PIN Limiter Diodes (continued)

Part Number	Incident Power, Max (W)	Thermal Resistance	Junction Capacitance (pF)	Resistance (Ω)	Lifetime (ns)	Vb (V)	Package
MLP7121 S	2000	20	0.6	1	50	120 – 180	DIE/Various
MLP7122 S	4000	15	0.8	0.5	100	120 – 80	DIE/Various

Schottky Mixer and Detector Diodes

Part Number	Max Freq (MHz)	Min Freq (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ω)	Vf (mV)	Vb (V)	Package
IN5819	—	—	0.04	—	110	30	DO-7
MGR703 S	1000	DC	1	—	0.41	20	DIE/Various
MGR700 S	1000	DC	1.2	—	0.34	8	DIE/Various
MGR705 S	1000	DC	1.2	—	0.41	70	DIE/Various
MA4E2532L-1113	1800	DC	0.1	16	440	5	ODS-1113
MNM207 S	2600	DC	0.14	20	0.425	4	DIE/Various
MNM201 S	2600	DC	0.2	20	0.4	3	DIE/Various
MNM212 S	2600	DC	0.21	20	0.475	5	DIE/Various
MNM211	2600	DC	0.25	20	0.45	5	DIE/Various
SMSD6012-SOD323	3000	DC	0.25	15	630	2	SOD-323W
SMST6004-SOT23	3000	DC	0.6	10	600	2	SOT-23
MSS20-054-C15 S	8000	DC	0.2	80	—	0.8	C15P
MSS20-055-C15 S	8000	DC	0.2	80	—	0.8	C15P
MZB600-19-6	8000	DC	0.2	3500	0.3	3	CS19-6
MZB600-32 S	8000	DC	0.2	3500	0.3	3	CS32
MZB600-B11	8000	DC	0.2	3500	0.3	3	B11
MZB600-C15P	8000	DC	0.2	3500	0.3	3	C15P
MZB604-B11 S	8000	DC	0.2	5000	0.3	4	B11
MZB604-C15P	8000	DC	0.2	5000	0.3	4	C15P
MSS20-054-E25	8000	DC	0.3	80	—	0.8	E25
MSS20-055-E25	8000	DC	0.3	80	—	0.8	E25
MSS20-054-H27 S	8000	DC	0.35	80	—	0.8	H27
MSS20-055-H27 S	8000	DC	0.35	80	—	0.8	H27
MSS20-054-T86 S	8000	DC	0.41	80	—	0.8	T86p
MSS20-055-T86 S	8000	DC	0.41	80	—	0.8	T86p
MADS-011010-1419	10000	DC	0.15	7	—	3	ODS-1419
MA40147-213	10000	DC	0.32	—	—	—	ODS-213
MA40264 S	10000	DC	0.32	—	—	3	ODS-186
MSS39-048-C15	12000	DC	0.15	—	—	5	C15p
MSS20-050-C15 S	12000	DC	0.15	80	—	0.8	C15P
MSS20-051-C15 S	12000	DC	0.15	80	—	0.8	C15P
MSS39-152-B10B S	12000	DC	0.18	—	—	3.5	B10Bp
MSS20-050-E25	12000	DC	0.25	80	—	0.8	E25
MSS20-051-E25	12000	DC	0.25	80	—	0.8	E25
MSS39-152-E25	12000	DC	0.28	—	—	3.5	E25
MSS39-048-P55 S	12000	DC	0.3	—	—	5	P55p
MSS20-050-H27 S	12000	DC	0.3	80	—	0.8	H27
MSS20-051-H27 S	12000	DC	0.3	80	—	0.8	H27
MSS20-054-0805-2 S	12000	DC	0.3	80	—	0.8	0805-2
MSS20-055-0805-2	12000	DC	0.3	80	—	0.8	0805-2
MSS20-046-T86 S	12000	DC	0.31	80	—	0.8	T86p
MSS20-047-T86 S	12000	DC	0.31	80	—	0.8	T86p

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Schottky Mixer and Detector Diodes (continued)							
Part Number	Max Freq (MHz)	Min Freq (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ω)	Vf (mV)	Vb (V)	Package
MSS39-048-P86 S	12000	DC	0.32	—	—	5	P86p
MSS39-148-H20 S	12000	DC	0.33	—	—	3.5	H20
MSS20-050-T86 S	12000	DC	0.36	80	—	0.8	T86p
MSS20-051-T86 S	12000	DC	0.36	80	—	0.8	T86p
MA40215-120 S	16000	DC	0.32	—	—	5	ODS-1200
MADS-011030-14280W S	16000	DC	0.33	6.5	100	3.5	DIE
MSS39-045-C15 S	18000	DC	0.1	—	—	5	C15p
MSS30-142-B10B S	18000	DC	0.1	22	—	2	B10B
MSS30-242-B20 S	18000	DC	0.1	22	—	2	B20
MSS30-442-B42 S	18000	DC	0.1	22	—	2	B42
MSS30-442-E45	18000	DC	0.1	22	—	2	E45
MSS30-442-H40 S	18000	DC	0.1	22	—	2	H40
MSS40-141-B10B S	18000	DC	0.1	22	—	3	B10B
MSS30-442-B41 S	18000	DC	0.1	22	—	4	B41
MSS20-046-C15 S	18000	DC	0.1	80	—	0.8	C15P
MSS20-047-C15 S	18000	DC	0.1	80	—	0.8	C15P
MADS-002545-1307HG	18000	DC	0.11	10	—	5	ODS-1307
MADS-002545-1307MG	18000	DC	0.11	10	—	5	ODS-1307
MADS-002545-1307LG	18000	DC	0.11	11	—	5	ODS-1307
MSS39-148-B10B S	18000	DC	0.12	—	—	3.5	B10Bp
MSS40-045-C15 S	18000	DC	0.12	15	—	3	C15
MSS30-046-C15 S	18000	DC	0.12	18	—	2	C15
MSS50-146-B10B S	18000	DC	0.12	18	—	4	B10B
MSS30-PCB46-B48 S	18000	DC	0.12	20	—	2	B48
MSS40-PCB46-B48 S	18000	DC	0.12	20	—	3	B48
MSS50-046-C26	18000	DC	0.12	20	—	4	C26
MSS40-244-B20 S	18000	DC	0.12	22	—	3	B20
MSS30-CR46-B49	18000	DC	0.125	22	—	2	B49
MSS30-B46-B45 S	18000	DC	0.125	25	—	2	B45
MSS50-B46-B45 S	18000	DC	0.13	20	0.5	4	B45
MSS30-PCR46-B47 S	18000	DC	0.13	22	—	2	B47
MSS40-PCR46-B47 S	18000	DC	0.13	22	—	3	B47
MSS40-B46-B45 S	18000	DC	0.13	25	—	3	B45
MSS30-148-B10B S	18000	DC	0.15	15	—	2	B10B
MSS30-248-B20 S	18000	DC	0.15	15	—	2	B20
MSS30-448-B41 S	18000	DC	0.15	15	—	2	B41
MSS30-448-B42 S	18000	DC	0.15	15	—	2	B42
MSS40-048-C15 S	18000	DC	0.15	15	—	3	C15
MSS40-148-B10B S	18000	DC	0.15	17	—	3	B10B
MSS40-248-B20 S	18000	DC	0.15	17	—	3	B20
MSS40-448-B42 S	18000	DC	0.15	17	—	3	B42
MSS50-048-C15	18000	DC	0.15	15	—	4	C15
MSS39-144-0402	18000	DC	0.16	—	—	3.5	0402
MSS39-144-0805-2	18000	DC	0.17	—	—	3.5	0805-2
MSS39-146-0402	18000	DC	0.18	—	—	3.5	0402
MSS30-050-C15 S	18000	DC	0.18	15	—	2	C15
MSS40-141-0402	18000	DC	0.18	18	—	3	0402

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Schottky Mixer and Detector Diodes (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ω)	Vf (mV)	Vb (V)	Package
MSS39-146-0805-2	18000	DC	0.2	—	—	3.5	0805-2
MSS39-148-0402	18000	DC	0.2	—	—	3.5	0402
MSS50-244-B20	18000	DC	0.2	16	0.5	4	B20
MSS50-146-0402	18000	DC	0.2	18	—	4	0402
MSS20-046-E25	18000	DC	0.2	80	—	0.8	E25
MSS20-047-E25	18000	DC	0.2	80	—	0.8	E25
SMS202	18000	DC	0.2	80	—	1	0503
MSS30-242-E35	18000	DC	0.21	22	—	2	E35
MSS39-148-0805-2	18000	DC	0.22	—	—	3.5	0805-2
MSS39-148-E25	18000	DC	0.22	—	—	3.5	E25
MSS40-141-E25	18000	DC	0.22	18	—	3	E25
MSS50-146-0805-2	18000	DC	0.22	18	—	4	0805-2
MSS30-CR46-E45	18000	DC	0.22	22	—	2	E45
MSS40-CR46-E45	18000	DC	0.23	15	—	3	E45
MSS39-144-H27 S	18000	DC	0.24	—	—	3.5	H27
MSS40-148-0402	18000	DC	0.24	15	—	3	0402
MSS50-146-E25	18000	DC	0.24	18	—	4	E25
MSS40-B46-E45	18000	DC	0.24	25	—	3	E45
MSS40-244-E35	18000	DC	0.24	28	—	3	E35
MSS39-146-H27 S	18000	DC	0.25	—	—	3.5	H27
MSS39-152-0402	18000	DC	0.25	—	—	3.5	0402
MSS30-154-B10B S	18000	DC	0.25	12	—	2	B10B
MSS30-254-B20 S	18000	DC	0.25	12	—	2	B20
MSS30-454-B40 S	18000	DC	0.25	12	—	2	B40
MSS50-448-B40 S	18000	DC	0.25	14	0.5	4	B40
MSS40-B53-B45 S	18000	DC	0.25	15	—	3	B45
MSS50-B53-B45 S	18000	DC	0.25	15	0.5	4	B45
MSS50-CR53-B49 S	18000	DC	0.25	15	0.5	4	B49
MSS50-PCR53-B48 S	18000	DC	0.25	15	0.5	4	B47
MSS30-CR53-B49 S	18000	DC	0.25	15	—	2	B49
MSS30 PCR53-B47 S	18000	DC	0.25	15	—	2	B47
MSS30-248-E35	18000	DC	0.25	15	—	2	E35
MSS30-B53-B45 S	18000	DC	0.25	15	—	2	B45
MSS40-448-E45	18000	DC	0.25	15	—	3	E45
MSS40-248-0805-4	18000	DC	0.25	18	—	3	0805-4
MSS50-B46-E45	18000	DC	0.25	20	0.5	4	E45
MSS30-B46-E45	18000	DC	0.25	25	—	2	E45
MSS20-046-H27 S	18000	DC	0.25	80	—	0.8	H27
MSS20-047-H27 S	18000	DC	0.25	80	—	0.8	H27
MSS20-050-0805-2	18000	DC	0.25	80	—	0.8	0805-2
MSS20-051-0805-2	18000	DC	0.25	80	—	0.8	0805-2
MSS39-045-P55	18000	DC	0.26	—	—	5	P55p
MSS30-448-E45	18000	DC	0.26	15	—	2	E45
MSS30-142-E25	18000	DC	0.26	22	—	2	E25
MSS39-152-0805-2	18000	DC	0.27	—	—	3.5	0805-2
MSS39-045-P86 S	18000	DC	0.27	—	—	5	P86p
MSS40-045-P55 S	18000	DC	0.28	15	—	3	P55

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Schottky Mixer and Detector Diodes (continued)							
Part Number	Max Freq (MHz)	Min Freq (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ω)	Vf (mV)	Vb (V)	Package
MSS40-148-E25	18000	DC	0.28	15	—	3	E25
MSS40-248-E35	18000	DC	0.28	18	—	3	E35
MSS50-046-P55 S	18000	DC	0.28	20	—	4	P55
MSS40-155-B10B	18000	DC	0.3	13	—	3	B10B
MSS40-045-P86 S	18000	DC	0.3	15	—	3	P86
MSS40-048-P55	18000	DC	0.3	15	—	3	P55
MSS40-255-0805-4	18000	DC	0.3	15	—	3	0805-4
MSS30-346-B21 S	18000	DC	0.3	16	—	2	B2
MSS40-455-B40 S	18000	DC	0.3	17	—	3	B40
MSS30-046-P55 S	18000	DC	0.3	18	—	2	P55
MSS40-141-H20 S	18000	DC	0.3	18	—	3	H20
MSS50-046-P86	18000	DC	0.3	20	—	4	P86
MSS30-148-E25	18000	DC	0.31	15	—	2	E25
MSS50-244-E35	18000	DC	0.31	16	0.5	4	E35
MSS30-142-H20 S	18000	DC	0.31	22	—	2	H20
MSS30-242-H30 S	18000	DC	0.31	22	—	2	H30
MSS40-455-H40 S	18000	DC	0.32	14	—	3	H40
MSS40-048-P86 S	18000	DC	0.33	15	—	3	P86
MSS30-046-P86 S	18000	DC	0.33	18	—	2	P86
MSS30-CR46-H40 S	18000	DC	0.33	22	—	2	H40
MSS50-146-H20 S	18000	DC	0.34	18	—	4	H2
MSS50-448-0805-4	18000	DC	0.35	10	—	4	0805-4
MSS30-254-E35	18000	DC	0.35	12	—	2	E35
MSS30-454-E45	18000	DC	0.35	12	—	2	E45
MSS30-050-P55 S	18000	DC	0.35	15	—	2	P55
MSS30-448-H40 S	18000	DC	0.35	15	—	2	H40
MSS30-B53-E45	18000	DC	0.35	15	—	2	E45
MSS30-CR53-E45	18000	DC	0.35	15	—	2	E45
MSS40-CR46-H40 S	18000	DC	0.35	15	—	3	H40
MSS50-B46-H40 S	18000	DC	0.35	20	0.5	4	H40
MSS30-B46-H40 S	18000	DC	0.35	25	—	2	H40
MSS39-152-H20 S	18000	DC	0.36	—	—	3.5	H20
MSS50-448-E45 S	18000	DC	0.36	10	0.5	4	E45
MSS30-148-H20 S	18000	DC	0.36	15	—	2	H20
MSS30-248-H30 S	18000	DC	0.36	15	—	2	H30
MSS40-148-H20	18000	DC	0.36	15	—	3	H20
MSS40-448-H40 S	18000	DC	0.36	15	—	3	H40
MSS40-B53-E45	18000	DC	0.36	15	—	3	E45
MSS50-CR53-E45	18000	DC	0.36	15	—	4	E45
MSS50-B53-E45 S	18000	DC	0.36	15	0.5	4	E45
MSS40-244-0805-4	18000	DC	0.36	28	—	3	0805-4
MSS40-155-0402 S	18000	DC	0.38	14	—	3	0402
MSS30-050-P86 S	18000	DC	0.38	15	—	2	P86
MSS40-455-E45	18000	DC	0.4	14	—	3	E45
MSS50-155-0805-2	18000	DC	0.4	15	—	4	0805-2A
MSS30-346-E25	18000	DC	0.4	16	—	2	E25
MSS30-154-E25	18000	DC	0.41	12	—	2	E25

Note: Part numbers are RoHS compliant. **S** indicates these parts are also available with Space and Hi-Rel Screening & Qualification. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

Schottky Mixer and Detector Diodes (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ω)	Vf (mV)	Vb (V)	Package
MSS40-155-E25	18000	DC	0.41	14	—	3	E25
MSS40-255-E35	18000	DC	0.41	14	—	3	E35
MSS50-244-H30	18000	DC	0.42	16	0.5	4	H30
MSS50-244-0805-4	18000	DC	0.44	16	—	4	0805-4
MSS30-CR53-H40	18000	DC	0.45	15	—	2	H40
MSS30-154-H20 S	18000	DC	0.46	12	—	2	H20
MSS30-254-H30 S	18000	DC	0.46	12	—	2	H30
MSS30-454-H40 S	18000	DC	0.46	12	—	2	H40
MSS30-B53-H40 S	18000	DC	0.46	15	—	2	H40
MSS50-CR53-H40 S	18000	DC	0.46	15	0.5	4	H40
MSS50-448-H40 S	18000	DC	0.48	10	0.5	4	H40
MSS50-B53-H40 S	18000	DC	0.48	15	—	4	H40
MSS30-346-H20 S	18000	DC	0.5	16	—	2	H20
MSS40-155-H20 S	18000	DC	0.51	14	—	3	H20
MSS39-146-B10B S	26000	DC	0.1	—	—	3.5	B10Bp
MA4E2513L-1289 S	26000	DC	0.12	10	—	3	ODS-1289
MA4E2501L-1290 S	26000	DC	0.12	10	—	5	ODS-1290
MADS-002501-1290LP	26000	DC	0.12	10	0.3	5	ODS-1290
MADS-002502-1246HP	26000	DC	0.12	11	—	3	ODS-1246
MA4E2502H-1246 S	26000	DC	0.12	11	0.65	3	ODS-1246
MADS-002502-1246MP	26000	DC	0.12	12	—	3	ODS-1246
MA4E2514M-1116 S	26000	DC	0.12	12	0.4	3	ODS-1116
MA4E2502M-1246 S	26000	DC	0.12	12	0.42	3	ODS-1246
MADS-002502-1246LP	26000	DC	0.12	16	—	3	ODS-1246
MA4E2502L-1246 S	26000	DC	0.12	16	0.3	3	ODS-1246
MA4E2514L-1116 S	26000	DC	0.12	16	0.3	3	ODS-1116
MSS20-140-0402	26000	DC	0.15	80	—	0.8	0402
MA4E2532M-1113 S	26000	DC	0.16	10	—	5	ODS-1113
MSS20-046-0805-2	20000	DC	0.2	80	—	0.8	0805-2
MSS20-047-0805-2	20000	DC	0.2	80	—	0.8	0805-2
MA4E2508H-1112 S	26000	DC	0.24	6	—	5	ODS-1112
MA4E2508M-1112 S	26000	DC	0.24	12	0.42	5	ODS-1112
MA4E2508L-1112 S	26000	DC	16	0.24	0.3	5	ODS-1112
SMS201	26500	DC	0.1	80	0.09	1	0503
SMGS11	26500	DC	0.13	13	0.69	4.5	0503
MSS39-144-B10B S	40000	DC	0.08	—	—	3.5	B10Bp
MSS25-141-B10D S	40000	DC	0.08	65	—	3	B10D
MSS20-140-B10D S	40000	DC	0.08	80	—	0.8	B10D
MSS20-141-0402	40000	DC	0.08	80	—	0.8	0402
MSS20-141-B10D S	40000	DC	0.08	80	—	0.8	B10D
MSS25-143-B10D S	40000	DC	0.1	60	—	3	B10D
MSS25-047-C15c S	40000	DC	0.1	65	—	3	C15c
MSS20-142-0402 S	40000	DC	0.1	80	—	0.8	0402
MSS20-142-B10D S	40000	DC	0.1	80	—	0.8	B10D
MSS20-143-0402	40000	DC	0.1	80	—	0.8	0402
MSS20-143-B10D S	40000	DC	0.1	80	—	0.8	B10D
MSS25-049-C15c S	40000	DC	0.12	52	—	3	C15c

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Schottky Mixer and Detector Diodes (continued)							
Part Number	Max Freq (MHz)	Min Freq (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ω)	Vf (mV)	Vb (V)	Package
MSS25-145-B10D S	40000	DC	0.12	52	—	3	B10D
MSS20-145-0402	40000	DC	0.12	80	—	0.8	0402
MSS20-145-B10D S	40000	DC	0.12	80	—	0.8	B10D
MSS20-146-0402	40000	DC	0.12	80	—	0.8	0402
MSS20-146-B10D S	40000	DC	0.12	80	—	0.8	B10D
MGS912 S	60000	DC	0.03	28	1.95	20	B89
MGS906 S	60000	DC	0.04	14	1.4	10	B90
MGS907 S	60000	DC	0.04	14	1.4	10	B85
MGS908 S	60000	DC	0.04	14	1.4	10	B86
MA4E2037 S	60000	DC	0.05	4	0.7	4.5	Beam Lead
MA4E2039 S	60000	DC	0.05	4	0.7	4.5	Beam Lead
MA4E2040 S	60000	DC	0.05	4	0.7	4.5	Beam Lead
MADS-001317-1500AG	80000	DC	0.05	4	0.7	4.5	ODS-1500
MA4E2160	80000	DC	0.05	4	0.7	7	ODS-1262
MADS-001317-1500AP	80000	DC	0.05	4	0.7	7	ODS-1500
MGS904 S	60000	DC	0.06	7	0.7	—	B85
MGS803	60000	DC	0.06	7	0.7	5	Flip Chip
MGS901 S	60000	DC	0.06	7	0.7	5	Beam Lead
MGS903 S	60000	DC	0.06	7	0.7	5	Beam Lead
MGS905 S	60000	DC	0.06	7	0.7	5	B86
MGS907A S	60000	DC	0.06	12	1.4	10	B85
MGS904A S	60000	DC	0.08	5	0.7	5	B85
MGS802	60000	DC	0.1	7	0.7	5	Flip Chip
MGS902 S	60000	DC	0.1	7	0.7	5	Beam Lead
MGS909 S	60000	DC	0.1	21	1.4	15	B90
MGS910 S	60000	DC	0.1	21	1.4	15	B87
MGS802A	60000	DC	0.15	5	0.7	5	Flip Chip
MA4E1317	80000	DC	0.05	4	0.7	4.5	ODS-1278
MA4E1319-1	80000	DC	0.05	4	0.7	4.5	ODS-1199
MA4E1318	80000	DC	0.09	4	0.7	4.5	ODS-1197
MADS-001318-1197HP	80000	DC	0.09	4	0.7	7	Tape & Reel
MA4E1310	110000	DC	0.04	7	0.7	7	ODS-1278

THz Schottky Barrier Diodes				
Part Number	Total Capacitance (fF)	Cutoff Frequency (THz)	Resistance (Ω)	Configuration (mV)
MADZ-011001	40	1.27	3.4	Single
MADZ-011002	49	1	3.5	Single
MADZ-011003	49	1	3.5	Anti-Parallel
MADZ-011004	49	1	3.5	Reverse Tee
MADZ-011005	49	1	3.5	Unconnected Anti-Parallel Pair

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Low Magnetic and Non-Magnetic PIN Diodes

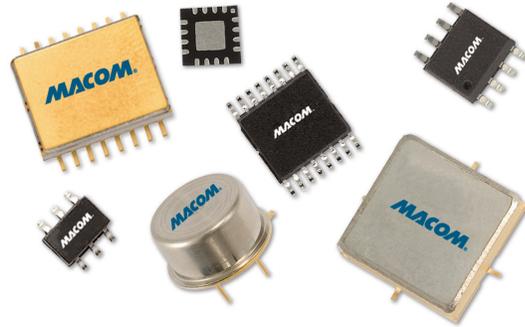
Product	Max Frequency (MHz)	Min Frequency (MHz)	CW Power Dissipation(W)	Total Capacitance (pF)	Resistance (Ω)	Lifetime (ns)	Breakdown Voltage Minimum(V)	Package
MMP7089-128-1	—	—	—	0.5	0.6	1000	500	CS128-1
MMP7080-128-1	—	—	—	0.7	0.8	3	600	CS128-1
MMP7078-128-1	—	—	—	1	0.5	3	400	CS128-1
MADP-010015-14320T	—	—	—	6	0.6	7.5	75	ODS-1432 (SMT)
MADP-010015-14340T	—	—	—	6	0.6	7.5	75	ODS-1434 (Axial)
MADP-010015-14420T	—	—	—	6	0.6	7.5	75	ODS-1442 (AP Pair)
MADP-011143-10720T	120	0	6	1	0.2	4000	500	ODS-1072
MADP-011084-1134B0	400	5	50	2	1	55	50	Ceramic 2 LD
MADP-011084-TR0500	400	5	50	2	1	55	50	4 mm 8-lead HQFN
MA4P4001BNM-402	500	DC	12	2.2	0.5	20000	100	ODS-402
MADP-04002B-NM402T	500	DC	12	2.2	0.5	20000	200	ODS-402
MADP-000504-10720T	1000	0	2.9	0.16	0.6	1000	500	ODS-1072
MA4P7446F-1091T	1000	0	25	2.2	0.5	19000	600	ODS-1091
MA4P7441F-1091T	1000	0	30	2.2	0.5	18000	100	ODS-1091
MA4P7435NM-1091T	1000	0	50	2.5	0.2	14000	1100	ODS-1091
MADP-07006B-NM401T	1000	1	5	0.7	0.9	5000	600	ODS-401
MA44781	1000	10	1.7	1.5	0.8	200	60	ODS-1134
MA45471	1000	10	1.7	3	—	200	75	ODS-1134
MADP-009989-14320T	1500	30	4	1.2	0.3	6500	75	ODS-1432 (SMT)
MADP-009989-14340T	1500	30	4	1.2	0.3	6500	75	ODS-1434 (Axial)
MADP-009989-14420T	1500	30	4	1.2	0.3	6500	75	ODS-1442 (AP Pair)
MADP-011034-10720T	1500	10	6	1	0.4	300	150	ODS-1072
MADP-000404-10720T	1500	100	7.5	0.6	0.7	100	250	ODS-1072
MA4P7464F-1072T	1500	0	7.5	0.8	0.5	4500	400	ODS-1072
MADP-000235-10720T	1500	0	7.5	1.2	0.5	300	35	ODS-1072
MA4P7452F-1072T	1500	0	10	0.7	0.9	9000	150	ODS-1072
MA4P7470F-1072T	1500	0	12	0.7	0.8	6500	800	ODS-1072
MADP-011127-11410T	2500	25	0.2	0.35	1.5	200	75	ODS-1141 SOT-323
MADP-011128-11410T	2500	25	0.2	1	0.5	200	75	ODS-1141 SOT-323
MADP-011136-11410T	3000	50	0.25	0.5	2	20	70	SOD-323
MADP-011136-N287BT	3000	50	0.25	0.5	2	20	70	SOT-23
MADP-011136-N287T0	3000	50	0.25	0.5	2	20	70	SOT-23

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CONTROL PRODUCTS

For a Wide Range of A&D and Commercial Applications

MACOM offers control products for a wide range of A&D and commercial applications, covering a broad frequency spectrum from DC to 100 GHz, using Silicon, AlGaAs, and GaAs based technologies.

**Power Detectors**

- > Broadband devices with integrated low loss directional couplers and built-in temperature compensation circuits
- > Lead-free plastic surface mount packages
- > For power monitoring and leveling in point-to-point radios, IMS, radar, VSAT, EW, A&D systems

Digital Phase Shifters

- > 4-Bit and 6-Bit with either serial or parallel control inputs
- > For military or weather radar, transmit/receive modules, and EW
- > Convenient surface mount PQFN with 360° coverage, fast switching speed, and low phase error

Voltage Variable Attenuators

- > Automotive and wireless markets
- > Ideal for cellular infrastructure, handset gain control, radar systems, satellite radios, and test equipment

Digital Attenuators

- > Used in a variety of applications for automotive and wireless markets,
- > Typical applications include: CATV infrastructure, cellular infrastructure, handset gain control, radar systems, satellite radios, and test equipment including 75 Ω versions for CATV

Limiters

- > Thin-film hybrid manufacturing for the highest levels of performance, repeatability, reliability, and cost-effectiveness

CMOS Switch Drivers

- > For wireless infrastructure base stations and A&D applications including: cordless and mobile phones, satellite radio, GPS and DAB, 2.4 GHz and 5.0 GHz WLAN, VSAT, CATV and broadband, commercial and military radar, and multi-market applications

Switches

- > Frequency spectrum from DC to 100 GHz
- > (HMIC™) PIN diodes: high power and broadband from 50 MHz to 26 GHz
- > AlGaAs PIN diode: upper frequency ranges for instrumentation and radar
- > GaAs pHEMT and MESFET for fast switching and low control voltage for narrow band and broadband
- > 75 Ω absorptive switches for CATV, FTTx and DBS infrastructure, and CPE applications

Phase Detectors

- > SRD reference frequency multiplier, coupling capacitors and a Schottky diode microwave sampler/phase detector in a 0.075" by 0.100" hybrid
- > Used to phase lock microwave oscillators up to 22 GHz to a much lower reference frequency



Limiters								
Part Number	Max Freq (MHz)	Min Freq (MHz)	Insertion Loss (dB)	Ave. Power (W)	Peak Power (W)	Leakage (mW)	Recovery Time (ns)	Package
MADL-011012	1000	300	0.2	360	55.6	100	3000	SMT Hermetic
MADL-011014	2000	1000	0.35	200	320	100	3500	SMT Hermetic
2690-1001 ♦	2000	1000	0.7	1	100	75	100	Coax
2690-1003 ♦	2000	1000	0.9	3	1000	100	1000	Coax
MADL-011173-DIE	4000	2000	0.5	12.5	—	40	80	DIE
MADL-011015	4000	2000	0.6	100	250	30	3000	SMT Hermetic
LM202602-H-A-300	6000	2000	0.85	100	100	63	100	Surface Mount
MADL-011087-DIE	8000	2000	0.6	12.5	—	35	30	DIE
LM202802-L-C-300	8000	2000	1	4	100	79	75	Surface Mount
2690-1005 ♦	8000	2000	1.1	1	100	50	100	Coax
LM202802-Q-B-301	8000	2000	1.1	100	125	126	5000	Surface Mount
LM202802-Q-C-301	8000	2000	1.1	100	125	126	5000	Surface Mount
2690-1007 ♦	8000	2000	1.3	3	1000	100	1000	Coax
MADL-011074-DIE	8000	4000	0.6	10	—	50	130	DIE
MADL-011078-DIE	8000	4000	0.6	12.5	—	40	70	DIE
MADL-011088-DIE	12000	6000	0.4	8	—	56	60	DIE
MADL-011092	18000	100	1	3.1	400	500	11000	8.8 x 5 mm SMT
2690-1014 ♦	18000	2000	2.3	2	500	75	250	Coax
2690-1015 ♦	18000	2000	2.3	3	1000	100	1000	Coax
2690-1009 ♦	18000	8000	1.8	1	100	50	100	Coax
2690-1011 ♦	18000	8000	2.3	3	1000	100	1000	Coax
MADL-011100	20000	1000	1.1	5	500	39	0.27	SMT Ceramic

Power Detectors							
Part Number	Max Power (dBm)	Max Freq (MHz)	Min Freq (MHz)	Insertion Loss (dB)	Sensitivity (dBm)	Directivity (dB)	Package
MACP-010571	30	6000	2000	0.2	-15	15	1.5 x 1.2 mm TDFN-6
MACP-010572	30	18000	6000	0.25	-18	16	1.5 x 1.2 mm TDFN-6
MACP-010573	30	30000	10000	0.5	-17	14	1.5 x 1.2 mm TDFN-7
MADT-011000	15	44000	5000	—	—	—	3 mm QFN
MADT-011000-DIE	15	44000	5000	—	—	—	Die

Digital Phase Shifters								
Part Number	Max Freq (MHz)	Min Freq (MHz)	Insertion Loss (dB)	Bit Count	LSB (°)	P3 (dBm)	RMS Phase (dBm)	Package
MAPS-011021	1200	900	3.5	6-Bit	5.6	42	—	4 mm PQFN-24
MAPS-011007	1400	1200	3.8	6-Bit	5.6	48	2	4 mm PQFN-24
MAPS-010143	2400	1400	3.2	4-Bit	22.5	40	2	4 mm PQFN-24
MAPS-010163-DIE	2400	1400	3.8	6-Bit	5.6	40	3	DIE
MAPS-010163	2400	1400	5	6-Bit	5.6	40	3	4 mm PQFN-24
MAPS-010144	3800	2300	2.5	4-Bit	22.5	47	2.2	4 mm PQFN-24
MAPS-010164	3800	2300	3.2	6-Bit	5.6	45	3	4 mm PQFN-24
MAPS-010164-DIE	3800	2300	3.6	6-Bit	5.6	45	3	DIE
MAPS-011019	5100	2400	4.5	6-Bit	5.6	48	—	4 mm PQFN-24
MAPS-010165-DIE	6000	3500	4.9	6-Bit	5.6	40	4	DIE
MAPS-010145	6000	3500	5	4-Bit	22.5	45	3	4 mm PQFN-24
MAPS-010165	6000	3500	5.5	6-Bit	5.6	40	4	4 mm PQFN-24
MAPS-011008	6000	5000	4	6-Bit	5.6	48	2	4 mm PQFN-24
CGY2177AUH	6800	4800	5	6	5.625	—	2	DIE

Note: Part numbers are RoHS compliant. ♦ indicates non-RoHS compliant
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Digital Phase Shifters (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	Insertion Loss (dB)	Bit Count	LSB (°)	P3 (dBm)	RMS Phase (dBm)	Package
MAPS-010146	12000	8000	6.5	4-Bit	22.5	40	5	4 mm PQFN-24
MAPS-010166	12000	8000	6.5	6-Bit	5.6	40	5	4 mm PQFN-24
CGY2172XAUH	12000	8000	8	6	5.625	—	2	DIE
CGY2172XBUH	12000	8000	8	6	5.625	—	2	DIE
CGY2174UH	16000	14000	8	6	5.625	—	6	DIE
CGY2392SHV	18000	6000	10.8	6	5.625	—	1.09	5 x 5 mm
CGY2392SUH	18000	6000	10.8	6	5.625	—	1.7	DIE
CGY2173UH	18000	6000	13	6	5.625	—	4	DIE

Digital Attenuators

Part Number	Max Freq (MHz)	Min Freq (MHz)	Attenuator Range (dB)	Insertion Loss (dB)	Bit Count	IIP3	LSB	Package
CGY2176AUH	8000	1000	31.5	5.6	6	—	—	DIE
CGY2171XBUH	15000	1000	31.5	5	6	—	—	DIE
CGY2390SUH	18000	6000	35	2.2	3	—	—	DIE
CGY2169UH	18000	10000	23.5	4	6	—	—	DIE

Fixed Attenuators

Part Number	Max Freq (MHz)	Min Freq (MHz)	Attenuation (dB)	Return Loss (dB)	Input P1dB (DBM)	Input OIP3 (DBM)	Package
MAAT-011022-DIE	50000	DC	0.2	17.5	—	—	DIE
MAAT-011023-DIE	50000	DC	0.3	17.5	—	—	DIE
MAAT-011024-DIE	50000	DC	2.0	17.5	27	40	DIE
MAAT-011025-DIE	50000	DC	3.1	17.5	27	40	DIE
MAAT-011026-DIE	50000	DC	4.2	17.5	27	40	DIE
MAAT-011027-DIE	50000	DC	6.3	17.5	27	40	DIE
MAAT-011028-DIE	50000	DC	10.3	17.5	27	40	DIE
MAAT-011029-DIE	50000	DC	15.4	17.5	27	40	DIE
MAAT-011030-DIE	50000	DC	20.4	17.5	27	40	DIE

CMOS Switch Drivers

Part Number	Type	Rise Time/Fall Time (ns)	Vcc (V)	Vee (-V)	cc (mA)	Package
MADR-007131-000100	Dual Linearizer	—	5	—	1	CSP-9
MADR-007097-000100	Single	2	5	-5	1	SOIC-8
MADR-010574	PIN	2	3	—	170	7 mm PQFN-16
MADR-011021	4CH HV Driver	3	5	180 (VDD)	5.0	6 mm PQFN-18
MADR-010410	TR Module	6	3	3	—	5 mm PQFN-40
MADR-011007	FET	6	—	-5	—	6 mm PQFN-48
MADR-010269-DIE	Hex FET	8/4.5	3.3	-5	1	DIE
MADRCC0004	Quad	25	5	-5	—	SO-16
MADRCC0005	Single	25	5	-5	1	SO-8
MADR-009150	PIN	30	3.3	—	.05	3 mm PQFN-16
MADR-011022	2CH Driver	30	5	-25	20.0	4 mm PQFN-16
MADR-011020	2CH Driver	50	5	-50	50.0	4 mm PQFN-16
MADR-009151-000DIE	Single	300	5	-5	1	DIE
MADR-009190-000100	Quad	300	5	-5	1	SOIC-16
MADR-009269-000100	Single, PIN	300	5	5	1	SOIC-8
MADR-009443-000100	Quad	500	5	-5	20	4 mm PQFN-20
MADRCC0006	Single	500	5	-5	—	SO-8

Note: Part numbers are RoHS compliant. ♦ indicates non-RoHS compliant
 Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
 All specifications are subject to change.

CMOS Switch Drivers (continued)

Part Number	Type	Rise Time/Fall Time (ns)	Vcc (V)	Vee (-V)	cc (mA)	Package
MADRCC0007	Quad	500	5	-5	—	SOIC16
MADRCC0002 †	Dual	5000	20	—	—	CSP-9

Voltage Variable Attenuators

Part Number	Max Freq (MHz)	Min Freq (MHz)	Insertion Loss (dB)	Attenuator Range (dB)	Input IP3 (dBm)	Voltage (Volts)	Current (mA)	Package
LG1 *	—	—	—	—	—	—	—	TO-8
CLG1	—	—	—	—	—	—	—	SMA
MAATCC0013	960	824	—	25	—	—	—	SOT-25
MAAV-007088-000100	1000	50	2.8	42	34	—	—	SOW-16
MA4VAT900-1277T	1000	800	1	24	40	—	—	3 mm PQFN-16
MA4VAT904-1061T	1000	800	1	24	49	—	—	SOIC-8
MA4VAT907-1061T	1000	800	1	24	49	—	—	SOIC-8
MAAV-007092-000100	1000	800	3.6	34	40	—	30	6 mm PQFN-28
MAAV-007941	2000	0	3.2	12	36	-4	0.02	SOIC-8
SMG2	2000	5	—	23	—	—	—	SMT
MAAM-007987-000CG2	2000	5	—	23	—	—	—	SMA
SMG1	2000	5	—	30	—	—	—	SMTO-8
G1 †	2000	5	2.5	25	—	+15	15	TO-8, SMT, SMA
G2	2000	5	2.6	28	—	+5	15	TO-8
G30	2000	100	—	44	—	—	—	TO-8
CG30	2000	100	—	44	—	—	—	SMA
SMG30	2000	100	—	44	—	—	—	SMTO-8
MAAV-008022	2000	500	2.7	40	32	+5	0.05	SOIC-8
MAAVSS0008	2000	500	2.8	30	28	+5	0.3	SOIC-8
MA4VAT2004-1061T	2000	1700	1.4	24	49	—	—	SOIC-8
MA4VAT2007-1061T	2000	1700	1.4	23	52	—	—	SOIC-8
MAAV-007090-000100	2000	1700	3.5	35	31	—	—	SOW-16
MA4VAT2000-1277T	2200	1700	1.2	24	21	—	—	3 mm PQFN-16
MAAVSS0006	2500	0	3.6	25	36	-3	0.025	SOT-25
MAAVSS0001	2500	1800	2.4	42	32	+2.25	0.05	SOT-25
MADP-007167-12250T	3000	5	2.8	36	50	—	—	SOT-25
MA4P7455-1225T	4000	10	1	29	43	—	—	SOT-25
SMG40	4000	500	—	25	—	—	—	SMT
CG40	4000	500	—	32	—	—	—	SMA
G40	4000	500	2.5	32	—	+15	12	TO-8
MAAT-010521-L2	12000	5800	2	30	29	—	—	3 mm PQFN-16
MAAT-010521-L1	16000	5800	2	30	29	—	—	3 mm PQFN-16
MAAT-010521-H1	40000	17600	2	30	29	—	—	3 mm PQFN-16
MAAV-011013	45000	5000	1.5	30	42	—	—	3 mm PQFN-16
MAAV-011014-DIE	100000	80000	3	25	40	—	—	Die

Switches

Part Number	Max Freq (MHz)	Min Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
SPST						
MASW-008177	1000	5	0.7	53	52	3 mm PQFN-12
MASW-001150-1316 S	2500	45	0.3	65	40	DIE

Note: Part numbers are RoHS compliant. **S** indicates these parts are also available with Space and Hi-Rel Screening & Qualification.

† Indicates Non-magnetic. * LG1 Linearizer is compatible with the G1 Attenuator. Yields linear attenuation (dB) for linear control voltage. Available in TO-8, SMT, SMA. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.

All specifications are subject to change.

Switches (continued)						
Part Number	Max Freq (MHz)	Min Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
MASWSS0162	2500	50	1	48	46	SOIC-8
SW-209-PIN	3000	0	1.5	27	40	CR10
SW05-0311	3000	0	40	46	CR-9	
SW-231-PIN	4000	5	2	22	46	FP-16
MASWSS0148	4000	300	1.6	51	49	3 mm PQFN-12
MASW6020G	6000	100	0.9	45	46	DIE
MA4SW110 S	26500	50	0.6	48	40	HMIC DIE
MASW-011138-CS0240 S	26500	1000	3.1	50	38	Hermetic with 2.4 mm Connectors
MASW-011138-CS0292 S	26500	1000	3.1	50	38	Hermetic with 2.92 mm Connectors
MA4AGSW1 S	50000	50	0.2	43	—	DIE
MA4AGSW1A S	50000	50	1.2	48	—	DIE
SPDT						
MASWSS0103	1000	5	0.8	71	47	4 mm PQFN-20
MA8334-001	1000	20	0.4	25	80	844-001
MA8334-004	1000	20	0.4	25	—	844-004
MASWSS0179	2000	50	0.5	28	52	SOT-26
MASWSS0161	2000	500	0.6	30	55	SOIC-8
MASWSS0157	2500	50	0.6	35	45	SOIC-8
MASWSS0180	2500	50	0.6	38	46	SOIC-8
MASWSS0201	2500	50	1	45	44	3 mm PQFN-12
MASWSS0136	3000	0	0.4	27	48	SC-70 (SOT-363)
MASWSS0151	3000	0	0.6	28	55	SC-70 (SOT-363)
MASW2000	3000	0	0.6	40	53	DIE
MASW-007935	3000	0	0.7	34	50	SOT-26
MASW-007075-000100	3000	0	1.8	36	46	SOW-24
MASW-008801	3000	5	0.8	85	47	3 mm PQFN-16
MASW-009101	3000	5	1	65	39	3 mm PQFN-16
MASW-011207	3000	5	1.2	55	51	3 mm PQFN-16
MASWSS0178	3000	10	0.6	57	43	MSOP-8
MASWSS0192	3000	50	0.2	24	53	SC-70 (SOT-363)
MASWSS0176	3000	50	0.3	23	45	SOT-26
MASWSS0115	3000	50	0.3	24	46	SC-70 (SOT-363)
SW-313-PIN	3000	50	0.8	52	46	CR-9
MASWSS0143	3000	100	0.4	18	58	SOT-26
MASWSS0166	3000	100	0.4	21	55	SC-70 (SOT-363)
MASWSS0169	3000	100	0.7	48	50	MSOP-10
MASWSS0204	3000	300	0.3	22	56	SC-70 (SOT-363)
MASWSS0181	3000	300	0.5	23	57	SOT-26
MASW-008899	3000	500	0.3	24	48	SC-70 (SOT-363)
MASW-007221	3000	500	0.4	22	52	SC-70 (SOT-363)
MASWSS0167	3000	500	0.4	28	48	1.2 x 1.5 mm PQFN-6
MASWSS0121	3000	500	0.7	54	46	4 mm PQFN-16
SW-228-PIN	4000	0	0.7	42	46	CR-2
SW-226-PIN	4000	0	1	48	46	CR-2
MASW-007071-000100	4000	0	1.8	30	46	4 x 6 mm PQFN
MASW-008543	4000	10	0.7	58	53	MSOP-8

Note: Part numbers are RoHS compliant. **S** indicates these parts are also available with Space and Hi-Rel Screening & Qualification. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

Switches (continued)						
Part Number	Max Freq (MHz)	Min Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
MASW-000932	4000	10	53	43	72	4 mm PQFN-16
MASW4030G	4000	50	0.6	53	46	DIE
MASW-009588	4000	500	0.4	26	55	1 mm PDFN-6
MASW-010370	4000	1500	0.5	37	—	3 mm PQFN-16
MASW-008853	5000	0	0.3	25	56	SC-70 (SOT-363)
MASW-011184	5000	1000	0.35/0.5	29/27	54/51	3 mm PQFN-16
MASW-008206-000DIE	5800	2400	0.85	30	54	DIE
MASW6010	6000	0	0.8	38	46	DIE
MASW-011120	6000	30	0.25	44	68	5 mm HQFN-20
MASW-000822-12770T	6000	50	0.2	32	60	3 mm PQFN-16
MASW-000936	6000	50	0.2	45	72	4 mm PQFN
MASW-000834-13560T	6000	50	0.2	53	65	4 mm PQFN-16
MASW-000825-12770T	6000	50	0.3	35	64	3 mm PQFN-16
MASW-009444	6000	200	0.3	28	54	1 mm PDFN-6
MASW6010G	6000	200	0.8	38	46	DIE
MASWSS0202	6000	1000	0.6	25	52	3 mm PQFN-12
MASW-007588	6000	1000	0.9	28	55	3 mm PQFN-12
MASW-007921	7000	50	0.7	30	58	2 mm PDFN-8
MASW-007107	8000	0	0.5	30	54	2 mm PDFN-8
MASW-010647 S	10500	8000	0.8	37	60	DIE
MASW-011071	10500	8000	1	38	60	7 mm PQFN-44
MASW-011021 S	14000	6000	0.7	34	60	SURMOUNT™ DIE
MASW-002102-13580 S	18000	2	1.8	55	40	DIE
MASW-011108-DIE S	18000	6000	0.6	44	—	DIE
CGY2890SUH	18000	6000	1.5	50	—	DIE
MASW-002103-1363 S	20000	50	0.8	38	40	SURMOUNT™ DIE
MASW20000	20000	50	1.4	58	43	DIE
MASW-008322	20000	500	1	45	48	4 mm PQFN-24
MASW-011057 Reflective	20000	13000	0.8	42	55	4 mm QFN-20
MASW-011129-DIE	22000	2000	0.6	45	50	DIE
MASW-011052 S	26000	2000	0.8	50	43	DIE
MA4SW210B-1 S	26000	2000	1.2	48	40	DIE
MASW-011135-CS0240 S	26000	2000	3.3	30	45	Hermetic with 2.4 mm Connectors
MASW-011135-CS0292 S	26000	2000	3.3	30	45	Hermetic with 2.92 mm connectors
MASW-011107-DIE	26500	DC	1.3	46	45	DIE
MASW-002100-1191 S	26500	50	0.3	65	40	DIE
MA4SW210 S	26500	50	0.6	52	40	HMIC DIEe
MASW-011128-DIE	26500	50	1.7	48	42	DIE
MASW-011102	30000	0	1.8	40	45	3 mm PQFN-14
MASW-011105	31000	17700	1.6	30	43	3 mm PQFN-14
MASW-011145	31000	27000	1.3	45	60	3 mm 20-LD laminate
MASW-011144-DIE S	40000	20000	65	30	—	DIE
MASW-010646 S	40000	26000	0.6	39	60	DIE
MASW-011036 S	40000	26000	0.7	40	60	DIE
MASW-011098	40000	26000	1.17	38	—	5 mm 20-LD Laminate
MASW-011197	44000	0	1.4	46	52	2.25 mm 12-LD laminate

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Switches (continued)						
Part Number	Max Freq (MHz)	Min Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
MASW-011198	44000	0	1.8	47	52	3 mm 20-LD Laminate
MA4AGSW2 S	50000	50	0.6	46	—	DIE
MASW-011131-CS0240 S	50000	8000	2.2	35	—	Hermetic with 1.85 mm Connectors
MASW-011152	55000	0	3.3	38	52	3 mm 20-LD Laminate
MASW-011173	55000	20000	1.0	35	50	DIE
MASW-011151	67000	0	3.0	33	52	2.25 mm 12-LD Laminate
MASW-011111-DIE S	100000	80000	0.8	25	—	DIE
SP3T						
MASW-011041	1500	50	0.3	51	73	9 mm HQFN-20
MASW-011030	2500	50	0.4	27	77	7 mm HQFN-16
MASWSS0199	2500	500	0.5	30	58	3 mm PQFN-12
MASWSS0200	2500	500	0.6	24	61	3 mm PQFN-12
MASW-008955	3000	0	0.6	22	54	2 mm PDFN-8
MASW-007074-000100	3000	0	2	32	45	SOW-24
MASW-008330	3000	500	0.5	24	50	2 mm PQFN-8
MASWSS0144	3000	500	0.6	24	55	3 mm PQFN-12
MASWSS0191	3000	500	0.7	30	58	2 mm STDFN-8LD
MASW-010612	3500	0	0.6	21	54	1.5 mm PDFN-8
MASW-009482	4000	50	0.75	23	65	2 mm STQFN-12
MASW-011053 S	18000	2000	0.8	50	48	DIE
MASW-003102-13590 S	18000	2000	0.8	50	40	DIE
MASW-003103-1364 S	20000	50	0.8	40	40	SURMOUNT™ DIE
MASW-011130-DIE	22000	2000	0.6	45	45	DIE
MA4SW310B-1 S	26000	2000	1.2	47	40	DIE
MASW-003100-1192 S	26500	50	0.3	65	40	DIE
MA4SW310 S	26500	50	0.8	48	40	DIE
MA4AGSW3 S	50000	50	0.6	48	—	DIE
MASW-011185	60000	50	1.5	35	44	5 mm QFN-4
MASW-011029 S	100000	75000	1.3	33	—	DIE
SP4T						
MASW-011077	1000	50	0.3	48	50	12 mm XHQFN 28-lead
MASW-011040	1500	50	0.3	51	73	9 mm HQFN-20
MASWCC0009	3000	3	1.4	42	46	QSOP24
MASW-008566	3000	100	0.7	26	57	4 mm PQFN-16
MASW-007813-000000	3000	500	0.8	27	58	3 mm PQFN-16
MASW4060G	4000	0	1.3	50	46	DIE
MASWCC0010	4000	0	2.3	38	40	CSP-2
MASW-010350	4000	10	0.8	60	50	4 mm PQFN-24
MASW-004102-12760 S	18000	2	1.5	50	40	DIE
MA4SW410B-1 S	18000	2000	0.8	48	40	DIE
MASW-004103-1365 S	20000	50	0.8	50	63	SURMOUNT™ DIE
MASW-004240-13170 S	24000	10	2.5	50	—	DIE
MASW-004100-1193 S	26500	50	0.3	65	40	DIE
MA4SW410 S	26500	50	0.7	48	40	DIE
MASW-011137-CS0240 S	30000	500	3.8	30	45	Hermetic with 2.4 mm Connectors

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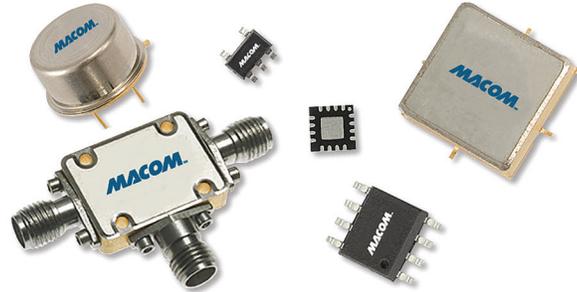
Switches (continued)										
Part Number	Max Freq (MHz)	Min Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package				
MASW-011087 S	30000	27000	0.85	50	55	DIE				
MASW-011199	44000	0	2.6	34	51	3 mm 22-LD Laminate				
MASW-011200	44000	0	3.3	41	51	3 mm 22-LD Laminate				
MA4AGSW4 S	50000	50	0.8	42	40	DIE				
MASW-011153	57000	0	3.5	34	51	3 mm 22-LD Laminate				
MASW-011154	57000	0	4.0	39	51	3 mm 22-LD Laminate				
SP5T										
MASW-010351	4000	10	1.4	57	50	4 mm PQFN-24				
MA4SW510B-1 S	18000	2000	0.9	40	40	DIE				
MASW-005102-13600 S	18000	2000	0.9	40	40	DIE				
MASW-006102-13610 S	26500	50	0.3	65	40	DIE				
MA4SW510 S	26500	50	0.9	38	40	DIE				
MASW-005100-1194 S	26500	50	0.9	38	40	DIE				
MA4AGSW5 S	50000	50	1.1	47	40	DIE				
MASW-011170	50000	50	1.1	47	40	DIE				
SP6T										
MASWCC0006	4000	0	2.1	25	40	CSP-2				
MA4SW610B-1 S	18000	2000	1.3	45	40	DIE				
MASW-006102-13610 S	18000	2000	1.3	45	40	DIE				
SP8T										
MA4AGSW8-1 S	50000	50	1.5	37	40	DIE				
DPDT										
MASW2040	2000	0	0.4	20	46	DIE				
MASW-009460	3000	500	0.6	19	52	3 mm PQFN-12LD				
MASWSS0130	3000	500	0.6	25	55	3 mm PQFN-12LD				
MASWSS0184	4000	200	0.7	35	58	3 mm PQFN-12LD				
MASW-007587-000000	4000	200	0.7	38	59	3 mm PQFN-12LD				
MASW6030G	6000	0	0.6	40	45	DIE				
MASWSS0190	6000	2000	0.8	43	50	2 mm UTQFN-8LD				
Phase Detectors										
Part Number	SRD TT Max (ps)	SRD VBR Min (V)	SRD CJ Typ (pF)	SRD TL Typ (ns)	Cap CT Typ (pF)	SD CJ Typ (pF)	SD VF Typ	SD RD Typ (mV)	FMW Typ (GHz)	Package
MSPD2018-E50/E50SM	55	15	0.35	5	0.6	0.1	430	16	22	E50/E50SM
MSPD2018-H50 S	55	15	0.35	5	0.6	0.1	430	16	22	H50
MSPD1012-E50/E50SM	70	15	0.5	10	2.5	0.18	270	9	12	E50/E50SM
MSPD1012-H50 S	70	15	0.5	10	2.5	0.18	270	9	12	H50
MSPD1002-E50/E50SM	70	15	0.5	20	3.5	0.22	270	8	2	E50/E50SM
MSPD1000-E50/E50SM	95	15	1	35	20	0.4	270	7	0.5	E50/E50SM
MSPD1000-H50 S	95	15	1	35	20	0.4	270	7	0.5	H50
MSPD1011-122/121	100	15	22	10	0.5	0.08	300	20	20	CS122/CS121
MSPD1012-121	100	15	22	10	0.5	0.08	450	20	20	CS121
MSPD1012-122	100	15	22	10	0.5	0.08	450	20	20	CS122
MSPD1013-121	100	15	22	10	0.5	0.08	550	20	20	CS121
MSPD1013-122	100	15	22	10	0.5	0.08	550	20	20	CS122

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FREQUENCY CONVERSION

Offering a Broad Range of Frequency and Performance Specifications

MACOM’s frequency conversion products include hybrid-mixers, mixers, receivers, transceivers, up converters, and frequency multipliers. Our frequency conversion devices are ideal for point-to-point radio, aerospace and defense, and other broadband communications applications. Available as surface mount devices, our reliable products enable easy assembly and integration for real estate constrained customers.



Frequency Multipliers

- > Combining an active doubler with an output buffer amplifier to deliver constant power over a range of input powers
- > Available as bare die or in surface mount lead-free QFN packages

Hybrid Mixers

- > For aerospace and defense, wireless, test and measurement, and broadband communications applications
- > Available in subsets of the frequency range:
 - RF and LO: 50 kHz to 24 GHz
 - IF: DC to 8 GHz
- > Double and triple balanced designs
- > Variety of technologies
 - GaAs pHEMT
 - Si HMIC™
- > Connectorized, flatpack, drop-in, and surface mount packages

Receivers

- > Widely used in point-to-point radio, aerospace and defense, and broadband communications applications
- > Features an integrated LNA, mixer and LO buffer amplifier on a single chip
- > 4500 to 45000 MHz frequency range
- > Excellent noise figure and conversion gain performance
- > Lead-free QFN or SMD packages

Transceivers

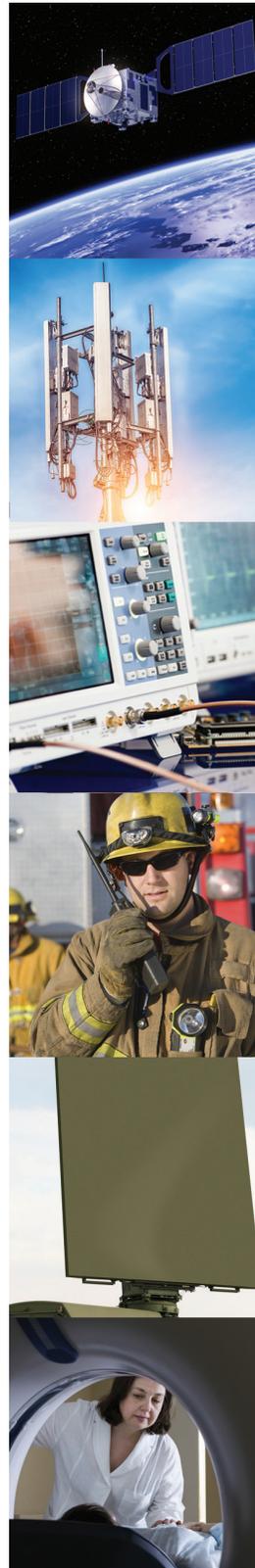
- > Monolithic and stereo doppler transceivers for directional motion detection
- > Used in automatic door openers, ground speed recorders and police radar detectors

Up Converters

- > Applications include point-to-point radio and broadband communications
- > Featuring an integrated image reject (balanced) mixer, LO buffer, RF buffer, and LO doubler or variable attenuator on a single chip
- > 5600 to 40000 MHz frequency range
- > Lead-free QFN or SMD packages
- > Excellent variable gain control with adjustable bias, high linearity and image rejection, with low LO leakage

Mixers

- > Constructed using broadband ferrite balun transformers and matched silicon Schottky diodes
- > Ideal for use in CATV head end systems and up converter applications



Frequency Multipliers								
Part Number	Max Freq RF (MHz)	Min Freq RF (MHz)	Max Output (MHz)	Min Output (MHz)	Input Power (dB)	Multiply Factor	Conversion Loss (dB)	Package
FM-105-PIN ♦	750	10	1500	20	24	2	12	RH-3
FM-104-PIN ♦	1500	75	3000	150	24	2	10	FP-3
FM-107-PIN ♦	2400	5	4800	10	10	2	11	FP-2
FMS-109-PIN ♦	2400	5	4800	10	10	2	11	SF-1
FD25 ♦	2400	5	4800	10	10	2	11.5	TO-8
FD25C ♦	2400	5	4800	10	10	2	11.5	Conn
FD25E ♦	2400	5	4800	10	10	2	11.5	Flatpack
FD25H ♦	2400	5	4800	10	23	2	12	TO-8
FD25HC ♦	2400	5	4800	10	23	2	12	Conn
SFD25H	2400	5	4800	10	23	2	12	SMT
CSFD25 ♦	2400	10	4800	20	10	2	11.5	SMT
CSFD25H ♦	2400	10	4800	20	23	2	12	SMT
SFD26	3300	50	6600	100	10	2	13	SMT
CSFD26 ♦	3300	50	6600	100	10	2	13.5	SMT
FD26	3300	50	6600	100	10	2	13	TO-8
FD26C ♦	3300	50	6600	100	110	2	13	Conn
XX1002-QH	6000	2500	12000	5000	3	2	13	4 mm PQFN-24
FDC2310 ♦	8000	1500	16000	3000	10	2	11	Open Carrier
FDC2710 ♦	8000	3500	16000	7000	10	2	11.2	Open Carrier
FD93 ♦	9000	2000	18000	4000	12	2	12	Versapac
FD93C ♦	9000	2000	18000	4000	12	2	12	Conn
FD93H	9000	2000	18000	4000	19	2	12	Versapac
FD93HC ♦	9000	2000	18000	4000	19	2	12	Conn
FDZ5013 ♦	12000	3000	24000	6000	13	2	12	Versapac
FDZ5013C ♦	12000	3000	24000	6000	13	2	12	Conn
MAFC-004403	12000	8000	24000	16000	0	2	17	4 mm QFN
MAFC-010511	12000	8000	24000	16000	0	—	17	3 mm PQFN-16
XX1010-QT	15000	14625	30000	29250	4.5	2	14	3 mm QFN-16
XX1007-QT	17000	13500	34000	27000	8	2	10	3 mm PQFN-16
XX1007-BD	17000	13500	34000	27000	8	2	12	DIE
XX1000-QT	22500	7500	45000	15000	6	2	12	3 mm QFN-16
XX1000-BD	25000	7500	50000	15000	0	2	13	DIE

Hybrid Mixers							
Part Number	Max Freq RF/LO (MHz)	Min Freq RF/LO (MHz)	Max Freq IF (MHz)	Min Freq IF (MHz)	LO Drive (dB)	Conversion Loss/Gain (dB)	Package
M6D-50 ♦	200	0.05	200	0	7	7	Relay Can
SM6D	200	0.05	200	0	7	7	SMT
MAC-50-PIN ♦	200	0.2	200	0	7	6	TO-5-2
MDS-222-PIN ♦	200	0.2	200	0.2	7	7.5	SF-1
SM6V	500	0.4	500	0	7	6.5	SMT
M9BC ♦	500	0.5	500	0	17	7	Relay Can
MD-161-PIN ♦	500	1	500	0	13	8	FP-2
MAC-51-PIN ♦	500	5	500	0	7	7	TO-5-2
MDS-223-PIN ♦	500	10	500	10	7	7	SF-1
M1H ♦	620	180	200	0	7	7	SMA Relay Can
M6EH ♦	750	5	500	0	20	7.5	Relay Can
SM6EH	750	5	500	0	20	7.5	SMT

Note: Part numbers are RoHS compliant. ♦ indicates non-RoHS compliant.
 Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
 All specifications are subject to change.

Hybrid Mixers (continued)							
Part Number	Max Freq RF/LO (MHz)	Min Freq RF/LO (MHz)	Max Freq IF (MHz)	Min Freq IF (MHz)	LO Drive (dB)	Conversion Loss/Gain (dB)	Package
M2E	1000	10	600	0	20	8	TO-8
M2EC ♦	1000	10	600	0	20	8	SMA
SM2E	1000	10	600	0	20	8	SMT
MD-160-PIN ♦	1500	1	1000	1	13	9	RH-3
MDS-158-PIN ♦	1500	5	—	—	7	9	SF-1
MD-158-PIN ♦	1500	5	1000	—	7	7	FP-2
M9HC ♦	1500	10	600	0	20	8	SMA
M2AC ♦	1500	10	800	0	7	7.5	SMA
M4A ♦	1500	10	1000	0	7	7.5	Flatpack
SM4A	1500	10	1000	0	7	7.5	SMT
SM4B ♦	1500	10	1000	0	13	7.5	SMT
CSM1-13	1500	10	500	1	13	7.5	SMT
CSM1-17	1500	10	500	1	17	7.5	SMT
MD-149-PIN ♦	1500	10	1500	10	7	7.5	FP-2
MDS-149-PIN ♦	1500	10	1500	10	7	6	SF-1
MD-148-PIN ♦	1500	10	1500	10	10	6	FP-2
MDS-148-PIN	1500	10	1500	10	10	6	SF-1
M2B ♦	1600	10	800	0	13	7.5	TO-8
M2BC ♦	1600	10	800	0	13	7.5	SMA
CSM1-10	2000	10	500	1	10	7.5	SMT
M2TC ♦	2400	10	1000	1	13	8	SMA
SM4G ♦	2400	800	1500	0	7	7.5	SMT
CSM2-10	2800	10	2000	10	10	8.5	SMT
CSM2-13	2800	10	2000	10	13	8.5	SMT
CSM2-17	2800	10	2000	10	17	8.5	SMT
MD-123-PIN ♦	3000	10	3000	10	7	8	FP-2
M8T ♦	3400	1	2000	1	10	7	TO-8
M8TC ♦	3400	1	2000	1	10	7	SMA
CSM4T	3400	1	2000	1	10	8	SMT
SM4T	3400	1	2000	1	10	8	SMT
SM4T17	3400	1	2000	1	17	8	SMT
CSM4T17	3400	1	2000	1	17	8	SMT
M8TH ♦	3400	1	2000	1	23	7.5	TO-8
M8THC ♦	3400	1	2000	1	23	7.5	SMA
M4TH ♦	3400	1	2000	1	23	8	Flatpack
SM4TH	3400	1	2000	1	23	8	SMT
CSM4TH	3400	1	2000	1	23	8	SMT
MD-169-PIN ♦	3500	1	3500	1	10	10	FP-2
MDC-169-SMA ♦	3500	1	3500	1	10	10	C-7
MD-189-PIN ♦	3500	1	3500	1	23	8	FP-2
MDS-189-PIN ♦	3500	1	3500	1	23	8	SF-1
MDS-169-PIN ♦	3500	1	1500	5	10	8	SF-1
M2G	3500	800	1500	0	7	8	TO-8
M2GC ♦	3500	800	1500	0	7	8	SMA
MD-179-PIN ♦	4000	1	1500	5	7	10.5	FP-2
MDC-179-SMA ♦	4000	1	1500	5	7	10.5	C-7
M8H-3 ♦	4200	3700	2000	0	7	5	TO-8

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Hybrid Mixers (continued)							
Part Number	Max Freq RF/LO (MHz)	Min Freq RF/LO (MHz)	Max Freq IF (MHz)	Min Freq IF (MHz)	LO Drive (dB)	Conversion Loss/Gain (dB)	Package
MC2110 ♦	4700	3400	1000	0	10	6.2	Open Carrier
CSM5T	4800	50	3000	50	10	7.2	SMT
CSM5T17	4800	50	3000	50	17	7.8	SMT
CSM5TH	4800	50	3000	50	23	7	SMT
SM5T	5000	50	3000	50	10	7.5	SMT
SM5T17	5000	50	3000	50	17	7.5	SMT
SM5TH	5000	50	3000	50	23	7.7	SMT
MZ6310C ♦	5500	250	1500	0	10	7	SMA
M63C ♦	5500	2500	1500	0	9	5.5	SMA
M8H-7 ♦	6000	2400	2000	0	7	6	TO-8
M8HC-7 ♦	6000	2400	2000	0	7	6	SMA
MDC-162-SMA ♦	7000	1000	2000	10	13	6	C-2
MY63 ♦	7000	2500	15000	0	9	5.8	Versapac
MY63C ♦	7000	2500	15000	0	9	5.8	SMA
M63H ♦	7500	2500	1500	0	20	6	Minpac
M63HC ♦	7500	2500	1500	0	20	6	SMA
MY63H ♦	7500	2500	1500	0	20	6	Versapac
MY63HC ♦	7500	2500	1500	0	20	6	SMA
MC2307 ♦	8000	2200	2000	0	7	7	Open Carrier
M76H ♦	8500	4500	2000	0	20	7	Minpac
MY76H ♦	8500	4500	2000	0	20	7	Versapac
MY76HC ♦	8500	4500	2000	0	20	7	SMA
M76 ♦	9500	4500	2000	0	10	6	Minpac
M76C ♦	9500	4500	2000	0	10	6	SMA
MY76 ♦	9500	4500	2000	0	10	6	Versapac
MY76C ♦	9500	4500	2000	0	10	6	SMA
MY84 ♦	10000	1800	1000	0	9	6.5	Versapac
MY84C ♦	10000	1800	1000	0	9	6.5	SMA
MC4107 ♦	10000	2000	2000	0	7	7.5	Open Carrier
MC4113 ♦	10000	2000	2000	0	13	7.5	Open Carrier
MC4120 ♦	10000	2000	2000	0	20	7.5	Open Carrier
M77C ♦	12500	8000	2500	0	10	5.5	SMA
MY77 ♦	12500	8000	2500	0	10	5.5	Versapac
MY77C ♦	12500	8000	2500	0	10	5.5	SMA
M14A ♦	14000	6000	2000	0	7	6.5	SMA
M67C ♦	15000	9000	2500	0	10	6.5	SMA
MC2707 ♦	15000	10000	2000	0	7	7	Open Carrier
MC2710 ♦	15000	10000	2000	0	10	6	Open Carrier
MC2720 ♦	15000	10000	2000	0	20	6	Open Carrier
MC3013 ♦	16000	20000	8000	1000	13	8	Open Carrier
MY83H ♦	18000	2	5000	30	20	8.5	Versapac
MY83HC ♦	18000	2	5000	30	20	8.5	SMA
M83	18000	1000	5000	30	13	7.5	Minpac
M83C ♦	18000	1000	5000	30	13	7.5	SMA
M89C ♦	18000	1000	8000	1000	10	8	SMA
MY88HC ♦	18000	1000	8000	1000	21	8	SMA
MY85C ♦	18000	2000	1000	0	7	8	SMA

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Hybrid Mixers (continued)							
Part Number	Max Freq RF/LO (MHz)	Min Freq RF/LO (MHz)	Max Freq IF (MHz)	Min Freq IF (MHz)	LO Drive (dB)	Conversion Loss/Gain (dB)	Package
M85 ♦	18000	2000	1000	0	7	8	Minpac
M85C ♦	18000	2000	1000	0	7	8	SMA
MY85 ♦	18000	2000	1000	0	7	8	Versapac
M93C ♦	18000	2000	4000	30	10	8	SMA
MY93 ♦	18000	2000	4000	30	10	8	Versapac
MY93C ♦	18000	2000	4000	30	10	8	SMA
MZ9310 ♦	18000	2000	5000	30	10	7.5	Versapac
MZ9310 ♦	18000	2000	5000	30	10	7.5	SMA
MY82 ♦	18000	2000	5000	30	13	7.5	Versapac
MY82C ♦	18000	2000	5000	30	13	7.5	SMA
MZ8810C ♦	18000	2000	8000	1000	10	7.5	SMA
MZ8813 ♦	18000	2000	8000	1000	13	7	Versapac
M88C ♦	18000	2000	8000	1000	13	8	SMA
MY88	18000	2000	8000	1000	13	8	Versapac
MY88C ♦	18000	2000	8000	1000	13	8	SMA
MZ9313 ♦	18000	2000	5000	30	13	7	Versapac
MZ9313C ♦	18000	2000	5000	30	13	7	SMA
MY89 ♦	18000	2000	8000	2000	10	8	Versapac
MY89C ♦	18000	2000	8000	2000	10	8	SMA
M88H ♦	18000	2000	8000	2000	21	8	Minpac
M88HC ♦	18000	2000	8000	2000	21	8	SMA
M50A ♦	18000	2000	18000	2000	10	8	Minpac
M86C ♦	18000	3500	3000	0	7	7	SMA
M80C ♦	18000	4000	3000	0	7	6.5	SMA
M79C ♦	18000	5000	3000	0	10	7	SMA
M79H ♦	18000	5000	3000	0	20	7.5	Minpac
M79HC ♦	18000	5000	3000	0	20	7.5	SMA
MZ7407 ♦	18000	6000	3000	0	7	6.5	Versapac
MZ7407C ♦	18000	6000	3000	0	7	6.5	SMA
MZ7410 ♦	18000	6000	3000	0	10	6.5	Versapac
MZ7410C ♦	18000	6000	3000	0	10	6.5	SMA
MZ7420 ♦	18000	6000	3000	0	20	7.5	Versapac
MZ7420C ♦	18000	6000	3000	0	20	7.5	SMA
M74 ♦	18000	7000	3000	0	10	6.5	Minpac
M74C ♦	18000	7000	3000	0	10	6.5	SMA
M87C ♦	19000	500	5000	30	13	9	SMA
MY87 ♦	19000	500	5000	30	13	10.5	Versapac
MY87C ♦	19000	500	5000	30	13	10.5	SMA
MC4507 ♦	20000	4000	4000	0	7	7.5	Open Carrier
MC4510 ♦	20000	4000	4000	0	10	7.5	Open Carrier
MC4513 ♦	20000	4000	4000	0	13	7.5	Open Carrier
M52C ♦	24000	2000	5000	100	10	8	SMA
MY52 ♦	24000	2000	5000	100	10	8	Versapac
MY52C ♦	24000	2000	5000	100	10	8	SMA
MY51 ♦	24000	2000	15000	1000	10	8	Versapac
M51C ♦	24000	2000	15000	1000	10	8	SMA
MY51C ♦	24000	2000	15000	1000	10	8	SMA

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Hybrid Mixers (continued)

Part Number	Max Freq RF/LO (MHz)	Min Freq RF/LO (MHz)	Max Freq IF (MHz)	Min Freq IF (MHz)	LO Drive (dB)	Conversion Loss/Gain (dB)	Package
MZ5010 ♦	26000	2000	15000	1	10	8.5	Versapac
MZ5010C ♦	26000	2000	15000	1	10	8.5	SMA
M53C ♦	26000	2000	6000	100	10	8	SMA
MY50A ♦	26000	2000	12000	1000	10	8	Versapac
MY50AC ♦	26000	2000	12000	1000	10	8	SMA
MY50 ♦	26000	2000	15000	1000	10	8	Versapac
M50C ♦	26000	2000	15000	1000	10	8	SMA
MY50C ♦	26000	2000	15000	1000	10	8	SMA

Receivers/Down Converters

Part Number	Max Freq (MHz)	Min Freq (MHz)	Conversion Gain (dB)	Noise Figure (dBm)	Image Rejection (dBm)	LO Input Power (dBm)	Package
XRI011-QH	10500	45000	13	1.8	20	5	4 mm QFN-24
XRI015-QH	16000	10000	12	2.5	20	5	4 mm QFN-24
XRI019-QH	33400	27500	13	2.5	20	4	4 mm QFN-24
XRI008-QB	40000	37000	9	3.5	18	2	7 mm SMT
MADC-011010	40000	37400	13	3.8	25	4	4 mm QFN-24
MADC-010736	43500	40500	12	3.5	20	2	6 mm SMD-13
MADC-011021	86000	71000	12	5	-20	-5	8 mm SM

Transceivers

Part Number	Description	Op Freq (GHz)	Output Power (mW)	Op Current (mA)	F Bandwidth	Package
MACS-007801-0M1R10	Mono Transceiver	24.125 +/-25 MHz	8	175	10 Hz – 1 kHz	Die Cast Waveguide
MACS-007802-0M1R10	Stereo Transceiver	24.125 +/-25 MHz	8	175	10 Hz – 1 kHz	Die Cast Waveguide
MACS-007801-0M1R00	Mono Transceiver	24.125 +/-25 MHz	5	90	10 Hz – 1 kHz	Die Cast Waveguide
MACS-007802-0M1R00	Stereo Transceiver	24.125 +/-25 MHz	5	90	10 Hz – 1 kHz	Die Cast Waveguide
MACS-007800-0M1R00	Local Oscillator	24.150 +/-25 MHz	5	90	—	Die Cast Waveguide

Up Converters

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dBm)	OIP3 (dBm)	Package
MAUC-010506	Up Converter	23620	17680	14	35	4 mm PQFN-24
MAUC-011003	Up Converter	33400	27500	12	32	4 mm PQFN-24
XU1019-QH	Up Converter	40000	37000	7	27	4 mm PQFN-24
MAMF-011142	Up Converter	86000	71000	30	—	SMT

Mixers

Part Number	Max Freq RF/LO (MHz)	Min Freq RF/LO (MHz)	Max Freq IF (MHz)	Min Freq IF (MHz)	Conversion Loss/Gain (dBm)	LO Drive (dBm)	Package
CGY2180UH	3700	700	1700	0	-7	15	DIE
CGY2181UH	4500	1000	2500	0	-7	—	DIE
CGY2183UH	6000	100	3000	0	11	-5	DIE
CGY2184UH	6000	100	3000	0	18	0	DIE
MAMX-011044-DIE	9000	2500	3500	0	7.5	18	Bare Die
MAMX-011044	9000	2500	3500	0	8.5	18	4 mm QFN-24
CGY2182UH	10000	3000	3000	0	-7	—	DIE
MAMX-011035	19000	5500	6000	0	6	15	3 mm AQFN-12
MAMX-011067	20000	5000	6000	0	6	15	3 mm PQFN-12
MAMX-011023	25000	5000	2300	4000	9	-2	1.5 x 1.2 mm TDFN-6

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Mixers (continued)							
Part Number	Max Freq RF/LO (MHz)	Min Freq RF/LO (MHz)	Max Freq IF (MHz)	Min Freq IF (MHz)	Conversion Loss/ Gain (dBm)	LO Drive (dBm)	Package
MAMX-011040	26000	8000	4000	0	8	14	4 mm AQFN-24
MAMX-011040-DIE	26000	8000	4000	0	8	—	Bare Die
MAMX-011075	26000	8000	4000	0	8	—	4 mm AQFN-24
MAMX-011075	26000	8000	4000	0	9	14	4 mm AQFN-24
MAMX-011009	32000	14000	7000	0	-10	—	1.5 x 1.2 mm TDFN-6
MAMX-011021	35000	5000	4500	0	8	14	1.5 x 1.2 mm TDFN-6
MAMX-011071	36000	8000	10000	0	9.5	—	3 mm PQFN-12
MAMX-011066	37000	5000	4500	0	8	20	1.5 x 1.2 mm TDFN-6
XM1001-BD	40000	12000	4000	0	8	—	DIE
MAMX-011116	42000	27000	5000	0	9	13	2 mm PDFN-8
MAMX-011097	42000	27000	5000	0	9	23	2 mm PDFN-8
XM1003-BD	42000	32000	4000	0	12	—	DIE
MAMX-011036-DIE	43000	8000	10000	0	8	15	DIE
MAMX-011036	43000	8000	10000	0	8.5	—	3 mm AQFN-12
CGY2460UH	43500	40500	6000	5000	33	—	DIE
MAMX-011043	45000	15000	10000	0	9	15	4 mm QFN-24
MAMX-011043-DIE	45000	15000	10000	0	9	16	Bare Die
MAMX-011037-DIE	46000	18000	20000	0	6.5	—	DIE
MAMX-011054	46000	18000	20000	0	6.5	—	3 mm AQFN-12
MAMX-011074	46000	18000	20000	0	7	—	3 mm PQFN-12
XM1002-BD	46000	34000	4000	0	9	—	DIE
MAMX-011122	53000	17000	20000	0	8	—	3 mm 12-Lead QFN
MAMX-011088	55000	17000	20000	0	8	15	3 mm AQFN-12
MAMX-011088-DIE	64000	17000	20000	0	8	—	1.3 x 1.0 mm DIE
CGY2470UH	96000	92000	6000	5100	-3	—	DIE
CGY2471UH	96000	92000	6000	5200	-10	—	DIE

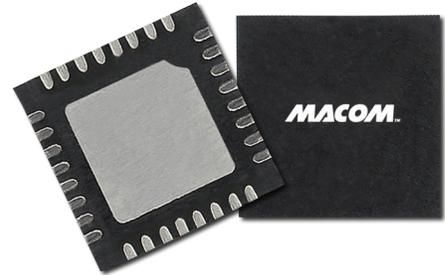
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FREQUENCY GENERATION

Leading-edge Solutions for Challenging Communications Needs

MACOM voltage controlled oscillators (VCOs) generate frequency in aerospace and defense, point-to-point microwave backhaul, and other commercial communications applications. IC VCOs support a variety of applications operating between the 500 to 14400 MHz frequency range. Featuring low phase noise, stable performance over temperature, low power consumption, and highly linear tuning, MACOM's VCOs provide leading edge solutions for challenging communications needs.



VCOs

- > Low phase noise
- > Wide tuning range
- > Low power consumption
- > Bandwidths greater than 10%
- > RoHs compliant package

NLTL GaAs Comb Generators

- > Superior phase noise performance up to -18 dBc/Hz better than a SRD
- > Usable harmonics out to 50 GHz
- > Available in SMT or connectorized packages

Voltage Controlled Oscillators (VCOs)							
Part Number	Max Freq (MHz)	Min Freq (MHz)	Phase Noise at 10 kHz Offset (Vt = 5 V)(dBc/Hz)	Phase Noise at 100 kHz Offset (Vt = 5 V)(dBc/Hz)	Pout at Fo (dBm)	DC Current (mA)	Package
MAOC-011030	6129	5458	-93	-117	14	185	5 mm PQFN-32
MAOC-009259	6400	5700	-93	-117	12	190	5 mm PQFN-32
MAOC-009260	7000	6100	-92	-117	8.5	205	5 mm PQFN-32
MAOC-009261	7900	7100	-93	-116	10	180	5 mm PQFN-32
MAOC-009262	8210	7400	-92	-117	14	170	5 mm PQFN-32
MAOC-009263	8700	7800	-90	-115	10.5	180	5 mm PQFN-32
MAOC-010334	9250	8400	-88	-115	10	168	5 mm PQFN-32
MAOC-009264	9800	8800	-88	-115	9	185	5 mm PQFN-32
MAOC-009871	10200	9200	-86	-113	7	185	5 mm PQFN-32
MAOC-009265	10800	9400	-86	-113	8.5	175	5 mm PQFN-32
MAOC-009266	11300	10200	-87	-114	8.5	200	5 mm PQFN-32
MAOC-009872	11800	11000	-83	-112	7	165	5 mm PQFN-32
MAOC-009267	12600	11200	-82	-112	6	175	5 mm PQFN-32
MAOC-009269	12800	11400	-83	-110	5	180	5 mm PQFN-32
MAOC-009270	13800	12200	-78	-107	6.5	165	5 mm PQFN-32
MAOC-009268	14200	12700	-79	-108	9	165	5 mm PQFN-32
MAOC-011027	14400	13400	-79	-108	8	205	5 mm PQFN-32

NLTL GaAs Comb Generators						
Part Number	Power Max (dBm)	Power Min (dBm)	Output Harmonics 1	Output Harmonics 2	Output Harmonics 3	Package
MLPNC-7100S1-SMA800 S	24 @ 250 MHz	18 @ 75 MHz	-15 @ 1 GHz	-18 @ 2 GHz	-24 @ 4 GHz	SMA800
MLPNC-7100S1-SMT580	24 @ 250 MHz	18 @ 75 MHz	-15 @ 1 GHz	-18 @ 2 GHz	-24 @ 4 GHz	SMT580
MLPNC-7100-SMA850 S	24 @ 400 MHz	20 @ 100 MHz	-8 @ 4 GHz	-18 @ 12 GHz	-35 @ 20 GHz	SMA850
MLPNC-7102S1-SMA800 S	24 @ 700 MHz	18 @ 300 MHz	-10 @ 4 GHz	-15 @ 8 GHz	-22 @ 12 GHz	SMA800
MLPNC-7102S1-SMT580	24 @ 700 MHz	18 @ 300 MHz	-10 @ 4 GHz	-15 @ 8 GHz	-22 @ 12 GHz	SMT580
MLPNC-7102-SMA800 S	24 @ 700 MHz	19 @ 300 MHz	-8 @ 4 GHz	-16 @ 12 GHz	-20 @ 20 GHz	SMA800
MLPNC-7102-SMT680	24 @ 700 MHz	19 @ 300 MHz	-8 @ 4 GHz	-16 @ 12 GHz	-20 @ 20 GHz	SMT680
MLPNC-7103S1SMA800 S	24 @ 1500 MHz	18 @ 600 MHz	-10 @ 4 GHz	-8 @ 8 GHz	-20 @ 15 GHz	SMA800
MLPNC-7103S1SMT580	24 @ 1500 MHz	18 @ 600 MHz	-10 @ 4 GHz	-8 @ 8 GHz	-20 @ 15 GHz	SMT580
MLPNC-7103-SMA800 S	24 @ 1500 MHz	19 @ 600 MHz	-5 @ 6 GHz	-15 @ 18 GHz	-20 @ 30 GHz	SMA800
MLPNC-7103-SMT680	24 @ 1500 MHz	19 @ 600 MHz	-5 @ 6 GHz	-15 @ 18 GHz	-20 @ 30 GHz	SMT680

Low Noise Gain Block Amplifiers									
Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Noise Figure (dB)	OIP3 (dBm)	Bias Voltage (V)	Bias Current (mA)	Package
MAAM-011229-CQ3	Broadband Low Noise	4000	50	19	1.3	38	5	80	3 mm CQFN-12
MAAM-011252-CQ3	Broadband Low Noise	8000	30	19.5	1.4	34	5	65	3 mm CQFN-12

Note: Part numbers are RoHS compliant. **S** indicates these parts are also available with Space and Hi-Rel Screening & Qualification. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

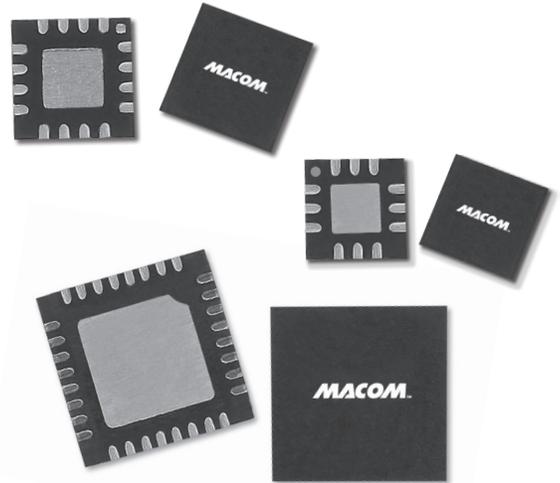


INTEGRATED IC & MODULES

Integrating Size, Weight, Power and Cost for Next Generation Applications

MACOM's multifunctional modules are designed to provide customers with an affordable, highly integrated unit while delivering reliability and performance.

Applications such as radar and commercial 5G face size constraints and the need for higher frequency necessitates multifunction integration. From MACOM, one can expect an even higher level of integration of RF and microwave chipsets. In the data center and optical transport world, integrated products will provide data conversion and data transport solutions coupled with RF and microwave solutions to provide a very high level of integration that will ultimately drive optimal affordability and reliability.



Radar Core Chips

- > Designed for communication radar and weather applications
- > Ideal for high levels of integration on a single IC
- > Includes "common path" circuit which incorporates a 4-Bit digital attenuator, a 6-Bit digital phase shifter, and a T/R SPDT switch
- > RoHS compliant

5G Switch LNA Modules

- > Multifunction MMIC includes a SPDT switch and LNA with by-pass mode for RDX path
- > Compact surface mount module
- > Ideally suited for base stations and for use on the front end of WLAN 802.11a modules where small size is critical

High Power Switch and Integrated Bias Module

- > High power broadband PIN SPDT switch with 5 V power management chip for 0.7 – 6 GHz TDD-LTE applications
- > Integrated bias controller utilizes a boost circuit
- > Requires only a single 5 V supply
- > Single Tx/Rx control signal is compatible with 1.8 V or 3.3 V logic

INTEGRATED IC & MODULES

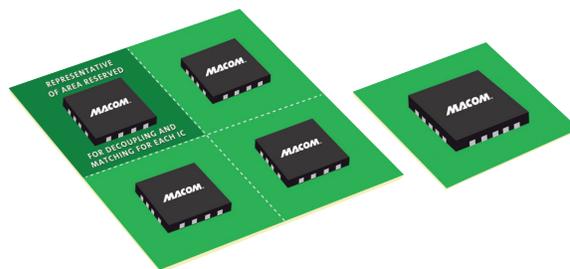
Radar Core Chips

Part Number	Max Freq (GHz)	Min Freq (GHz)	Transmit Gain (dB)	Transmit P1dB (dBm)	Receive Gain (dB)	Receive Noise Figure (dBm)	Package
MAMF-011182	5.9	5.4	22	22	22	1.5	7 mm PQFN-44
MAMF-011015	11	8	11	23	24	2	7 mm PQFN-44
CGY2179UH	12.75	10.7	12	3	—	1.9	DIE
CGY2175AHV	6500	4500	—	20	—	—	QFN
CGY2175AUH	6500	4500	—	20	—	—	DIE
CGY2170YHV	12000	8000	5.8	12	5.8	—	QFN
CGY2170YUH	12000	8000	6	11	6	—	DIE
CGY2179HV	12750	10700	12	3	—	1.9	QFN
CGY2330UH	15000	12000	—	—	—	—	DIE
CGY2351UH	30500	26500	—	—	—	—	DIE
CGY2350UH	36000	34000	3	—	—	—	DIE

5G Switch LNA Work Modules

Part Number	Max Freq (GHz)	Min Freq (GHz)	Rx Gain (dB)	Rx Noise Figure (dB)	Rx OIP3 (dBm)	Tx IPO.1 dB CW (dBm)	Bias Voltage (V)	Bias Current (mA)	Package
MAMF-011069	3.9	1.8	33 @ 2.6 GHz 34 @ 3.5 GHz	1.2 @ 2.6 GHz 1.5 @ 3.5 GHz	32	44	LNA 3 Switch 3/28	LNA: 105; Switch: 20 (per Channel)	5 mm PQFN-32
MAIA-011002	4	0.4	34 @ 2.7 GHz 32 @ 3.5 GHz	1.1 @ 2.7 GHz 1.3 @ 3.5 GHz	36	50	LNA 3 Switch 3/28	Tx: 100 (3 V), 10 (28 V) Rx: 240 (3 V), 0 (28 V)	5 mm HQFN-32
MAIA-011004	5	0.4	34 @ 2.7 GHz 32 @ 3.5 GHz	1.1 @ 2.7 GHz 1.3 @ 3.5 GHz	36	50	LNA 3 Switch 3/28	Tx: 100 (3 V), 10 (28 V) Rx: 240 (3 V), 0 (28 V)	5 mm HQFN-32
MAMF-011133	5	2.3	32 – 34 in HG mode 18 – 20 in LG mode	1.3 @ 3.5 GHz	34	43	5	Rx: 95 HG; 45 LG Tx: 2 (per Channel)	6 mm QFN-40
MAMF-011119	6	1	35 @ 2.5 GHz 33.5 @ 4.5 GHz	1.2 @ 2.5 GHz 1.5 @ 4.5 GHz	31	40.5	5	Tx: 1.4 Rx: 78	6 mm QFN-20
MAMF-011126	6	1	35.2 @ 2.5 GHz 34 @ 3.75 GHz 33.5 @ 4.5 GHz	1.2 @ 2.5 GHz 1.3 @ 3.75 GHz 1.4 @ 4.5 GHz	30	—	5	78	6 mm QFN-20
MAMF-011138	6	2	35	1.2	35	—	5	115	6 mm QFN-40
MAMF-011038	6	5	12	2.2	22	31	3	10	2 mm STQFN-12

16 x 16 = 256 mm square
4 ICs in 4 mm x 4 mm Packages
2 mm Clearance for Decoupling



9 x 9 = 81 mm square (70% reduction in size)
1 Multifunction IC in 5 mm x 5 mm Package
2 mm Clearance for Decoupling



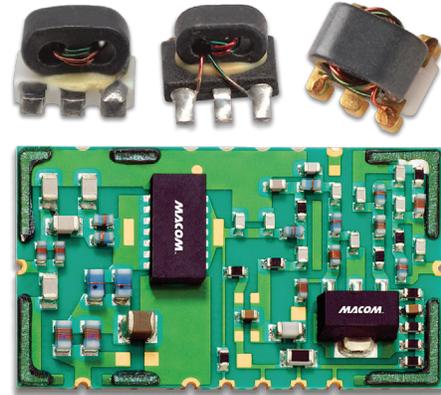
PASSIVES

A Variety of Solutions for A&D and Communications

MACOM offers a variety of passive solutions for a wide range of A&D, wireless, and wireline communication applications. Passive components include transformers, capacitors, dividers/combiners, couplers, and filters/diplexers.

MACOM KV CAPS.

Silicon high voltage capacitors are high-density, high-working voltage silicon capacitors which employ a novel topology that essentially folds the parallel plates of the capacitors into three-dimensional structures, producing greater capacitance per unit area of die footprint than that of a simple parallel plate capacitor.



Bias Networks

MACOM offers 1800 to 40000 MHz bias networks suitable for DC biasing of PIN diode control circuits.

- > Functions as RF to DC decoupling networks, as well as a DC return
- > Can also be used as bi-directional reactive couplers for Schottky detector circuits in multi-market applications

Couplers

> Used extensively in a range of A&D, wireless, and wireline communications applications. MACOM offers connectorized and surface mount devices with a broad range of coupling values

Hybrid Couplers

- > Products available in subsets of the 2 – 3000 MHz frequency range
- > Available as TO-Cans, flatpacks, surface mount, and connectorized

Directional Couplers

- > Coupling values of 6 dB to 30 dB
- > Products available in subsets of the 2 MHz to 18 GHz frequency range
- > 75 Ω products available for CATV, DTV, and DBS applications

Power Dividers/Combiners

Used in a range of A&D, wireless, and wireline communications applications.

- > 50 Ω and 75 Ω devices
- > Products available in subsets of 400 kHz to 26 GHz frequency range
- > 2, 3, 4, 5, 6, and 8 channel versions available

Transformers/Baluns

MACOM offers many standard transformers used for a variety of wireless, wireline, and A&D communications applications.

- > Standard impedance ratios up to 4:1
- > Balanced/unbalanced versions
- > 50 Ω and 75 Ω nominal impedance devices available
- > Surface mount, flatpack and connectorized packages

Filters/Diplexers

MACOM offers a variety of highpass, lowpass, and diplex filter components and assemblies used in common wireless communications standards and CATV, DBS, and DTV applications.

- > 50 Ω and 75 Ω diplexers
- > Multi-chip and MMIC products
- > Low cost surface mount packaging

Capacitors

- > Suitable for DC blocking and RF bias networks in a variety of control and filter circuits
- > Capacitance-temperature coefficient provides <200 ppm/°C
- > Insertion loss <0.1 dB at 15 GHz
- > Ideal for chip and wire/ribbon microwave high performance circuits

MACOM KV CAPS. 200 V						
Product	Capacitance Value (pF)	Capacitance Tolerance	Package Type	Working Voltage (V)	Die Size (mil sq.)	Package
MKVC-2A02R7	2.7	+/-1	Waffle & Gel	200	15	ODS-1438
MKVC-2A03R0	3	+/-1	Waffle & Gel	200	15	ODS-1438
MKVC-2A03R3	3.3	+/-1	Waffle & Gel	200	15	ODS-1438
MKVC-2A03R6	3.6	+/-1	Waffle & Gel	200	15	ODS-1438
MKVC-2A03R9	3.9	+/-1	Waffle & Gel	200	15	ODS-1438
MKVC-2A04R3	4.3	+/-1	Waffle & Gel	200	15	ODS-1438
MKVC-2A04R7	4.7	+/-1	Waffle & Gel	200	15	ODS-1438
MKVC-2A05R1	5.1	+/-1	Waffle & Gel	200	15	ODS-1438
MKVC-2A05R6	5.6	+/-1	Waffle & Gel	200	15	ODS-1438
MKVC-2A06R2	6.2	+/-1	Waffle & Gel	200	15	ODS-1438
MKVC-2A06R8	6.8	+/-1	Waffle & Gel	200	15	ODS-1438
MKVC-2A07R5	7.5	+/-1	Waffle & Gel	200	15	ODS-1438
MKVC-2A08R2	8.2	+/-1	Waffle & Gel	200	15	ODS-1438
MKVC-2A09R1	9.1	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A10R0	10	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A11R0	11	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A12R0	12	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A13R0	13	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A15R0	15	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A16R0	16	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A18R0	18	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A20R0	20	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A22R0	22	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A24R0	24	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A27R0	27	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A30R0	30	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A33R0	33	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A36R0	36	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A39R0	39	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A43R0	43	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A47R0	47	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A51R0	51	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A56R0	56	+/-1	Waffle & Gel	200	21	ODS-1439
MKVC-2A62R0	62	+/-1	Waffle & Gel	200	32	ODS-1440
MKVC-2A68R0	68	+/-1	Waffle & Gel	200	32	ODS-1440
MKVC-2A75R0	75	+/-1	Waffle & Gel	200	32	ODS-1440
MKVC-2A82R0	82	+/-1	Waffle & Gel	200	32	ODS-1440
MKVC-2A91R0	91	+/-1	Waffle & Gel	200	32	ODS-1440
MKVC-2A0100	100	+/-1	Waffle & Gel	200	32	ODS-1440
MKVC-2A0110	110	+/-1	Waffle & Gel	200	32	ODS-1440
MKVC-2A0120	120	+/-1	Waffle & Gel	200	32	ODS-1440
MKVC-2A0130	130	+/-1	Waffle & Gel	200	32	ODS-1440
MKVC-2A0150	150	+/-1	Waffle & Gel	200	32	ODS-1440
MKVC-2A0160	160	+/-1	Waffle & Gel	200	32	ODS-1440
MKVC-2A0180	180	+/-1	Waffle & Gel	200	32	ODS-1440
MKVC-2A0200	200	+/-1	Waffle & Gel	200	32	ODS-1440
MKVC-2A0220	220	+/-1	Waffle & Gel	200	32	ODS-1440

Note: Part numbers are RoHS compliant. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

MACOM KV CAPS. 200 V (continued)

Product	Capacitance Value (pF)	Capacitance Tolerance	Package Type	Working Voltage (V)	Die Size (mil sq.)	Package
MKVC-2A0240	240	+/-1	Waffle & Gel	200	32	ODS-1440
MKVC-2A0270	270	+/-1	Waffle & Gel	200	40	ODS-1441
MKVC-2A0300	300	+/-1	Waffle & Gel	200	40	ODS-1441
MKVC-2A0330	330	+/-1	Waffle & Gel	200	40	ODS-1441
MKVC-2A0360	360	+/-1	Waffle & Gel	200	40	ODS-1441
MKVC-2A0390	390	+/-1	Waffle & Gel	200	40	ODS-1441
MKVC-2A0430	430	+/-1	Waffle & Gel	200	40	ODS-1441
MKVC-2A0470	470	+/-1	Waffle & Gel	200	40	ODS-1441
MKVC-2A0510	510	+/-1	Waffle & Gel	200	50	ODS-1442
MKVC-2A0560	560	+/-1	Waffle & Gel	200	50	ODS-1442
MKVC-2A0620	620	+/-1	Waffle & Gel	200	50	ODS-1442
MKVC-2A0680	680	+/-1	Waffle & Gel	200	50	ODS-1442
MKVC-2A0750	750	+/-1	Waffle & Gel	200	50	ODS-1442
MKVC-2A0820	820	+/-1	Waffle & Gel	200	50	ODS-1442
MKVC-2A0910	910	+/-1	Waffle & Gel	200	50	ODS-1442
MKVC-2A1000	1000	+/-1	Waffle & Gel	200	64	ODS-1443
MKVC-2A1100	1100	+/-1	Waffle & Gel	200	64	ODS-1443
MKVC-2A1200	1200	+/-1	Waffle & Gel	200	64	ODS-1443
MKVC-2A1300	1300	+/-1	Waffle & Gel	200	64	ODS-1443
MKVC-2A1500	1500	+/-1	Waffle & Gel	200	64	ODS-1443
MKVC-2A1600	1600	+/-1	Waffle & Gel	200	64	ODS-1443
MKVC-2A1800	1800	+/-1	Waffle & Gel	200	100	ODS-1444
MKVC-2A2000	2000	+/-1	Waffle & Gel	200	100	ODS-1444
MKVC-2A2200	2200	+/-1	Waffle & Gel	200	100	ODS-1444
MKVC-2A2400	2400	+/-1	Waffle & Gel	200	100	ODS-1444
MKVC-2A2700	2700	+/-1	Waffle & Gel	200	100	ODS-1444

MACOM KV CAPS. 500 V

Product	Capacitance Value (pF)	Capacitance Tolerance	Package Type	Working Voltage (V)	Die Size (mil sq.)	Package
MKVC-5A05R1	5.1	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A05R6	5.6	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A06R2	6.2	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A06R8	6.8	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A07R5	7.5	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A08R2	8.2	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A09R1	9.1	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A10R0	10	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A11R0	11	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A12R0	12	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A13R0	13	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A15R0	15	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A16R0	16	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A18R0	18	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A20R0	20	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A22R0	22	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A24R0	24	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A27R0	27	+/-1	Waffle & Gel	500	32	ODS-1445

Note: Part numbers are RoHS compliant.
 Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
 All specifications are subject to change.

MACOM KV CAPS. 500 V (continued)

Product	Capacitance Value (pF)	Capacitance Tolerance	Package Type	Working Voltage (V)	Die Size (mil sq.)	Package
MKVC-5A30R0	30	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A33R0	30	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A36R0	36	+/-1	Waffle & Gel	500	32	ODS-1445
MKVC-5A39R0	39	+/-1	Waffle & Gel	500	40	ODS-1446
MKVC-5A43R0	43	+/-1	Waffle & Gel	500	40	ODS-1446
MKVC-5A47R0	47	+/-1	Waffle & Gel	500	40	ODS-1446
MKVC-5A51R0	51	+/-1	Waffle & Gel	500	40	ODS-1446
MKVC-5A56R0	56	+/-1	Waffle & Gel	500	40	ODS-1446
MKVC-5A62R0	62	+/-1	Waffle & Gel	500	40	ODS-1446
MKVC-5A68R0	68	+/-1	Waffle & Gel	500	40	ODS-1446
MKVC-5A75R0	75	+/-1	Waffle & Gel	500	40	ODS-1446
MKVC-5A82R0	82	+/-1	Waffle & Gel	500	40	ODS-1446
MKVC-5A91R0	91	+/-1	Waffle & Gel	500	40	ODS-1446

MACOM KV CAPS. 1000 V

Product	Capacitance Tolerance	Package Type	Voltage (V)	Value (pF)	Package
MKVC-1A03R6	+/-5%	Tape & Reel	1000	3.6	3.4 x 2.5 x 0.9 mm
MKVC-1A03R9	+/-5%	Tape & Reel	1000	3.9	3.4 x 2.5 x 0.9 mm
MKVC-1A04R7	+/-5%	Tape & Reel	1000	4.7	3.4 x 2.5 x 0.9 mm
MKVC-1A05R6	+/-5%	Tape & Reel	1000	5.6	3.4 x 2.5 x 0.9 mm
MKVC-1A06R8	+/-5%	Tape & Reel	1000	6.8	3.4 x 2.5 x 0.9 mm
MKVC-1A07R5	+/-5%	Tape & Reel	1000	7.5	3.4 x 2.5 x 0.9 mm
MKVC-1A08R2	+/-5%	Tape & Reel	1000	8.2	3.4 x 2.5 x 0.9 mm
MKVC-1A10R0	+/-5%	Tape & Reel	1000	10	3.4 x 2.5 x 0.9 mm
MKVC-1A11R0	+/-5%	Tape & Reel	1000	11	3.4 x 2.5 x 0.9 mm
MKVC-1A13R0	+/-5%	Tape & Reel	1000	13	3.4 x 2.5 x 0.9 mm
MKVC-1A15R0	+/-5%	Tape & Reel	1000	15	3.4 x 2.5 x 0.9 mm
MKVC-1A18R0	+/-5%	Tape & Reel	1000	18	3.4 x 2.5 x 0.9 mm
MKVC-1A20R0	+/-5%	Tape & Reel	1000	20	3.4 x 2.5 x 0.9 mm
MKVC-1A24R0	+/-5%	Tape & Reel	1000	24	3.4 x 2.5 x 0.9 mm
MKVC-1A27R0	+/-5%	Tape & Reel	1000	27	3.4 x 2.5 x 0.9 mm
MKVC-1A33R0	+/-5%	Tape & Reel	1000	33	3.4 x 2.5 x 0.9 mm
MKVC-1A36R0	+/-5%	Tape & Reel	1000	36	3.4 x 2.5 x 0.9 mm
MKVC-1A39R0	+/-5%	Tape & Reel	1000	39	3.4 x 2.5 x 0.9 mm
MKVC-1A47R0	+/-5%	Tape & Reel	1000	47	3.4 x 2.5 x 0.9 mm
MKVC-1A51R0	+/-5%	Tape & Reel	1000	51	3.4 x 2.5 x 0.9 mm
MKVC-1A62R0	+/-5%	Tape & Reel	1000	62	3.4 x 2.5 x 0.9 mm
MKVC-1A75R0	+/-5%	Tape & Reel	1000	75	3.4 x 2.5 x 0.9 mm
MKVC-1A0100	+/-5%	Tape & Reel	1000	100	3.4 x 2.5 x 0.9 mm

Note: Part numbers are RoHS compliant. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

Bias Networks					
Part Number	Max Freq (MHz)	Min Freq (MHz)	Insertion Loss (dB)	Isolation Loss (dB)	Package
MABT-011000-14230G	1800	200	0.2	35	DIE
MABT-011000-14230P	1800	200	0.2	35	DIE
MABT-011000-14230W	1800	200	0.2	35	DIE
MABT-011000-14235P	1800	200	0.2	35	DIE
MA4BN1840-1	40000	18000	0.2	35	DIE
MA4BN1840-2	40000	18000	0.2	35	DIE

Couplers									
Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Coupling, Nom (dB)	Isolation (dB)	Input Power (dBm)	L (dB)	Impedance (Ω)	Package
JHS-113-PIN ♦	Quad Hybrid	14	7	3	28	36	—	50	SF-1
JHS-114-PIN ♦	Quad Hybrid	40	20	3	28	37	—	50	SF-1
JH-133-PIN ♦	Quad Hybrid	40	20	3	28	37	—	50	TO-8-2
JH-114-PIN ♦	Quad Hybrid	40	20	3	30	37	—	50	FP-2
JH-115-PIN ♦	Quad Hybrid	80	40	3	30	30	—	50	FP-2
JHS-115-PIN ♦	Quad Hybrid	80	40	3	30	30	—	50	SF-1
MACP-010507-CH0160	Coupler, 17 dB	120	5	17	38	27	0.5	75	Ceramic
JH-119-PIN ♦	Quad Hybrid	160	80	3	33	36	—	50	FP-2
JHS-119-PIN ♦	Quad Hybrid	160	80	3	33	36	—	50	SF-1
HH-106-PIN ♦	Hybrid Junction	200	2	3	30	30	—	50	FP-2
HH-109-PIN ♦	Hybrid Junction	200	5	3	40	27	—	50	FP-2
HHS-109-PIN	Hybrid Junction	200	5	3	40	27	—	50	SF-1
JH-121-PIN ♦	Quad Hybrid	200	100	3	25	36	—	50	FP-2
JHS-121-PIN	Quad Hybrid	200	100	3	25	36	—	50	SF-1
MACP-011047	Coupler, 14 dB	300	5	14	30	27	0.35	75	FR4
JH-136-PIN ♦	Quad Hybrid	350	175	3	28	36	—	50	FP-2
CHS-137-PIN ♦	Bi-Directional	400	1	20	40	35	—	50	SF-1
JHS-142-PIN ♦	Quad Hybrid	400	200	3	30	37	—	50	SF-1
MACP-007984-MDC201	Coupler, 20 dB	450	350	20	38	24	0.3	50	Ceramic
HH-110-PIN ♦	Hybrid Junction	500	10	3	37	30	—	50	FP-2
HHS-110-PIN	Hybrid Junction	500	10	3	40	30	—	50	SF-1
CH-134-PIN ♦	Bi-Directional	500	10	11	31	30	—	50	FP-2
CHS-134-PIN ♦	Bi-Directional	500	10	11	31	30	—	50	SF-1
JHS-139-PIN ♦	Quad Hybrid	500	250	3	30	36	—	50	SF-1
JH-139-PIN ♦	Quad Hybrid	500	250	3	30	36	—	50	FP-2
MACPCC0002	Bi-Directional 17 dB Coupler	824	960	17	32	33	—	50	SOIC-8
MACP-010389-CE0880	Coupler, 14 dB	862	4	14	38	24	1	75	FR4
MACP-010382-CFOA40	Coupler, 15 dB	862	4	15	33	24	0.7	75	FR4
MACP-010383-CH0A40	Coupler, 17 dB	862	4	17	35	24	0.6	75	FR4
MACP-009821-CG0650	Coupler, 16 dB	862	5	16	33	24	1.1	75	FR4
ELDC-10	Coupler 10 dB, 75 Ohm	870	5	10	28	24	—	50	FR4
MACP-009598-C80160	Coupler, 9 dB	900	5	9	26	24	1.9	75	Ceramic
CH-132-BNC ♦	Bi-Directional	1000	1	20	40	—	—	50	C-8-132
MACP-009404-C80370	Coupler, 8 dB	1000	5	8	25	24	1.5	75	FR4
MACP-009596-CA0160	Coupler, 10 dB	1000	5	10	30	24	1.3	75	Ceramic
MACP-007490-CA0010	Coupler, 10.5 dB	1000	5	11	30	24	1.3	75	FR4
MACP-009736-CD0160	Coupler, 13 dB	1000	5	13	28	24	1.3	75	Ceramic
MACP-008311-CE0370	Coupler, 14 dB	1000	5	14	39	24	1	75	FR4

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Couplers (continued)									
Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Coupling, Nom (dB)	Isolation (dB)	Input Power (dBm)	L (dB)	Impedance (Ω)	Package
MACP-007486-CH0010	Coupler, 17 dB	1000	5	17	38	24	0.6	75	FR4
MACP-009943-CH07F0	Coupler, 17 dB	1000	5	17	37	24	0.6	75	FR4
MACP-008764-CH0370	Coupler, 17 dB	1000	5	17	39	24	1.3	75	FR4
MACP-009944-CK07F0	Coupler, 20 dB	1000	5	20	30	24	0.5	75	FR4
MACP-008125-CK07F0	Coupler, 20 dB	1000	5	20	34	24	0.5	75	FR4
CH-140-PIN ♦	Directional	1000	5	20	40	35	—	50	FP-2
2031-6330-00 ♦	Stripline 180° Hybrid	1000	500	3	25	45	—	50	Conn
MACP-010718-CG09E0	Coupler, 17 dB	1002	40	17	35	24	0.6	75	Ceramic
MACP-009730-C60370	Coupler, 6 dB	1200	5	6	16	24	2.5	75	FR4
MACP-010446-C80370	Coupler, 8 dB	1200	5	8	21	24	1.9	75	FR4
MACP-009011-C80370	Coupler, 8 dB	1200	5	8	25	24	1.8	75	FR4
MACP-010250-C808A0	Coupler, 8 dB	1200	5	9	24	28	1.6	75	SOT
MACP-010414-CA0370	Coupler, 10 dB	1200	5	10	21	24	1.3	75	FR4
MACP-007741-CG09E0	Coupler, 17 dB	1200	5	17	32	24	0.8	75	Ceramic
MACP-007727-CI07B0	Coupler, 18 dB	1200	5	18	26	24	1	75	FR4
MACP-010249-CI08A0	Coupler, 18 dB	1200	5	18	32	24	0.6	75	SOT
MACP-009945-CH0670	Coupler, 18 dB	1200	5	18	33	24	1.3	75	FR4
MACP-011029	Coupler, 17.5 dB	1218	5	17.5	30	27	0.6	75	FR4
MACP-011032	Coupler, 7 dB	1225	5	7	17	27	1.8	75	FR4
MACP-011051	Coupler, 7.5 dB	1225	5	7.5	42	33	2	75	FR4
MACP-011033	Coupler, 8 dB	1225	5	8	18	27	1.5	75	FR4
MACP-011050	Coupler, 9 dB	1225	5	9	42	33	1.6	75	FR4
MACP-011054	Coupler, 9 dB	1225	5	9	42	33	1.6	75	FR4
MACP-011037	Coupler, 10 dB	1225	5	10	24	27	1.5	75	FR4
MACP-011010	Coupler, 12 dB	1225	5	12	20	24	1.6	75	FR4
MACP-011035	Coupler, 12 dB	1225	5	12	29	27	1.5	75	FR4
MACP-011062	Coupler, 12.5 dB	1225	5	12.5	42	33	0.95	75	FR4
MACP-011055	Coupler, 15.2 dB	1225	5	15.2	37	32	0.9	75	FR4
MACP-011038	Coupler, 16 dB	1225	5	16	33	32	0.9	75	FR4
MACP-011036	Coupler, 16 dB	1225	5	16	34	27	1	75	FR4
MACP-011056	Coupler, 16 dB	1225	5	16	43	33	0.7	75	FR4
MACP-011014	Coupler, 17.5 dB	1225	5	17	36	27	0.65	75	FR4
MACP-011045	Coupler, 23 dB	1225	5	23	39	40	0.6	50	FR4
MACP-011058	Coupler, 10 dB	1250	5	10	42	33	1.5	75	FR4
MACP-011059	Coupler, 12 dB	1250	5	12	32	33	0.95	75	FR4
MACP-011015	Coupler, 8 dB	1250	40	8	27	24	1.8	75	FR4
MACP-011034	Coupler, 10 dB	1255	5	7	30	27	1.35	75	FR4
MACP-011013	Coupler, 20 dB	1500	5	20	27	27	0.9	75	FR4
H-9-N	Hybrid Junction	2000	2	4	40	44	—	50	Conn
MACP-011068	Coupler, 17.3 dB	2000	5	17.3	26	33	1.1	75	FR4
HH-128-PIN ♦	Hybrid Junction	2000	20	3	35	27	—	50	FP-3
2025-6002-10 ♦	Stripline Directional	2000	500	10	28	47	—	50	Conn
2025-6004-20 ♦	Stripline Directional	2000	500	20	42	47	—	50	Conn
2035-6364-00 ♦	Air Dielectric 90° Hybrid	2000	1000	3	20	47	—	50	Conn
2032-6344-00 ♦	Stripline 90° Hybrid	2000	1000	3	22	45	—	50	Conn
2031-6331-00 ♦	Stripline 180° Hybrid	2000	1000	3	25	45	—	50	Conn
JH-141-PIN ♦	High-Freq Quad Hybrid	2000	1000	3	27	44	—	50	FP-2

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Couplers (continued)									
Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Coupling, Nom (dB)	Isolation (dB)	Input Power (dBm)	L (dB)	Impedance (Ω)	Package
2020-6605-10 ♦	Directional Mini Octave	2000	1000	10	35	47	—	50	Conn
2020-6606-20 ♦	Directional Mini Octave	2000	1000	20	45	47	—	50	Conn
2020-6607-30 ♦	Directional Mini Octave	2000	1000	30	55	47	—	50	Conn
MACPCC0001	Bi-Directional 17 dB Coupler	2000	1700	17	34	33	—	50	SOIC-8
MACP-010381-C70880	Coupler, 7 dB	2400	5	7	21	24	2.5	75	FR4
MACP-011086	Coupler, 14 dB	3000	5	14	25	3	—	50	SMT
H-183-4-N ♦	Hybrid Junction	3000	30	5	20	37	—	50	Conn
MACP-011031	Coupler, 14 dB	3250	5	14	36	27	1.8	75	FR4
MACP-011074	14 dB Couplers	3250	5	14	36	30	1	75	SMT
2032-6345-00 ♦	Stripline 90° Hybrid	4000	2000	3	22	45	—	50	Conn
2020-6609-10 ♦	Directional Mini Octave	4000	2000	10	32	47	—	50	Conn
2020-6614-20 ♦	Directional Mini Octave	5200	2600	20	40	47	—	50	Conn
2020-6615-30 ♦	Directional Mini Octave	5200	2600	30	50	47	—	50	Conn
2031-6334-00 ♦	Stripline 180° Hybrid	8000	4000	3	20	45	—	50	Conn
2032-6347-00 ♦	Stripline 90° Hybrid	8000	4000	3	20	45	—	50	Conn
2020-6616-06 ♦	Directional Mini Octave	8000	4000	6	28	47	—	50	Conn
2020-6617-10 ♦	Directional Mini Octave	8000	4000	10	30	47	—	50	Conn
2020-6618-20 ♦	Directional Mini Octave	8000	4000	20	40	47	—	50	Conn
2020-6619-30 ♦	Directional Mini Octave	8000	4000	30	50	47	—	50	Conn
2025-6009-06 ♦	Stripline Directional	8400	2000	6	24	47	—	50	Conn
2025-6010-10 ♦	Stripline Directional	8400	2000	10	28	47	—	50	Conn
2025-6012-20 ♦	Stripline Directional	8400	2000	20	40	47	—	50	Conn
2026-6001-10 ♦	Stripline Directional	12400	1000	10	28	47	—	50	Conn
2025-6014-10 ♦	Stripline Directional	12400	4000	10	25	47	—	50	Conn
2025-6016-20 ♦	Stripline Directional	12400	4000	20	35	47	—	50	Conn
2020-4018-20 ♦	Directional Mini Octave	12400	7000	20	38	—	—	50	Conn
2020-6622-20 ♦	Directional Mini Octave	12400	7000	20	38	47	—	50	Conn
2020-6623-30 ♦	Directional Mini Octave	12400	7000	30	47	47	—	50	Conn
2031-6335-00 ♦	Stripline 180° Hybrid	12400	8000	3	17	45	—	50	Conn
2026-6010-10 ♦	Stripline Directional	18000	500	10	25	47	—	50	Conn
2026-6007-10 ♦	Stripline Directional	18000	1000	10	25	47	—	50	Conn
2026-6009-20 ♦	Stripline Directional	18000	1000	20	37	47	—	50	Conn
2026-6004-10 ♦	Stripline Directional	18000	2000	10	25	47	—	50	Conn
2032-6371-00 ♦	Stripline 90° Hybrid	18000	2000	3	20	47	—	50	Conn
2025-6017-06 ♦	Stripline Directional	18000	6000	6	21	47	—	50	Conn
2025-6018-10 ♦	Stripline Directional	18000	6000	10	26	47	—	50	Conn
2025-6019-16 ♦	Stripline Directional	18000	6000	16	32	47	—	50	Conn
2032-6374-00 ♦	Stripline 90° Hybrid	18000	6500	3	18	45	—	50	Conn
2031-6339-00 ♦	Stripline 180° Hybrid	18000	7000	3	14	43	—	50	Conn
2020-6624-06 ♦	Directional Mini Octave	18000	7000	6	21	47	—	50	Conn
2020-6626-20 ♦	Directional Mini Octave	18000	7000	20	35	47	—	50	Conn
2020-6627-30 ♦	Directional Mini Octave	18000	7000	30	45	47	—	50	Conn
2020-6628-06 ♦	Directional Mini Octave	18000	12400	6	21	47	—	50	Conn

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Power Dividers/Combiners

Part Number	Max Freq (MHz)	Min Freq (MHz)	Max Input Power (dBm)	Channels (#)	Amplitude Balance (dB)	Phase Bal (°)	Isolation (dB)	Impedance (Ω)	Package
MTH-50-PIN ♦	100	1	30	2	0.1	1	30	50	TO-5-1
M3H-50-PIN ♦	100	1	30	3	0.2	1	30	50	TO-5
MAPD-008762-ES0001	160	120	30	2	1	1	20	50	FR4
MAPD-009850-HW1268	168	112	30	2	1	1	18	50	FR4
THV-50-N ♦	200	2	33	2	0.2	1	30	50	Conn
THV-50-BNC ♦	200	2	33	2	0.2	1	30	50	Conn
THV-50-TNC ♦	200	2	33	2	0.2	1	30	50	Conn
MAPD-008109-C30040	200	5	30	3	0.1	1	30	75	FR4
THV-50-SMA ♦	200	2	33	33	0.2	1	30	50	Conn
DS-310-PIN ♦	300	0	30	4	0.2	4	25	50	FP-5
DS-117-PIN ♦	300	1	30	3	0.3	4	20	50	FP-3
DS-308-BNC ♦	300	1	30	3	0.3	4	20	50	C-8
MAPD-011026	300	5	27	3	0.1	0.6	22	75	FR4
M3V-50-PIN ♦	300	50	30	3	0.2	2	25	50	TO-5
DS-113-PIN ♦	400	0	30	2	0.2	1	25	50	FP-2
DSS-113-PIN ♦	400	0	30	2	0.2	1	25	50	SF-1
TU-50-N ♦	400	20	33	2	0.2	1	35	50	Conn
TU-50-SMA ♦	400	20	33	2	0.2	1	35	50	Conn
TU-50-BNC ♦	400	20	33	33	0.2	1	35	50	Conn
MTV-50-PIN ♦	400	40	30	2	0.2	2	30	50	TO-5-1
DS-309-BNC♦	500	2	33	8	0.2	2	30	50	C-18
DS-318-PIN ♦	500	5	30	2	0.2	2	18	50	RH-1
MAPD-007249-ESML21	500	5	30	2	0.2	1	25	50	Ceramic
DS-109-PIN ♦	500	10	30	2	0.2	1	25	50	FP-2
DS-319-PIN ♦	500	10	30	2	0.2	1	25	50	TO-8-2
DSS-333-PIN ♦	500	10	30	2	0.2	2	25	50	SF-1
DS-312-BNC ♦	500	10	30	4	0.2	2	25	50	C-14
DS-112-PIN ♦	500	10	30	4	0.2	5	25	50	FP-5
DS-328-PIN ♦	700	3	30	3	0.3	3	20	50	TO-8-2
MAPD-008072-ESSM26	900	5	30	2	0.1	0.1	20	50	Ceramic
MAPDCC0001	960	824	30	2	0.1	0.5	15	50	SOIC-8
MAPDCC0011	960	824	30	2	0.1	3	13	50	SOT-26
MAPDCC0005	960	824	30	3	0.6	2	15	50	SOIC-8
MAPDCC0009	960	824	30	4	0.3	3	20	50	SOIC-8
MAPDCC0017	960	824	30	6	0.2	6	20	50	SOW-16
MAPDCC0021	960	824	30	8	0.4	5	20	50	SSOP-20
MAPD-007246-ES4700	1000	2	30	4	0.2	5	20	50	FR4
MAPD-008108-C202C0	1000	5	30	2	0.1	0.8	18	75	Ceramic
MAPD-009278-5T1000	1000	5	24	2	0.2	1	16	50	FR4
MAPDCT0030	1000	5	30	2	0.2	1	20	75	SOT
DS-327-PIN ♦	1000	5	30	2	0.2	3	20	50	FP-2
MAPD-010038-C209C0	1000	5	30	2	0.3	0.3	30	75	FR4
MAPD-009918-C209C0	1000	5	30	2	0.3	0.9	26	75	FR4
MAPDCT0029	1000	5	30	2	0.3	1	14	75	FR4
MAPDCT0027	1000	5	30	2	0.3	1	15	75	FR4
DSS-327-PIN ♦	1000	5	30	2	0.3	3	16	50	SF-1

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Power Dividers/Combiners (continued)

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MAPDCT0033	1000	5	30	2	0.4	0	22	75	FR4
MAPD-010362-C20FA0	1000	5	24	2	0.4	3	19	75	FR4
H-81-4-N ♦	1000	5	33	2	0.5	2.5	25	50	Conn
H-81-4-SMA ♦	1000	5	33	2	0.5	2.5	25	50	Conn
ELPD-20-1	1000	5	30	2	0.5	4	22	50	SM-139
MAPD-008812-0003HW	1000	5	24	3	0.2	2	20	50	FR4
MAPDCT0028	1000	5	30	4	0.3	0.5	20	75	FR4
T-1000-N ♦	1000	10	33	2	0.1	1	25	50	Conn
T-1000-BNC ♦	1000	10	33	2	0.1	1	25	50	Conn
T-1000-SMA ♦	1000	10	33	2	0.1	1	25	50	Conn
T-1000-TNC ♦	1000	10	33	2	0.1	1	25	50	Conn
DS-323-PIN ♦	1000	25	30	3	0.4	4	24	50	FP-3
DS-324-PIN ♦	1000	25	30	4	0.3	6	20	50	FP-5
MAPD-011020	1200	5	30	2	0	0.6	19	75	FR4
MAPD-010047-C2W24M	1200	5	30	2	0.2	1.3	—	75	FR4
MAPD-010281-C2W024	1200	5	30	2	0.2	1.3	—	75	FR4
MAPDCT0024	1200	5	14	2	0.3	2.1	—	75	FR4
MAPDCT0032	1200	5	24	3	0.3	3	20	75	FR4
MAPD-009492-C2W180	1200	5	17	2	1.3	1.3	—	75	FR4
MAPDCT0017	1200	46	24	3	0.3	3	20	75	SM-4
MAPD-010274-C209C0	1218	5	30	2	0.2	0.6	16	75	FR4
MAPD-011053	1218	5	33	2	0.3	3	41	75	FR4
MAPD-011050	1218	5	27	2	0.4	1.5	27	75	FR4
MAPD-011039	1218	5	30	2	0.6	2.5	26	75	FR4
MAPD-011040	1225	5	30	2	0.3	5	17	75	FR4
MAPD-011052	1225	5	27	2	0.3	0	27	75	FR4
MAPD-011035	1225	5	30	2	0.5	5	17	75	FR4
MAPD-011051	1225	5	27	2	0.5	5	27	75	FR4
MAPD-011032	1250	5	27	2	0.2	0.4	18	75	SOT
MAPD-011027	1500	5	27	3	0.3	6	18	75	FR4
DS-331-PIN ♦	1500	750	30	2	0.2	6	10	50	TO-8
MAPD-011002	1600	5	30	2	0.3	0.7	26	75	FR4
MAPD-010638-C2WSOT	1600	5	24	2	0.3	1	23	75	FR4
MAPDCC0003	1660	1510	30	2	0.1	1	15	50	SOIC-8
MAPDCC0004	1900	1700	30	2	0.1	2	15	50	SOIC-8
MAPDCC0002	1990	1850	30	2	0.1	1	15	50	SOIC-8
MAPDCC0006	1990	1850	30	3	0.3	7	12	50	SOIC-8
H-8-4-SMA ♦	2000	2	33	2	0.1	2.5	25	50	Conn
DS-4-4-N ♦	2000	2	30	4	1	5	30	50	Conn
DS-4-4-BNC ♦	2000	2	30	4	1	5	30	50	Conn
DS-4-4-SMA ♦	2000	2	30	4	1	5	30	50	Conn
DS-313-PIN ♦	2000	10	24	2	0.3	4	23	50	FP-2
DSS-313-PIN ♦	2000	10	24	2	0.3	4	23	50	SF-1
DS-409-4BNC ♦	2000	10	37	4	0.5	5	25	50	Conn
DS-409-4SMA ♦	2000	10	37	4	0.5	5	25	50	Conn
DS-409-4TNC ♦	2000	10	37	4	0.5	5	25	50	Conn

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Power Dividers/Combiners (continued)

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DS-808-4TNC ♦	2000	20	37	8	0.6	5	20	50	Conn
DS-808-4N ♦	2000	20	37	8	5	0.6	20	50	Conn
DS-808-4BNC ♦	2000	20	37	8	0.6	5	20	50	Conn
DS-808-4SMA ♦	2000	20	37	8	0.6	5	20	50	Conn
2089-6206-00 ♦	2000	500	36	2	0.3	4	20	50	Conn
2089-6406-00 ♦	2000	500	36	4	0.4	6	20	50	Conn
2089-6201-00 ♦	2000	1000	33	2	0.2	4	20	50	Conn
2089-6401-00 ♦	2000	1000	36	4	0.4	6	20	50	Conn
2089-6801-00 ♦	2000	1000	38	8	0.8	8	20	50	Conn
MAPD-007530-000100	2000	1700	30	2	0.2	1.5	16	50	SOT-26
MAPDCC0014	2000	1700	30	4	0.8	5	18	50	SOIC-16
MAPDCC0018	2000	1700	30	6	0.5	8	18	50	SOW-16
MAPD-011007	2150	5	27	2	0.3	1	30	75	FR4
MAPD-010424-C20C80	2400	5	24	2	0.2	5	6	75	FR4
MAPDCT0026	2400	5	30	2	0.8	2	10	75	FR4
MAPDCC0010	2500	2200	30	2	0.1	2	22	50	SOT-25
MAPD-008957-CT0012	2700	1	30	2	0.5	2	12	50	FR4
2089-6202-00 ♦	4000	2000	33	2	0.2	4	20	50	Conn
2089-6402-00 ♦	4000	2000	36	36	0.4	6	20	50	Conn
2089-6203-00 ♦	8000	4000	33	2	0.2	6	20	50	Conn
2089-6207-00 ♦	8000	2000	36	2	0.3	8	18	50	Conn
2089-6403-00 ♦	8000	4000	36	4	0.4	8	20	50	Conn
2089-6807-00 ♦	8000	2000	41	8	1.2	16	15	50	Conn
2089-6204-00 ♦	12400	8000	33	2	0.2	6	20	50	Conn
2089-6404-00 ♦	12400	8000	36	4	0.5	8	18	50	Conn
2090-6304-00 ♦	18000	500	49	3	0.5	—	18	50	Conn
2090-6214-00 ♦	18000	1000	47	2	0.4	5	22	50	Conn
2090-6414-00 ♦	18000	1000	47	4	1	12	18	50	Conn
2090-6205-00 ♦	18000	2000	46	2	0.3	5	23	50	Conn
2089-6208-00 ♦	18000	2000	40	2	0.3	8	17	50	Conn
2089-6408-00 ♦	18000	2000	20	4	0.5	12	17	50	Conn
2089-6808-00 ♦	18000	2000	45	8	1.8	24	15	50	Conn
2089-6209-00 ♦	18000	4000	36	2	0.3	8	17	50	Conn
2089-6409-00 ♦	18000	4000	39	4	0.5	12	15	50	Conn
2089-6410-00 ♦	18000	7000	38	4	0.5	12	15	50	Conn
2089-6405-00 ♦	18000	12400	38	4	0.5	8	15	50	Conn
2089-6805-00 ♦	18000	12400	40	8	0.8	24	15	50	Conn

Transformers/Baluns

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Impedance Ratio	Insertion Loss (dB)	Impedance (Ω)	Package
MABA-000001-50KIT1	Transformer Designer's Kit	—	—	—	—	50	SMT
MABA-000001-75KIT1	CATV Transformer Designer's™ Kit	—	—	—	—	75	SMT
MABA-009807-CF4010	Flux Coupled Balun, sealed cover	3	0	1:4	1	50	Ceramic
MABA-011006	Flux Coupled Unun	8	8	1:20	0.9	50	FR4
MABA-009412-CF1BC0	Flux Coupled Balun, CT on both sides	50	1	1:1	0.4	75	FR4 8
MABA-010411-CT1160	Transmission Line Balun	60	30	1:1	0.8	75	SOT

Note: Part numbers are RoHS compliant. ♦ indicates non-RoHS compliant. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

Transformers/Baluns (continued)							
Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Impedance Ratio	Insertion Loss (dB)	Impedance (Ω)	Package
MABA-011017	Flux Coupled Balun, Step Down	85	5	2:1	0.5	75	SOT
MABA-008282-CFGA40	Flux Coupled Balun	90	5	1:16	1.5	75	FR4
MABA-010181-CF9A40	Flux Coupled Balun	90	5	1:9	1.3	75	FR4
MABA-010655-CF1A40	Flux Coupled Transformer, Ethernet	100	1	1:1	0.3	50	FR4
MABA-011073	Flux Coupled Balun	100	1	1:1	0.3	75	SOT
MABA-008124-CF1FA0	Flux Coupled Balun	100	5	1:1	0.7	75	SOT
MABA-009573-CF1A40	Flux Coupled Balun	100	5	1:1.77	0.3	75	FR4
MABA-010061-CF4FA0	Flux Coupled Balun	100	5	1:4	1.2	75	SOT
MABA-009776-CF28A0	Flux Coupled Unun, Step Down	100	5	2:1	0.4	75	FR4
MABA-008570-ETC414	Flux Coupled Unun	110	3	1:4	0.3	50	Ceramic
MABA-008965-CF1160	Flux Coupled Balun	120	5	1:1	0.2	75	Ceramic
MABA-009005-CF1A40	Flux Coupled Balun	120	5	1:1	0.2	75	FR4
MABA-009650-CF1160	Flux Coupled Balun	120	5	1:1	0.4	75	Ceramic
ETC1-1T-2TR	Flux Coupled Balun	200	0	1:1	0.3	50	Ceramic
MABA-009274-TC11T2	Flux Coupled Balun	200	0	1:1	0.5	50	Ceramic
MABAES0060	Flux Coupled Balun	200	0	1:1	1	50	Ceramic
MABACT0062	Flux Coupled Balun	200	3	1:1	0.5	75	Ceramic
MABACT0071	Flux Coupled Balun	200	3	1:1	0.5	75	FR4
MABACT0012	Flux Coupled Balun	200	3	1:1	0.8	75	Ceramic
MABA-007532-CF18A0	Flux Coupled Balun	200	5	1:1	0.4	75	SOT
MABA-009594-CF18A0	Flux Coupled Balun	200	5	1:1	0.4	75	SOT
MABA-009572-CF18A0	Flux Coupled Balun	200	5	1:1	0.5	75	SOT
MABA-011026	Flux Coupled Balun	200	5	1:1	0.5	75	SOT
MABA-008482-CF1A40	Flux Coupled Balun	200	5	1:1.78	0.4	75	FR4
MABACT0048	Flux Coupled Balun	200	5	1:2	0.4	75	FR4
MABACT0068	Flux Coupled Balun	200	5	1:2	0.4	75	FR4
MABA-009836-CF48A0	Flux Coupled Balun	200	5	1:4	0.5	50	SOT
MABACT0018	Flux Coupled Balun	200	5	1:4	0.7	50	SOT
MABA-008260-CF4A40	Flux Coupled Balun	200	5	1:4	0.8	75	FR4
MABA-011002	Flux Coupled Balun, Step Down	200	5	4:1	1	75	FR4
MABA-008354	Flux Coupled Balun, Step Down	200	5	4:1	1.1	75	FR4
MABA-010400-CT18A0	Transmission Line Balun, with Tertiary Winding	200	40	1:1	0.4	75	SOT
MABA-007488-CT9550	Transmission Line Balun	220	5	1:9	0.8	75	FR4
MABAES0008	Flux Coupled Balun	250	3	1:4	0.6	50	Ceramic
MABA-011062	Flux Coupled Balun	300	1	1:2	0.6	75	SOT
MABA-011038	Flux Coupled Balun	300	1	1:3	0.6	50	SOT
MABA-011039	Flux Coupled Balun	300	1	1:4	0.7	75	SOT
MABA-011040	Flux Coupled Balun	300	1	1:6	0.6	50	SOT
MABA-009250-CT0068	Flux Coupled Balun	300	3	1:2	0.7	50	Ceramic
MABA-009852-CF1A40	Flux Coupled Balun	300	5	1:1	0.2	75	FR4
MABA-011050	Flux Coupled Balun	300	5	1:2	0.6	75	FR4
MABA-011056	Flux Coupled Balun, Step Down	300	5	2:1	0.8	75	SOT
MABA-011063	Flux Coupled Balun, Step Down	300	5	2:1	0.8	75	SOT
MABA-011064	Flux Coupled Balun, Step Down	300	5	4:1	1.5	75	SOT
MABA-009387-ES0040	Flux Coupled Balun	350	1	1:2	1.6	50	SOT
MABA-011020	Flux Coupled Balun	350	1	1:4	0.8	50	Ceramic
MABA-007237-ETC410	Flux Coupled Balun	350	1	1:4	1.2	50	Ceramic

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Transformers/Baluns (continued)							
Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Impedance Ratio	Insertion Loss (dB)	Impedance (Ω)	Package
MABACT0067	Flux Coupled Balun	350	1	1:4	1.3	50	FR4
MABA-007493-CF4160	Flux Coupled Balun	350	1	1:4	1.6	50	Ceramic
MABA-007766-CF28A0	Flux Coupled Balun	350	5	1:1.5	1.4	50	SOT
MABA-009126-ET11SM	Flux Coupled Unun, Sealed Cover	400	0	1:1	1	50	Ceramic
TP-104-PIN ♦	Pulse	400	1	4:01	0.4	50	FP-1
MABA-010721-CF1670	Transmission Line Balun, with Center Tap	400	5	1:1	0.5	75	FR4
ETC36-1T-2TR	Flux Coupled Balun	400	5	1:36	12	50	Ceramic
MABA-009180-500MHZ	Flux Coupled Balun	500	0	1:1	1	50	Ceramic
MABA-009947-CF3160	Flux Coupled Balun	500	0	1:3	0.7	50	Ceramic
TP-102-PIN	Pulse Transformer	500	1	4:01	0.4	50	FP-1
ETC1-1T-5	Transmission Line Balun, with Tertiary Winding	500	2	1:1	2	50	Ceramic
MABA-009484-ETC31T	Flux Coupled Balun	500	2	1:3	0.7	50	Ceramic
MABA-010143-FLUX18	Flux Coupled Balun	500	2	1:8	1	50	Ceramic
MABAES0031	Flux Coupled Balun, Wide Bandwidth	650	1	1:4	1	50	SOT
MABACT0064	Flux Coupled Balun	650	1	1:4	1.5	50	SOT
MABA-009298-CT48A0	Flux Coupled Balun, Wide Bandwidth	650	1	1:4	1.5	50	SOT
ETC4-1-2TR	Flux Coupled Balun, Wide Bandwidth	800	2	1:4	1.2	50	Ceramic
MABAES0061	Flux Coupled Balun, Wide Bandwidth	800	2	1:4	1.2	50	Ceramic
MABA-009488-61HWCA	Flux Coupled Balun	800	3	1:4	1	50	FR4
ETC1-1-6	Transmission Line Balun, with Tertiary Winding	960	760	1:1	0.2	50	Ceramic
TP-105-PIN ♦	Pulse Transformer	1000	0.5	1.4:1	0.4	50	FP-1
TP-103-PIN ♦	Pulse Transformer	1000	0.5	4:01	0.4	50	FP-1
MABA-011037	Transmission Line Balun, Low Profile	1000	2	1:4	0.7	50	FR4
MABA-009711-ETK2MM	Transmission Line Balun, Low Profile	1000	2	1:4	0.7	50	FR4
MABA-008752-TC1P57	Auto Transformer	1000	2	1:1.5	0.4	50	Ceramic
MABA-007569-ETK42T	Transmission Line Balun	1000	2	1:4	0.3	50	Ceramic
MABA-011016	Transmission Line Balun, with Center Tap	1000	5	1:1	0.8	50	Ceramic
MABA-009092-CT1A40	Transmission Line Balun	1000	5	1:1.33	0.7	75	FR4
MABACT0063	Auto Transformer	1000	5	1:1.5	0.5	75	Ceramic
ETC1.5-4	Auto Transformer	1000	5	1:1.5	1	75	Ceramic
MABA-010449-CA2A40	Auto Transformer	1000	5	1:2	0.8	75	FR4
MABACT0066	Transmission Line Balun	1000	5	1:4	1.3	50	SOT
MABA-008639-TC41T7	Transmission Line Balun	1000	6	1:4	3	50	Ceramic
MABA-010463-CA2A40	Auto Transformer	1000	20	1:1.77	1.2	75	Ceramic
MABA-011032	Transmission Line Balun	1000	40	1:3	1	75	SOT
MABA-010245-CT1160	Transmission Line Balun	1002	46	1:1	0.4	75	Ceramic
TP-108-PIN ♦	Flux Coupled Balun	1125	350	2.5:1	0.8	50	FP-1
MABA-011031	Transmission Line Balun	1200	5	1:1	0.2	75	FR4
MABA-009691-CT1881	Transmission Line Balun	1200	5	1:1	0.2	75	FR4
MABACT0043	Transmission Line Balun	1200	5	1:1	0.5	75	SOT
MABA-007748-CT1160	Transmission Line Balun, with Tertiary Winding	1200	5	1:1	0.6	75	Ceramic
MABA-011086	Transmission Line Balun	1200	5	1:1	1.3	75	FR4
MABA-011010	Transmission Line Balun, with Tertiary Winding	1200	5	1:1.33	0.95	75	FR4
MABA-011051	Transmission Line Balun, with Tertiary Winding	1200	5	1:1.33	2.9	75	FR4
MABA-011029	Transmission Line Balun	1200	5	1:2	1.5	75	FR4
MABA-010441-CT38A0	Transmission Line Balun	1200	5	1:3	1.1	75	FR4
MABA-011027	Transmission Line Balun	1200	5	1:3	2.1	75	FR4

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Transformers/Baluns (continued)							
Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Impedance Ratio	Insertion Loss (dB)	Impedance (Ω)	Package
MABA-011014	Transmission Line Balun	1200	45	1:1	0.9	75	FR4
MABA-011015	Transmission Line Balun	1200	45	1:2.78	1.7	75	FR4
MABA-011058	Transmission Line Balun, with Tertiary Winding	1200	50	1:1	0.6	75	FR4
MABA-009231-CT1A4B	Transmission Line Balun	1200	5	1:1	0.7	50	FR4
MABA-010392-CT18A0	Transmission Line Balun	1200	5	1:1	0.7	50	SOT
MABACT0060	Transmission Line Balun, with Tertiary Winding	1200	5	1:1	0.7	50	FR4
MABA-010314-CT1370	Transmission Line Balun	1200	5	1:1	0.9	75	FR4
MABA-007681-CT2010	Transmission Line Balun	1200	5	1:2	0.6	75	FR4
MABA-010238-CT4A80	Transmission Line Balun	1200	5	1:2	1.3	75	FR4
MABA-010129-CT4A40	Transmission Line Balun	1200	5	1:4	0.7	50	SOT
MABA-010268-CT4160	Transmission Line Balun	1200	5	1:4	0.7	50	Ceramic
MABA-009232-CT4A4B	Transmission Line Balun	1200	5	1:4	1	50	FR4
MABACT0061	Auto Transformer	1200	5	1:4	1.6	50	Ceramic
MABA-009210-CT1760	Transmission Line Balun, with Tertiary Winding	1200	50	1:1	0.6	75	FR4
MABA-008483-CT1760	Transmission Line Balun, with Tertiary Winding	1200	50	1:1	0.63	75	FR4
MABA-008979-CF0290	Transmission Line Balun, with Tertiary Winding	1200	50	1:1	0.7	75	SOT
MABA-010321-CT1A42	Transmission Line Balun, with Tertiary Winding	1200	50	1:1	0.7	75	FR4
MABA-010321-CT1A43	Transmission Line Balun, with Tertiary Winding	1200	50	1:1	0.7	75	FR4
MABA-009602-ES2922	Transmission Line Balun, with Tertiary Winding	1200	50	1:1	0.8	50	Ceramic
MABACT0069	Transmission Line Balun, with Tertiary Winding	1200	50	1:1	0.8	75	SOT
MABAES0029	Transmission Line Balun, with Tertiary Winding	1200	50	1:1	1	75	SOT
MABA-011103	Auto Transformer	1215	40	1:1.77	2.8	75	Ceramic
MABACT0040	Transmission Line Balun, with center tap	1218	5	1:1	1.1	75	FR4
MABA-011104	Auto Transformer	1218	5	1:1.5	0.4	75	Ceramic
MABA-011085	Transmission Line Balun, with Tertiary Winding	1225	5	1:1	0.4	75	FR4
MABA-011094	Transmission Line Balun	1225	5	1:1	0.9	75	Ceramic
TP-101-PIN ♦	Pulse Transformer	1500	0	1.6:1	0.4	50	FP-1
TPX-75-4N ♦	50/75 Ohm	1500	10	1.5:1	0.3	50/75	Conn
MABA-010247-2R1250	Transmission Line Balun	1600	1	1:2	1.5	50	FR4
MABA-011112	Transmission Line Balun	1800	5	1:1	0.9	75	FR4
MABA-011113	Transmission Line Balun	1800	5	1:2	0.7	75	FR4
MABA-010374-CT4A40	Transmission Line Balun	1900	10	1:4	1.8	75	FR4
MABA-010386-CA3A40	Auto Transformer	2400	5	1:3	3	75	FR4
MABA-010012-ES4302	Transmission Line Balun	2500	30	1:4	1.8	50	Ceramic
ETC1-1-13	Transmission Line Balun	3000	5	1:1	0.3	50	Ceramic
MABA-007159-000000	Transmission Line Balun	3000	5	1:1	0.3	50	Ceramic
MABA-009822-715254	Transmission Line Balun	3000	5	1:1	0.3	50	Ceramic
MABA-007871-CT1A40	Transmission Line Balun	3000	5	1:1	0.6	50	FR4
MABA-011047	Transmission Line Balun	3000	5	1:1	0.7	50	Ceramic
MABACT0039	Transmission Line Balun	3000	5	1:1	1.3	75	SOT
MABA-010125-TC1113	Transmission Line Balun	3000	5	1:1	1.5	50	Ceramic
MABA-007327-CT1A40	Transmission Line Balun	3000	5	1:1	1.6	75	FR4
MABA-008757-CT1160	Transmission Line Balun	3000	5	1:1	2	75	Ceramic
MABACT0059	Transmission Line Balun	3000	5	1:1	2	75	Ceramic
ETC1.6-4-2-3	Transmission Line Balun	3000	500	1:4	0.2	50	Ceramic
MABACT0065	Transmission Line Balun	3000	500	1:4	0.2	50	Ceramic
MABA-007236-C16423	Transmission Line Balun	3000	500	1:4	3	50	Ceramic

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Transformers/Baluns (continued)

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Impedance Ratio	Insertion Loss (dB)	Impedance (Ω)	Package
MABA-011042	Transmission Line Balun	3200	2500	1:1	0.9	50	Ceramic
MABA-011100	Transformer Balun	4000	20	1:2	1.5	50	SMT
MABA-011082	Transmission Line Balun, with Tertiary Winding	8000	5	1:1	1.4	50	SMT
MABA-011108	Transmission Line Balun, with Tertiary Winding	10000	5	1:1	1.4	50	SMT
MABA-011118	Transmission Line Balun	10000	10	1:2	1.9	50	SMT

MNS Chip Capacitors

Part Number	Capacitance (pF)	Standoff Voltage (V)	Chip Style	Package
MA4M3010 S	10	200	350	DIE
MA4M2020 S	20	200	132	DIE
MA4M3030 S	30	200	352	DIE
MA4M1050 S	50	100	132	DIE
MA4M3050 S	50	200	354	DIE
MA4M3100 S	100	50	358	DIE
MA4M1100 S	100	100	199	DIE
MA4M3150 S	150	50	359	DIE

High Q MNOS Series Chip Capacitors: 9000 Series VB >50 V & 9100 Series VB >100 V

Part Number	Capacitance (pF)	Working Voltage (V)	Chip Size + .002"	Package
910R1 thru 911R9 S	0.1 to 1.9	100	0.010" x 0.010" x 0.005"	DIE
912R0 thru 919R9 S	2 to 9.9	100	0.015" x 0.015" x 0.005"	DIE
902R0 thru 9010R S	2 to 10	50	0.010" x 0.010" x 0.005"	DIE
9110R thru 9129R S	10 to 29	100	0.020" x 0.020" x 0.006"	DIE
9011R thru 9029R S	11 to 29	50	0.015" x 0.015" x 0.005"	DIE
9030R thru 9049R S	30 to 49	50	0.020" x 0.020" x 0.006"	DIE
9130R thru 9149R S	30 to 49	100	0.030" x 0.030" x 0.006"	DIE
9050R thru 9099R S	50 to 99	50	0.030" x 0.030" x 0.006"	DIE
9150R thru 9199R S	50 to 99	100	0.040" x 0.040" x 0.008"	DIE
90100 thru 90199R S	100 to 199	50	0.040" x 0.040" x 0.008"	DIE
91100 thru 91199 S	100 to 199	100	0.050" x 0.050" x 0.008"	DIE
91200 thru 91399 S	200 to 399	100	0.070" x 0.070" x 0.008"	DIE
90200 thru 90399R S	200 to 399	50	0.050" x 0.050" x 0.008"	DIE
90400 thru 90600R S	400 to 600	50	0.070" x 0.070" x 0.008"	DIE

Beam Lead Capacitors: 9000 Series VB >50 V

Part Number	Capacitance Range (pF)	Package
90R1 thru 90R9 S	0.1 to 0.9	14-1
90R5 thru 901R0 S	0.5 to 1.0	14-2
901R0 thru 901R5 S	1 to 1.5	14-1
901R0 thru 902R2 S	1 to 2.2	14-2
902R2 thru 904R7 S	2.2 to 4.7	14-2
905R6M S	5.6 + 20%	14-2
906R8M S	6.8 + 20%	14-2
908R2M S	8.2 + 20%	14-2
9010ROM S	10 + 20%	14-3
9015ROM S	15 + 20%	14-3
9022ROM S	22 + 20%	14-3

Note: Part numbers are RoHS compliant. **S** indicates these parts are also available with Space and Hi-Rel Screening & Qualification. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

Beam Lead Capacitors: 9000 Series VB >50 V (continued)

Part Number	Capacitance Range (pF)	Package
9033ROM S	33 + 20%	14-3
9047ROM S	47 + 20%	14-4
9068ROM S	68 + 20%	14-4
9082ROM S	82 + 20%	14-4
90100ROM S	100 + 20%	14-4

Binary Chip Capacitors

Part Number	PAD 1 (pF)	PAD 2 (pF)	PAD 3 (pF)	PAD 4 (pF)	Total (pF)	Chip Size
9115R0K-BOO	1	2	4	8	15	0.020 x 0.020
9115R0K-BSP-1	1	2	4	8	15	0.030 x 0.020
911R5K-BSP-3	0.1	0.2	0.4	0.8	1.5	0.015 x 0.015
9122R5K-BOO	1.5	3	6	12	22.5	0.020 x 0.020
9122R5K-BSP-1	1.5	3	6	12	22.5	0.030 x 0.020
913R0K-BSP-3	0.2	0.4	0.8	1.6	3	0.015 x 0.015
913R7K-BOO	0.25	0.5	1	2	3.75	0.020 x 0.020
913R7K-BSP-1	0.25	0.5	1	2	3.75	0.030 x 0.020
913R7K-BSP-3	0.25	0.5	1	2	3.75	0.015 x 0.015
915R6K-BSP-3	0.35	0.75	1.5	3	5.6	0.015 x 0.015
917R5K-BOO	0.5	1	2	4	7.5	0.020 x 0.020
917R5K-BSP-1	0.5	1	2	4	7.5	0.030 x 0.020

DC Floating/RF Bypass Mounting Capacitors: 9100 & 9000 Series

Part Number	Capacitance Range (pF)	Chip Size A	Chip Size B	Pad Size D	Pad Size E	Customer Specified Field D
SP49 S	5 - 50	0.014	0.034	0.011	0.031	0.005 - 0.020
SP84 S	7 - 70	0.02	0.04	0.016	0.03	0.005 - 0.020
SP51 S	8 - 80	0.015	0.045	0.013	0.043	0.005 - 0.020
SP14 S	9 - 90	0.02	0.04	0.016	0.036	0.005 - 0.020
SP34 S	9 - 90	0.024	0.034	0.02	0.03	0.005 - 0.020
SP6 S	10 - 100	0.014	0.055	0.012	0.053	0.005 - 0.020
SP89 S	12 - 120	0.02	0.06	0.014	0.055	0.005 - 0.020
SP80 S	13 - 130	0.016	0.065	0.014	0.063	0.005 - 0.020
SP12 S	14 - 140	0.02	0.055	0.018	0.053	0.005 - 0.020
SP87 S	15 - 150	0.013	0.12	0.009	16	0.005 - 0.020
SP81 S	17 - 170	0.015	0.09	0.013	0.088	0.005 - 0.020
SP22 S	24 - 240	0.025	0.08	0.021	0.075	0.005 - 0.020
SP88 S	25 - 250	0.021	0.121	0.015	0.115	0.005 - 0.020
SP48 S	29 - 290	0.035	0.065	0.031	0.061	0.005 - 0.020
SP64 S	75 - 750	0.055	0.102	0.051	0.098	0.005 - 0.020
SP120 S	90 - 900	0.055	0.12	0.05	0.115	0.005 - 0.020
SP7 S	100 - 1000	0.085	0.085	0.081	0.081	0.005 - 0.020
SP2 S	150 - 1500	0.11	0.11	0.1	0.1	0.005 - 0.020
SP68 S	175 - 1750	0.101	0.124	0.097	0.12	0.005 - 0.020
SP1 S	200 - 2000	0.11	0.14	0.1	0.13	0.005 - 0.020
SP5 S	200 - 1000	0.1	0.1	0.095	0.095	0.005 - 0.020
SP20 S	200 - 2000	0.12	0.14	0.11	0.13	0.005 - 0.020
SP29 S	200 - 2000	0.121	0.121	0.115	0.115	0.005 - 0.020
SP38 S	200 - 2000	0.094	0.152	0.091	0.148	0.005 - 0.020

Note: Part numbers are RoHS compliant. **S** indicates these parts are also available with Space and Hi-Rel Screening & Qualification. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

DC Floating/RF Bypass Mounting Capacitors: 9100 & 9000 Series (continued)

Part Number	Capacitance Range (pF)	Chip Size A	Chip Size B	Pad Size D	Pad Size E	Customer Specified Field D
SP40 S	200 – 2000	0.107	0.134	0.103	0.13	0.005 – 0.020
SP39 S	200 – 2000	0.12	0.134	0.11	0.13	0.005 – 0.020
SP77 S	300 – 3000	0.118	0.175	0.114	0.171	0.005 – 0.020
SP52 S	300 – 3000	0.13	0.17	0.124	0.164	0.005 – 0.020
SPI04 S	350 – 3500	0.142	0.171	0.138	0.167	0.005 – 0.020
SP111 S	350 – 3500	0.143	0.18	0.138	0.167	0.005 – 0.020
SP37 S	350 – 3500	0.151	0.168	0.147	0.164	0.005 – 0.020
SP44 S	350 – 3500	0.14	0.17	0.135	0.165	0.005 – 0.020
SP55 S	360 – 3600	0.117	0.22	0.113	0.216	0.005 – 0.020

MNOS Series Capacitors

Part Number	Type	Capacitance Range Min (pF)	Range (pF)	Capacitance Dvw Min (V)	R Min (Ω)	TCC Typ (ppm/+°C)	Package
MBC50-0.2B14 S	Beam Lead	0.16	0.24	50	1000	55	B14
MBC50-1B12 S	Beam Lead	0.8	1.2	50	1000	55	B12
MBC50-1.0B14 S	Beam Lead	0.8	1.2	50	1000	55	B14
MBC50-1.5B14 S	Beam Lead	1.2	1.8	50	1000	55	B14
MBC50-2B12 S	Beam Lead	1.6	2.4	50	1000	55	B12
MBC50-2.0B14 S	Beam Lead	1.6	2.4	50	1000	55	B14
MBC50-3B12 S	Beam Lead	2.4	3.6	50	1000	55	B12
MBC50-4B12 S	Beam Lead	3.2	4.8	50	1000	55	B12
MBC50-6B12 S	Beam Lead	4.8	7.2	50	1000	55	B12
MBC50-8B12 S	Beam Lead	6.4	9.6	50	1000	55	B12
MBC50-10B12 S	Beam Lead	8	12	50	1000	55	B12
MBC50-15B12 S	Beam Lead	12	18	50	1000	55	B12
MBC50-20B12 S	Beam Lead	16	24	50	1000	55	B12
MBC50-33B13 S	Beam Lead	26.4	39.6	50	1000	55	B13
MBC50-47B13 S	Beam Lead	37.6	56.4	50	1000	55	B13
MBC50-68B13 S	Beam Lead	54.4	81.6	50	1000	55	B13
MBC50-82B13 S	Beam Lead	65.6	96	50	1000	55	B13
MBC50-100B13 S	Beam Lead	80	120	50	1000	55	B13
MC2DXXX010-010 S	Chips	0.1	5	50	1000	55	DIE
MC2SXXX010-010 S	Chips	0.25	8	50	1000	55	DIE
MC2SXXX011-011 S	Chips	1	12	50	1000	55	B12
MC2DXXX015-015 S	Chips	1.5	15	50	1000	55	DIE
MC2RXXX010-015 S	Chips	2	20	50	1000	55	DIE
MC2SXXX015-015 S	Chips	3	30	50	1000	55	DIE
MC2SXXX016-016 S	Chips	3	35	50	1000	55	DIE
MC2RXXX015-020 S	Chips	5	42	50	1000	55	DIE
MC2DXXX020-020 S	Chips	5	50	50	1000	55	DIE
MC2SXXX020-020 S	Chips	5	55	50	1000	55	DIE
MC2SXXX022-022 S	Chips	5	60	50	1000	55	DIE
MC2RXXX015-032 S	Chips	5	62	50	1000	55	DIE
MC2SXXX025-025 S	Chips	10	100	50	1000	55	DIE
MC2RXXX022-042 S	Chips	15	120	50	1000	55	DIE
MC2SXXX030-030 S	Chips	10	120	50	1000	55	DIE
MC2SXXX035-035 S	Chips	15	150	50	1000	55	DIE
MC2SXXX040-040 S	Chips	20	200	50	1000	55	DIE

Note: Part numbers are RoHS compliant. **S** indicates these parts are also available with Space and Hi-Rel Screening & Qualification. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

MNOS Series Capacitors (continued)

Part Number	Type	Capacitance Range Min (pF)	Range (pF)	Capacitance Dvw Min (V)	R Min (Ω)	TCC Typ (ppm/+°C)	Package
MC2SXXX050-050 S	Chips	25	250	50	1000	55	DIE
MC2SXXX055-055 S	Chips	25	300	50	1000	55	DIE
MC2SXXX060-060 S	Chips	35	375	50	1000	55	DIE
MC2SXXX070-070 S	Chips	50	550	50	1000	55	DIE
MC2SXXX080-080 S	Chips	70	700	50	1000	55	DIE
MC2RXXX097-107 S	Chips	100	999	50	1000	55	DIE
MC2RXXX099-138 S	Chips	100	999	50	1000	55	DIE
MC2SXXX100-100 S	Chips	100	999	50	1000	55	DIE
MC2RXXX127-145 S	Chips	200	1800	50	1000	55	DIE
MC2RXXX142-160 S	Chips	200	2200	50	1000	55	DIE
MC2B0.8020-020 S	Binary Chip	1.2	1.8	50	1000	55	C20
MC2B002020-020 S	Binary Chip	3	4.5	50	1000	55	C20
MC2B004020-020 S	Binary Chip	6.4	9.6	50	1000	55	C20
MC2B008020-020 S	Binary Chip	12	18	50	1000	55	C20
MC2B016020-020 S	Binary Chip	24	36	50	1000	55	C20

Filters/Diplexers

Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Insertion Loss (dB)	Rejection (dB)	Crossover Freq (dB)	Package
MAFL-011082	Reflectionless Low Pass Filter	684	5		0.75	24	Surface Mount
MAFLCT0083	CATV Diplex Filter	860	5	0.9	59	65/94	—
MAFLCT0066	CATV Diplex Filter	870	5	0.8	46	30/46	SMT
MAFLES0102	CATV Diplex Filter	870	5	1	45	42/54	—
MAFL-007529-CD0550	CATV Diplex Filter	1000	5	0.5	—	36/48	30 x 30 mm
MAFL-011013	Broadband CATV Diplexer 5 – 42/54 – 1000 MHz	1000	5	0.5	50	42/54	SMT
MAFL-007988-CD0550	CATV Diplex Filter 5 – 65/88 – 1000 MHz	1000	5	0.5	50	65/88	SM-85
MAFL-009511-CD0A10	CATV Diplex Filter 5 – 42/52 – 1000 MHz	1000	5	0.5	55	42/52	SM-161
MAFL-009055-CD4254	Broadband CATV Diplexer	1000	5	0.5	55	42/54	SMT
MAFL-009593-CD0A10	CATV Diplex Filter	1000	5	1	57	65/86	SMT
MAFL-011015	CATV Diplex Filter 5 – 42/54 – 1002 MHz	1002	5	0.5	—	42/54	SMT
MAFL-011024	Broadband CATV Diplexer	1002	5	0.5	50	85/108	SMT
MAFL-011025	Broadband CATV Diplexer 5 – 65/108 – 1002 MHz	1002	5	0.5	50	65/108	SMT
MAFL-011014	CATV Diplex Filter 5 – 65/88 – 1002 MHz	1002	5	0.5	55	65/88	SMT
MAFL-011027	Vertical Plug-in	1002	5	1.2	45	85/102	—
MAFL-010467-CD0B20	CATV Diplexer	1002	5	1.5	60	65/108	SMT
MAFL-008098-CD0550	CATV Diplex Filter 5 – 42/54 – 1100 MHz	1100	5	0.5	50	42/54	SM-85
MAFLCT0068	CATV Diplex Filter 5 – 42/54 – 1100 MHz	1100	5	1.2	50	42/54	SMT
MAFL-011055	Surface Mount DOCSIS 3.1 Diplex Filter, 5 – 42/54 – 1218 MHz	1218	5	0.5	50	42/54	30 x 30 mm
MAFL-011078	CATV Diplex Filter 5 – 42/54 – 1218 MHz	1218	5	0.5	50	42/54	30 x 30 mm
MAFL-011057	Surface Mount DOCSIS 3.1 Diplex Filter, 5 – 85/102 – 1218 MHz	1218	5	0.5	50	85/102	30 x 30 mm
MAFL-011081	Surface Mount DOCSIS 3.1 Diplex Filter, 5 – 204/208 MHz	1218	5	0.5	50	204/208	SMT
MAFL-011047	Plug-and-Play Horizontal Filter, 5 – 42/54 – 1218 MHz	1218	5	1	—	42/54	31 x 27.8 mm
MAFL-011048	Plug-and-Play Horizontal Filter	1218	5	1	—	42/54	31 x 27.8 mm
MAFL-011059	Plug-and-Play Vertical Filter	1218	5	1	—	42/54	50.8 x 19.05 mm
MAFL-011049	Plug-and-Play Horizontal Filter, 5 – 65/86 – 1218 MHz	1218	5	1	—	65/85	31 x 27.8 mm
MAFL-011050	Plug-and-Play Horizontal Filter, 5 – 65/86 – 1218 MHz	1218	5	1	—	65/85	31 x 27.8 mm
MAFL-011060	Plug-and-Play Vertical Filter	1218	5	1	—	65/85	50.8 x 19.05 mm
MAFL-011061	Plug-and-Play Vertical Filter	1218	5	1	—	85/102	50.8 x 19.05 mm

Note: Part numbers are RoHS compliant. **S** indicates these parts are also available with Space and Hi-Rel Screening & Qualification. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

Filters/Diplexers (continued)							
Part Number	Description	Max Freq (MHz)	Min Freq (MHz)	Insertion Loss (dB)	Rejection (dB)	Crossover Freq (dB)	Package
MAFL-011053	Plug-and-Play Horizontal Filter, 5 - 204/258 - 1218 MHz	1218	5	1	—	204/258	31 x 27.8 mm
MAFL-011054	Plug-and-Play Horizontal Filter	1218	5	1	—	204/258	31 x 27.8 mm
MAFL-011062	Plug-and-Play Vertical Filter	1218	5	1	—	204/258	50.8 x 19.05 mm
MAFL-011051	Plug-and-Play Horizontal Filter, 5 - 85/102 - 1218 MHz	1218	5	1.4	—	85/102	31 x 27.8 mm
MAFL-011052	Plug-and-Play Horizontal Filter	1218	5	1.4	—	85/102	31 x 27.8 mm
MAFL-011077	CATV Diplex Filter	1218	5	1.4	50	85/102	SMT
MAFLCT0081	CATV Bandpass Filter 50 - 870/975 - 1025/1125 - 1425 MHz	1425	50	1.1	56	870/1125	SMT
MAFL-009217-CD0ACO	CATV Diplex Filter 5 - 864/1128 - 1525 MHz	1525	5	1	44	864/1128	SMT
MAFL-010464-CD0B20	CATV Diplexer 35 x 25 mm, SMT	1525	5	1.8	60	42/88	SMT
MAFL-008070-CLOAD0	CATV MoCA Low Pass Filter 50 - 870/975 - 1525 MHz	1525	50	1.8	30	—	SMT
MAFL-009906-CLOAD0	MoCA Low Pass Filter 5 - 1550 MHz	1550	5	1	32	—	SMT
MAFL-010412-CLOAD0	MoCA Low Pass Filter	1550	5	1.5	37	5 - 1002	15 x 15 mm
MAFL-008290-CD0ACO	CATV Diplex Filter 5 - 1002/1125 - 1550 MHz	1550	5	1.7	40	1002/1125	SMT
MAFL-010101-CB0AD0	MoCA Band Pass Filter 1125 - 1550 MHz	1550	1125	1.7	40	1125/1550	SMT
MAFL-010256-CB0AD0	MoCA Band Pass Filter 1125 - 1550 MHz	1550	1125	1.7	38	1125/1550	SMT
MAFL-011023	MoCA Triplex Filter 5 - 65/88 - 1002/1125 - 1675 MHz	1675	5	1.2	50	65/88 & 1002/1125	SMT
MAFL-011018	MoCA Triplex Filter 5 - 42/54 - 1002/1125 - 1675 MHz	1675	5	1.2	70	42/54 & 1002/1125	SMT
MAFL-011026	MoCA Triplex Filter 5 - 85/105 - 1002/1125 - 1675 MHz	1675	5	1.2	70	85/105 & 1002/1125	SMT
MAFL-009272-CD0ACO	Diplexer	1675	5	1.7	40	1002/1125	SM-172
MAFL-010140-CT0C60	MoCA Triplex Filter 5 - 2000 MHz	2000	5	1.5	62	42/52 & 1002/1125	SMT
MAFL-009478-CD0ACO	MoCA Diplex Filter	3000	50	1.5	40	870/950	SMT
MAFL-010670-CB0AD0	MoCA Band Pass Filter 500 - 3000 MHz	3000	350	2	50	650/875	SMT
MAFL-010608	SAT Diplexer	3000	350	2.5	35	875/950	Tape & Reel
MAFL-010639-CB0AD0	MoCA Band Pass Filter 500 - 3000 MHz	3000	500	2	40	650/875	SM-173
MAFL-010609	SAT Triplexer	4500	500	2.5	40	1450/1650 & 2150/2500	SMT

Note: Part numbers are RoHS compliant.
 Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
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SMALL SIGNAL TRANSISTORS

Small signal transistors are essential components in electronic circuits that amplify small signals with low power. They are commonly used in applications such as amplifiers, oscillators, mixers, and filters. MACOM offers a wide selection of small signal transistors all in DIE form with a wide range of specifications.

Silicon Bipolar									
Part Number	Description	Gain BW FT (GHz)	Gain SS @ 1 GHz (dB)	Gain SS @ 2 GHz (dB)	Noise Figure @ 1 GHz (dB)	Noise Figure @ 2 GHz (dB)	Current Gain (hFE)	Maximum Power Dissipation (mW)	Package
MATB-056800-ODIEW0	NPN Silicon Medium Power Oscillator DIE	4.2	TBD	6	—	—	60	1500	DIE
MATB-046100-ODIEW0	NPN Silicon Medium Power Microwave BJT	5.5	10	9	2	—	120	3750	DIE
MATB-085600	NPN Silicon High Frequency DIE	7	—	7	1.1	2.1	120	700	DIE
MATB-004200-ODIEW0	NPN Silicon Medium Power Microwave BJT	9	—	11.5	—	3	150	600	DIE
MATB-068100-ODIEW0	NPN Silicon High Frequency DIE	9	15	12	1.2	1.6	100	200	DIE
MATB-024300-ODIEW0	NPN Silicon Medium Power Oscillator DIE	10	4.3	TBD	—	—	100	2750	DIE
MATB-006305-ODIEW0	NPN Silicon 3V Low Current Low Noise DIE	11	11	7	1.5	2.2	100	30	DIE
MATB-006325-ODIEW0	NPN Silicon 3V Low Current Low Noise DIE	11	12	7	1.5	—	100	150	DIE
MATB-006310-ODIEW0	NPN Silicon 3V Low Current Low Noise DIE	14	12	7	1.5	—	100	60	DIE

Silicon MMIC Gain Blocks										
Part Number	Description	Noise Figure @ 1 GHz (dB)	Power Gain @ 0.1 GHz (dB)	3 dB Bandwidth (GHz)	1 dB Gain Compression @ 1 GHz (dBm)	IP3 (dBm)	ABS Max Current (mA)	Typical Operating Voltage (V)	Typical Operating Current (mA)	Package
MAAM-011006-ODIEW0	MMIC Silicon Gain Block	3.0	20.5	1.0	3.0	14.5	50.0	3.5	16.0	DIE
MAAM-011008-ODIEW0	MMIC Silicon Gain Block	3.0	32.5	—	12.5	27.0	80.0	7.8	36.0	DIE
MAAM-011011-ODIEW0	MMIC Silicon Gain Block	3.5	12.5	1.0	17.5	30.0	80.0	5.5	60.0	DIE
MAAM-011007-ODIEW0	MMIC Silicon Gain Block	4.5	13.5	2.0	5.5	19.0	60	4.0	22.0	DIE
MAAM-011041-ODIEW0	MMIC Silicon Gain Block	5.5	15.5	1.6	10.0	23.0	80.0	3.3	35.0	DIE
MAAM-011009-ODIEW0	MMIC Silicon Gain Block	6.0	8.0	4.5	11.5	23.0	80.0	7.8	35.0	DIE
MAAM-011003-ODIEW0	MMIC Silicon Gain Block	6.0	12.5	2.0	10.0	23.0	80.0	5.0	35.0	DIE
MAAM-011004-ODIEW0	MMIC Silicon Gain Block	6.5	8.5	2.8	12.5	25.5	100.0	5.25	50.0	DIE

Note: Part numbers are RoHS compliant. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.



SPACE & HIGH-RELIABILITY

Discrete Components, MMICs, and Integrated Modules

MACOM continues to build upon our legacy of providing high-reliability semiconductor products to the Aerospace and Defense industry by adding to our product portfolio and capabilities. MACOM’s standard line of RF and microwave components provides solutions to meet the requirements commonly found on airborne applications, high MTBF ground-based equipment, and space applications.

From our DLA-Certified and US Trusted Foundry in Lowell, Massachusetts, we continue to improve our ability to provide the highest quality aerospace and defense products.

When program screening requirements call for more than MACOM’s standard catalog screening, custom screening programs can be created by adding screening options or by generating a program-specific sequence.

MACOM’s Space & High-Reliability Evolution

Watkins Johnson Company/Stellex Microwave Systems/Tyco Electronics/Anzac/RHG/Phoenix Microwave/Metelics/Micrometrics/Hi-Rel Components & MACOM

1960s

- > Pioneered production of TWT’s for Pioneer, Voyager, and DSCS satellites

1970s

- > First solid state flight qualified production amplifiers and mixers

1980s/1990s/through Today

- > Participated in more than 85 programs (USA & International)
- > Provided hundreds of space qualified solid state space component models

High-Reliability Catalog Screened Products

- > 40+ year history of proven Hi-Rel manufacturing processes supporting both thin film & solder circuit assemblies
- > Same proven manufacturing processes as used in equivalent component designs for custom military and space programs
- > Long established cost effective standardized screening programs for catalog products available in a variety of hermetically sealed metal package styles
- > Available for screening: hybrid amplifiers, hybrid mixers, switches, diodes
- > MACOM has an extensive “in-house” environmental screening capability
- > US Screening Lab to perform specific environmental test requirements
- > Working to expand our partner network
- > Custom environmental screening plans available for hermetically-sealed, packaged products (MIL-PRF-19500, MIL-PRF-38534, MIL-DTL- 28837B, MIL-STD-202, etc.)

Please contact your local sales representative to discuss any environmental screening options.



General Purpose Gain Block Hybrid Amplifiers					
Part Number	Max Frequency (MHz)	Min Frequency (MHz)	Gain (dB)	OIP3 (dBm)	Package
A75-2	250	5	21	19	TO-8
EA54	250	5	27	16	TO-5
A181	250	10	16.5	35	TO-8
CA181	250	10	16.5	35	Connectorized-SMA
SMA181	250	10	16.5	35	SMT
A79	300	5	14	38	TO-8
CA79	300	5	14	38	Connectorized-SMA
SMA79	300	5	14	38	SMT
A56	400	5	26	27	TO-8
EA2	400	5	13.5	21	TO-5
A87	400	10	14	33	TO-8
CA87	400	10	14	33	Connectorized-SMA
SMA87	400	10	14	33	SMT
AMC-151-SMA	500	5	12	36	Connectorized-SMA
A5	500	5	14.8	22	TO-8
A72	500	5	15	26	TO-8
SMA72	500	5	15	26	SMT
A54	500	5	15.5	21	TO-8
A77	500	5	16.5	30	TO-8
CA77	500	5	16.5	30	Connectorized-SMA
SMA77	500	5	16.5	30	SMT
A88	500	5	18.7	30	TO-8
SMA88	500	5	18.7	30	SMT
A74-2	500	5	26	10	TO-8
SMA74-2	500	5	26	10	SMT
SMRA89	500	5	26.5	35	SMT
RA89	500	5	26.5	35	TO-8
CRA89	500	5	26.5	35	Connectorized-SMA
EA54-2	500	5	29.5	20	TO-5
PA511	500	10	12.7	40	TO-8
SMPA511	500	10	12.7	40	SMT
A55	500	10	14.7	24	TO-8
A57	500	10	14.7	28	TO-8
SMA57	500	10	14.7	28	SMT
PA512	500	10	18	40	TO-8
MAAM-007502-CPA512	500	10	18	40	Connectorized-SMA
MAAM-007502-SPA512	500	10	18	40	SMTO-8
SMA513	500	10	20	30	SMT
AMC-146-SMA	500	10	21	35	Connectorized-SMA
RA89-1	500	10	30	36	TO-8
CRA89-1	500	10	30	36	Connectorized-SMA
SMRA89-1	500	10	30	36	SMT
MAAM-008200-000A83	500	10	30	10	TO-8
A77-1	600	5	16	30	TO-8
CA77-1	600	5	16	30	Connectorized-SMA
SMA77-1	600	5	16	30	SMT
A5-6	600	6	15.5	21	TO-8

Note: Part numbers are RoHS compliant.
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.

General Purpose Gain Block Hybrid Amplifiers (continued)

Part Number	Max Frequency (MHz)	Min Frequency (MHz)	Gain (dB)	OIP3 (dBm)	Package
SMA5-6	600	6	16	21	SMT
A59-1	700	10	10.5	36	TO-8
SMA59-1	700	10	10.5	36	SMT
A89	800	50	22	30	TO-8
SMA89	800	100	22	30	SMT
AMC-184-SMA	1000	5	20	20	Connectorized-SMA
AMC-145-SMA	1000	10	10.7	32	Connectorized-SMA
A19-1	1000	10	11.5	35	TO-8
CA19-1	1000	10	11.5	35	Connectorized-SMA
A17	1000	10	12	27	TO-8
CA17	1000	10	12	27	Connectorized-SMA
SMA17	1000	10	12	27	SMT
CA1021	1000	10	26	26	Connectorized-SMA
RA69	1000	10	25	34	TO-8
CRA69	1000	10	25	34	Connectorized-SMA
SMRA69	1000	10	25	34	SMT
A1021	1000	10	26	26	TO-8
SMA1021	1000	10	26	26	SMT
A66-1	1000	10	27.5	28	TO-8
CA66-1	1000	10	27.5	28	Connectorized-SMA
SMA66-1	1000	10	27.5	28	SMT
RA66	1000	10	37	30	TO-8
CRA66	1000	10	37	30	Connectorized-SMA
SMRA66	1000	10	37	30	SMT
AMC-155-SMA	1000	300	12.3	30	Connectorized-SMA
A66	1200	10	23.5	28	TO-8
CA66	1200	10	23.5	28	Connectorized-SMA
SMA66	1200	10	23.5	28	SMT
A64	1200	10	26	20	TO-8
CA64	1200	10	26	20	Connectorized-SMA
SMA64	1200	10	26	20	SMT
A27	1500	5	8.5	28	TO-8
CA24	1500	5	10	21	TO-8
A24	1500	5	20	21	TO-8
SMA24	1500	5	20	21	SMT
A29-1	1500	10	9	32	TO-8
CA29-1	1500	10	9	32	Connectorized-SMA
SMA29-1	1500	10	9	32	SMT
A28	1500	10	11	29	TO-8
CA28	1500	10	11	29	Connectorized-SMA
SMA28	1500	10	11	29	SMT
A26	1500	10	20.5	27	TO-8
CA26	1500	10	20.5	27	Connectorized-SMA
SMA26	1500	10	20.5	27	SMT
A39	2000	10	7.5	34	TO-8
SMA39	2000	10	7.5	34	SMT
A38	2000	10	9.5	30	TO-8

Note: Part numbers are RoHS compliant.
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.

General Purpose Gain Block Hybrid Amplifiers (continued)

Part Number	Max Frequency (MHz)	Min Frequency (MHz)	Gain (dB)	OIP3 (dBm)	Package
CA38	2000	10	9.5	30	Connectorized-SMA
SMA38	2000	10	9.5	30	SMT
A35	2000	10	10	21	TO-8
CA35	2000	10	10	21	Connectorized-SMA
SMA35	2000	10	10	21	SMT
A37	2000	10	10	28	TO-8
SMA37	2000	10	10	28	SMT
A34	2000	100	16	18	TO-8
SMA34	2000	100	16	18	SMT
A36	2000	100	16.5	23	TO-8
SMA36	2000	100	16.5	23	SMT
CRA36	2000	100	24	22	Connectorized-SMA
RA36	2000	100	24	22	TO-8
SMRA36	2000	100	24	22	SMT
SMPA2010	2000	200	10	33	SMT
A36-1	2300	100	16.2	23	TO-8
CA36-1	2300	100	16.2	23	Connectorized-SMA
SMA36-1	2300	100	16.2	23	SMT
A33-1	2400	2	9	19	TO-8
CA33-1	2400	2	9	19	Connectorized-SMA
SMA33-1	2400	2	9	19	SMT
CA3010	2500	0	9.5	35	Connectorized-SMA
A36-2	2600	100	15	30	TO-8
SMA36-2	2600	100	15	30	SMT
MAAM-007947-CA3602	2600	100	15	30	Connectorized-SMA
PA38-2	2600	200	8.5	33	TO-8
SMPA38-2	2600	200	8.5	33	SMT
A43	3200	100	11.5	21	TO-8
SMA43	3200	100	11.5	21	SMT
PA48	4000	1000	16	34	TO-8
CPA48	4000	1000	16	34	Connectorized-SMA
SMPA48	4000	1000	16	34	SMT
RA46	4000	0	25.5	30	TO-8
SMRA46	4000	1000	25.5	30	SMT
SMRA62	6000	2000	16	28	SMT
AM42-0039	7100	5900	33	45	CR-15
AM42-0002	14500	14000	22	39	R380/CR15
AM42-0007	14500	14000	22	41	R380/CR15

Low Noise Hybrid Amplifiers

Part Number	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
A101	100	5	17	3	36	TO-8
SMA101	100	5	17	3	36	SMT
AM-162-PIN	100	10	12.5	1.1	32	TO-8
AMC-162-SMA	100	10	12.5	1.5	30	Connectorized-SMA
AMS-162-PIN	100	10	12.5	1.5	30	SF-1
MAAM-007844-OCA801	200	10	27.3	2	28	Connectorized-SMA

Note: Part numbers are RoHS compliant.
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.

Low Noise Hybrid Amplifiers (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
A80-1	200	10	27.3	2	28	TO-8
SMA80-1	200	10	27.3	2	28	SMT
A74-1	250	5	31	4.5	21	TO-8
A70	250	10	8	1.6	24	TO-8
SMA70	250	10	8	1.6	24	SMT
A70-1	250	10	8	1.8	28	TO-8
SMA70-1	250	10	8	1.8	28	SMT
A70-2	250	10	8	2.2	38	TO-8
CA70-2	250	10	8	2.2	38	Connectorized-SMA
A231	250	10	26	1.7	22	TO-8
CA231	250	10	26	1.7	22	Connectorized-SMA
SMA231	250	10	26	1.7	22	SMT
A83-1	250	10	35.5	2.5	9	TO-8
CA83-1	250	10	35.5	2.5	9	Connectorized-SMA
SMA83-1	250	10	35.5	2.5	9	SMT
A70-3	250	20	8	2.8	40	TO-8
A82-1	250	20	19	2.8	26	TO-8
SMA82-1	250	20	19	2.8	26	SMT
SMA81	250	20	24.5	2.6	28	SMTO-8
A81-1	250	20	25	2.5	27	TO-8
SMA81-1	250	20	25	2.5	27	SMT
A82	250	20	25	2.8	31	TO-8
CA82	250	20	25	2.8	31	Connectorized-SMA
SMA82	250	20	25	2.8	31	SMT
A81	250	20	25.5	3	28	TO-8
A78	300	5	14	3.5	35	TO-8
CA78	300	5	14	3.5	35	Connectorized-SMA
SMA78	300	5	14	3.5	35	SMT
SMA70-2	300	10	8	2.2	38	SMTO-8
A87-2	300	10	16	2.9	24	TO-8
SMA87-2	300	10	16	2.9	24	SMT
SMA70-3	300	15	8	2.8	40	SMTO-8
PAW1027	350	35	38.5	3.7	43	SOT115J
EA1	400	5	14	4.3	13	TO-5
MAAM-008199-000A51	400	10	15	2.7	10	TO-8
A411	400	10	15.8	3	24	TO-8
SMA411	400	10	15.8	3	24	SMT
A87-1	400	10	16	3.4	31	TO-8
CA87-1	400	10	16	3.4	31	Connectorized-SMA
SMA87-1	400	10	16	3.4	31	SMT
AMC-123-SMA	500	5	10	5.5	30	Connectorized-SMA
A58	500	5	11.5	4	34	TO-8
SMA58	500	5	11.5	4	34	SMT
AM-131-PIN	500	5	11.5	4	34	TO-8
A59	500	5	11.5	4.3	36	TO-8
SMA59	500	5	11.5	4.3	36	SMT
AMC-143-SMA	500	5	15.8	2.5	20	Connectorized-SMA

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Low Noise Hybrid Amplifiers (continued)						
Part Number	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
A1	500	5	16	2.4	11	TO-8
SMA1	500	5	16	2.4	11	SMT
AMC-147-SMA	500	5	17	3.4	33	Connectorized-SMA
EA53-2	500	5	19	3.6	24	TO-5
A75	500	5	21	2.1	21	TO-8
CA75	500	5	21	2.1	21	Connectorized-SMA
SMA75	500	5	21	2.1	21	SMT
A76-1	500	5	27.5	3	26	TO-8
SMA76-1	500	5	27.5	3	26	SMT
A515	500	5	27.5	3.5	33	TO-8
MAAM-007272-OCA515	500	5	27.5	3.5	33	Connectorized-SMA
MAAM-007272-SMA515	500	5	27.5	3.5	33	SMT
A76	500	5	28	3	28	TO-8
CA76	500	5	28	3	28	Connectorized-SMA
SMA76	500	5	28	3	28	SMT
A514	500	5	28	4	32	TO-8
MAAM-007272-OCA514	500	5	28	4	32	Connectorized-SMA
MAAM-007272-SMA514	500	5	28	4	32	SMT
A74	500	5	30	3	20	TO-8
CA74	500	5	30	3	20	Connectorized-SMA
SMA74	500	5	30	3	20	SMT
A73	500	5	32	3.5	15	TO-8
SMA73	500	5	32	3.5	15	SMT
A180	500	10	16.5	3.4	33	TO-8
CA180	500	10	16.5	3.4	33	Connectorized-SMA
SMA180	500	10	16.5	3.4	33	SMT
A511	500	10	17	3.4	33	TO-8
CA511	500	10	17	3.4	33	Connectorized-SMA
A75-3	500	10	20.5	1.7	16	TO-8
SMA75-3	500	10	20.5	1.7	16	SMT
SMA80	550	10	29	2.3	27	SMT
A531	500	10	31.7	2	14	TO-8
CA531	500	10	31.7	2	14	Connectorized-SMA
A81-3	500	20	17	4	20	TO-8
A81-2	500	20	24.5	3	28	TO-8
CA81-2	500	20	24.5	3	28	Connectorized-SMA
SMA81-2	500	20	24.5	3	28	SMT
A80	500	20	29	2.3	27	TO-8
A67-1	600	10	15	3.7	30	TO-8
CA67-1	600	10	15	3.7	30	Connectorized-SMA
SMA67-1	600	10	15	3.7	30	SMT
A611	700	5	15	3.2	24	TO-8
SMA611	700	5	15	3.2	24	SMT
A67	800	10	14	4	30	TO-8
AMC-176-SMA	1000	5	13.2	4	27	Connectorized-SMA
A11	1000	5	14.7	3.1	10	TO-8
SMA11-2	1000	5	16	2.5	10	SMT

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Low Noise Hybrid Amplifiers (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
A63	1000	5	16	3	15	TO-8
SMA63	1000	5	16	3	15	SMT
AMC-182-SMA	1000	5	28.2	3.5	20	Connectorized-SMA
A18-1	1000	10	14.7	3.8	30	TO-8
CA18-1	1000	10	14.7	3.8	30	Connectorized-SMA
SMA18-1	1000	10	14.7	3.8	30	SM
A12	1000	10	16	2.8	22	TO-8
A66-3	1000	10	26	3	13	TO-8
CA66-3	1000	10	26	3	13	Connectorized-SMA
SMA66-3	1000	10	26	3	13	SMT
A1031	1000	10	28.5	2.7	22	TO-8
SMA1031	1000	10	28.5	2.7	22	SMT
MAAM-008198-OCA162	1200	10	13	3.5	18	Connectorized-SMA
MAAM-008198-SMA162	1200	10	13	3.5	18	SMT0-8
CA12	1200	10	14	2.8	20	Connectorized-SMA
A1211	1200	10	14	2.8	20	TO-8
SMA1211	1200	10	14	2.8	20	SMT
A1212	1200	100	14	1.8	29	TO-8
CA1212	1200	100	14	1.8	29	Connectorized-SMA
SMA1212	1200	100	14	1.8	29	SMT
A25-1	1500	2	13.5	3	22	TO-8
A28-2	1500	10	14	3.5	24	TO-8
CA28-2	1500	10	14	3.5	24	Connectorized-SMA
SMA28-2	1500	10	14	3.5	24	SMT
A31-1	2000	10	11.5	3.5	9	TO-8
A32-1	2000	100	11.5	2.5	25	TO-8
CA32-1	2000	100	11.5	2.5	25	Connectorized-SMA
SMA32-1	2000	100	11.5	2.5	25	SMT
A32	2000	100	13	2.1	32	TO-8
CA32	2000	100	13	2.1	32	Connectorized-SMA
SMA32	2000	100	13	2.1	32	SMT
PA38	2000	200	10	4	34	TO-8
CPA38	2000	200	10	4	34	Connectorized-SMA
SMPA38	2000	200	10	4	34	SMT
MAAM-007501-0A2002	2700	20	11.5	2.5	40	TO-8
MAAM-007501-CA2002	2700	20	11.5	2.5	40	Connectorized-SMA
MAAM-007501-SA2002	2700	20	11.5	2.5	40	SMT0-8
A4011	4000	1000	15.5	2	29	TO-8
SMA4011	4000	1000	15.5	2	29	SMT
A45-1	4000	1000	17.5	4	26	TO-8
SMA45-1	4000	1000	17.5	4	26	SMT
A45	4000	1000	17.5	4	29	TO-8
CA45	4000	1000	17.5	4	29	Connectorized-SMA
SMA45	4000	1000	17.5	4	29	SMT
A4012	4000	1000	18	3.5	26	TO-8
SMA4012	4000	1000	18	3.5	26	SMT
SMA6011	6000	1500	14.8	1.5	30	SMT0-8

Note: Part numbers are RoHS compliant.

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Low Noise Hybrid Amplifiers (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
A61	6000	2000	7.5	3.2	25	TO-8
SMA61	6000	2000	7.5	3.2	25	SMT
A6011	6000	2000	14.8	1.5	30	TO-8
CA6011	6000	2000	14.8	1.5	30	Connectorized-SMA

Mixers

Part Number	Max Freq RF/RO (MHz)	Min Freq RF/RO (MHz)	Min Freq IF (MHz)	Max Freq IF (MHz)	Package
SM6D	200	0.05	0	200	SMT
M6D-50	200	0.05	0	200	Relay Header
MAC-50-PIN	200	0.2	0	200	TO-5
MDS-222-PIN	200	0.2	0.2	200	SF-1
SM6V	500	0.4	0	500	SMT
M9BC	500	0.5	0	500	Relay Header
MD-161-PIN	500	1	0	500	FP-2
M6E-50	500	5	0	500	Relay Header
MAC-51-PIN	500	5	0	500	TO-5
MDS-223-PIN	500	10	10	500	SF-1
M1H	620	180	0	200	SMA
M6EH	750	5	0	500	Relay Header
SM6EH	750	5	0	500	SMT
M2E	1000	10	0	600	TO-8
M2EC	1000	10	0	600	SMA
SM2E	1000	10	0	600	SMT
MD-160-PIN	1500	1	1	1000	RH-3
MDS-158-PIN	1500	5	—	—	SF-1
M9H	1500	10	0	600	TO-8
M9HC	1500	10	0	600	SMA
M2AC	1500	10	0	800	SMA
M4A	1500	10	0	1000	Flatpack-SMT
SM4A	1500	10	0	1000	SMT
SM4B	1500	10	0	1000	SMT
MD-148-PIN	1500	10	10	1500	FP-2
MDS-148-PIN	1500	10	10	1500	SF-1
MD-149-PIN	1500	10	10	1500	FP-2
MD-149-PIN	1500	102	102	1500	FPO2
MDS-149-PIN	1500	10	10	1500	SF-1
M2B	1600	10	0	800	TO-8
M2BC	1600	10	0	800	SMA
M2TC	2400	10	1	1000	SMA
SM4G	2400	800	0	1500	SMT
MD-123-PIN	3000	10	10	3000	FP-2
M4TH	3400	1	1	2000	Flatpack-SMT
SM4T	3400	1	1	2000	SMT
SM4T17	3400	1	1	2000	SMT
SM4TH	3400	1	1	2000	SMT
M8T	3400	1	1	2000	TO-8
M8TC	3400	1	1	2000	SMA

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Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.

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Mixers (continued)					
Part Number	Max Freq RF/RO (MHz)	Min Freq RF/RO (MHz)	Min Freq IF (MHz)	Max Freq IF (MHz)	Package
M8TH	3400	1	1	2000	TO-8
M8THC	3400	1	1	2000	SMA
MD-169-PIN	3500	1	1	3500	FP-2
MDC-169-SMA	3500	1	1	3500	C-7
MD-189-PIN	3500	1	1	3500	FP-2
MDS-189-PIN	3500	1	1	3500	SF-1
MDS-169-PIN	3500	1	5	1500	SF-1
M2G	3500	800	0	1500	TO-8
M2GC	3500	800	0	1500	SMA
MD-179-PIN	4000	1	5	1500	FP-2
MDC-179-SMA	4000	1	5	1500	C-7
M8H-3	4200	3700	0	2000	TO-8
SM5T	5000	50	50	3000	SMT
SM5T17	5000	50	50	3000	SMT
SM5TH	5000	50	50	3000	SMT
MZ6310C	5500	250	0	1500	SMA
M63C	5500	2500	0	1500	SMA
M8H-7	6000	2400	0	2000	TO-8
M8HC-7	6000	2400	0	2000	SMA
MDC-162-SMA	7000	1000	10	2000	C-2
MY63	7000	2500	0	15000	Versapac
MY63C	7000	2500	0	15000	SMA
M63H	7500	2500	0	1500	Minpac
M63HC	7500	2500	0	1500	SMA
MY63H	7500	2500	0	1500	Versapac
MY63HC	7500	2500	0	1500	SMA
M76H	8500	4500	0	2000	Minpac
M76HC	8500	4500	0	2000	SMA
MY76H	8500	4500	0	2000	Versapac
MY76HC	8500	4500	0	2000	SMA
M76	9500	4500	0	2000	Minpac
M76C	9500	4500	0	2000	SMA
MY76	9500	4500	0	2000	Versapac
MY76C	9500	4500	0	2000	SMA
MY84	10000	1800	0	1000	Versapac
MY84C	10000	1800	0	1000	SMA
M77C	12500	8000	0	2500	SMA
MY77	12500	8000	0	2500	Versapac
MY77C	12500	8000	0	2500	SMA
M14A	14000	6000	0	2000	SMA
M67C	15000	9000	0	2500	SMA
MY83H	18000	2	30	5000	Versapac
MY83HC	18000	2	30	5000	SMA
M83	18000	1000	30	5000	Minpac
M83C	18000	1000	30	5000	SMA
MY88HC	18000	1000	1000	8000	SMA
M89C	18000	1000	1000	8000	SMA

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Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
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Mixers (continued)					
Part Number	Max Freq RF/RO (MHz)	Min Freq RF/RO (MHz)	Min Freq IF (MHz)	Max Freq IF (MHz)	Package
M85	18000	2000	0	1000	Minpac
M85C	18000	2000	0	1000	SMA
MY85	18000	2000	0	1000	Versapac
MY85C	18000	2000	0	1000	SMA
M93C	18000	2000	30	4000	SMA
MY93	18000	2000	30	4000	Versapac
MY93C	18000	2000	30	4000	SMA
MY82	18000	2000	30	5000	Versapac
MY82C	18000	2000	30	5000	SMA
MZ9310	18000	2000	30	5000	Versapac
MZ9310C	18000	2000	30	5000	SMA
MZ9313	18000	2000	30	5000	Versapac
MZ9313C	18000	2000	30	5000	SMA
MZ8810C	18000	2000	1000	8000	SMA
MZ8813	18000	2000	1000	8000	Versapac
M88C	18000	2000	1000	8000	SMA
MY88	18000	2000	1000	8000	Versapac
MY88C	18000	2000	1000	8000	SMA
M50A	18000	2000	2000	18000	Minpac
M50AC	18000	2000	2000	18000	SMA
M88H	18000	2000	2000	8000	Minpac
M88HC	18000	2000	2000	8000	SMA
MY89	18000	2000	2000	8000	Versapac
MY89C	18000	2000	2000	8000	SMA
M86C	18000	3500	0	3000	SMA
M80C	18000	4000	0	3000	SMA
M79C	18000	5000	0	3000	SMA
M79H	18000	5000	0	3000	Minpac
M79HC	18000	5000	0	3000	SMA
MZ7407	18000	6000	0	3000	Versapac
MZ7407C	18000	6000	0	3000	SMA
MZ7410	18000	6000	0	3000	Versapac
MZ7410C	18000	6000	0	3000	SMA
MZ7420	18000	6000	0	3000	Versapac
MZ7420C	18000	6000	0	3000	SMA
M74	18000	7000	0	3000	Minpac
M74C	18000	7000	0	3000	SMA
M87C	19000	500	30	5000	SMA
MY87	19000	500	30	5000	Versapac
MY87C	19000	500	30	5000	SMA
M52C	24000	2000	100	5000	SMA
MY52	24000	2000	100	5000	Versapac
MY52C	24000	2000	100	5000	SMA
M51C	24000	2000	1000	15000	SMA
MY51	24000	2000	1000	15000	Versapac
MY51C	24000	2000	1000	15000	SMA
MZ5010	26000	2000	1	15000	Versapac

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Mixers (continued)

Part Number	Max Freq RF/RO (MHz)	Min Freq RF/RO (MHz)	Min Freq IF (MHz)	Max Freq IF (MHz)	Package
MZ5010C	26000	2000	1	15000	SMA
M53C	26000	2000	100	6000	SMA
MY50A	26000	2000	1000	12000	Versapac
MY50AC	26000	2000	1000	12000	SMA
M50C	26000	2000	1000	15000	SMA
MY50	26000	2000	1000	15000	Versapac
MY50C	26000	2000	1000	15000	SMA

Power Dividers

Part Number	Max Freq (MHz)	Min Freq (MHz)	Channels (#)	Amplitude Balance (dB)	Phase Balance (°)	Isolation (dB)	Max Input Power (dBm)	Package
M3H-50-PIN	100	1	3	0.2	1	30	30	TO-5
DS-310-PIN	300	0	4	0.2	4	25	30	FP-5
M3V-50-PIN	300	50	3	0.2	2	25	30	TO-5
DS-113-PIN	400	0	2	0.2	1	25	30	FP-2
DSS-113-PIN	400	0	2	0.2	1	25	30	SF-1
DS-318-PIN	500	5	2	0.2	1	18	30	RH-1
DS-109-PIN	500	10	2	0.2	1	25	30	FP-2
DS-319-PIN	500	10	2	0.2	1	25	30	TO-8
DSS-333-PIN	500	10	2	0.2	2	25	30	SF-1
DS-112-PIN	500	10	3	0.2	2	25	30	TO-5
DS-328-PIN	700	3	3	0.3	3	20	30	TO-8
DSS-327-PIN	1000	5	2	0.2	3	20	30	FP-2
DSS-333-PIN	1000	5	2	0.2	3	20	30	FP-2
DS-323-PIN	1000	25	3	0.4	4	24	30	FP-3
DS-324-PIN	1000	25	4	0.3	6	20	30	FP-5
DS-331-PIN	1500	750	2	0.2	6	10	30	TO-8
DS-313-PIN	2000	10	2	0.3	4	23	24	FP-2
DSS-313-PIN	2000	10	2	0.3	4	23	24	SF-1

Varactor Tuning Diodes

Part Number	Total Capacitance (pF)	Gamma	Quality Factor @ 50 MHz, Min	Breakdown Voltage (V)	Package
MA46600-134	0.3	0.5	8000	30	ODS-134 DIE
MA46603-134	0.6	0.5	6500	30	ODS-134 DIE
MA46H070-1056	0.6	0.75	4500	20	ODS-1056
MA46H071-1056	1	0.75	4500	20	ODS-1056
MA46416-134	1.8	1.5	2500	18	ODS-134 Die
MA46H072-1056	3	0.75	3000	20	ODS-105
MA46H073-1056	5	0.75	2200	20	ODS-1056

Multiplier Step Recovery Diodes

Part Number	Total Capacitance Max (pF)	Total Capacitance Min (pF)	Reverse Voltage (V)	Lifetime (Typ vs Min) (ns)	Tt (Typ vs Max) (ps)	Package
MMDB45-B11	0.2	0.11	25	8	40	B11
MMDB35-B11	0.2	0.13	16	4	35	B11
MMDB30-B11	0.25	0.15	14	4	30	B11
MSD700	0.4	0.2	15	8	60	DIE/Various
MSD710	0.4	0.2	20	11	70	DIE/Various
MSD720	0.4	0.2	30	17	100	DIE/Various

Note: Part numbers are RoHS compliant.
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
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Multiplier Step Recovery Diodes (continued)

Part Number	Total Capacitance Max (pF)	Total Capacitance Min (pF)	Reverse Voltage (V)	Lifetime (Typ vs Min) (ns)	Tt (Typ vs Max) (ps)	Package
MMD837-C11	0.4	0.2	20	5	70	DIE
MMD840-C11	0.4	0.2	15	7	70	DIE
MMD840-H27	0.52	0.32	15	7	70	H27
MMD837-H27	0.52	0.32	20	5	70	H27
MMD840-T86	0.58	0.38	15	7	70	T86
MMD837-T86	0.58	0.38	20	5	70	T86
MSD701	0.6	0.4	15	8	60	DIE/Various
MSD711	0.6	0.4	20	11	70	DIE/Various
MSD731	0.6	0.4	40	21	150	DIE/Various
MMD835-C11	0.7	0.3	15	10	70	DIE
MMD0840-A15	0.75	—	15	—	—	A15
MMD0151-A15	0.8	—	15	—	100	A15
MMD832-C11	0.8	0.4	20	10	80	DIE
MSD722	0.8	0.6	30	17	100	DIE/Various
MMD835-H20	0.92	0.42	15	10	70	H20
MMD835-T86	0.98	0.48	15	10	70	T86
MMD832-H20	0.98	0.58	20	10	60	H20
MMD832-T86	0.98	0.58	20	10	60	T86
MSD703	1	0.8	15	8	60	DIE/Various
MSD723	1	0.8	30	17	100	DIE/Various
MSD733	1	0.8	40	21	150	DIE/Various
MMD830-T86	1.18	0.68	25	10	80	T86
MMD830-H20	1.18	0.68	25	15	80	H20
MSD724	1.4	1	30	17	100	DIE/Various
MMD820-C12	1.7	1	40	30	100	DIE
MMD820-H20	1.88	1.18	40	30	100	H20
MMD820-T86	1.88	1.18	40	30	100	T86
MMD810-T86	2.68	1.68	50	40	250	T86
MSD726	3	2	30	17	100	DIE/Various
MSD736	3	2	40	21	150	DIE/Various
MMD0815-A15	4.15	—	50	—	320	A15

PIN Switch and Attenuator Diodes

Part Number	Max Freq (MHz)	Min Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ω)	TI (ns)	Breakdown Voltage Min (V)	Package
MMP7078	100	0.1	—	1	0.5	2500	400	DIE/Various
MA4P504-30	500	1	7.5	0.4	0.6	1000	500	ODS-30
MA4P504-186	500	1	7.5	0.4	0.6	1000	500	ODS-186
MA4P504-255	500	1	7.5	0.4	0.6	1000	500	ODS-255
MA4P505-255	500	1	10.7	0.55	0.5	2000	500	ODS-255
MA4P506-30	500	1	13.6	0.95	0.3	3000	500	ODS-30
MA4P506-31	500	1	13.6	0.95	0.3	3000	500	ODS-31
MADP-000015-000030	500	1	15	0.55	0.4	2000	500	ODS-30
MA4P604-255	500	1	15	0.6	1	3000	1000	ODS-255
MA4P606-30	500	1	15	0.8	0.7	4000	1000	ODS-30
MA4P606-36	500	1	20	0.99	0.7	4000	1000	ODS-36
MA4P607-296	500	1	25	2.35	0.4	5000	1000	ODS-296

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PIN Switch and Attenuator Diodes								
Part Number	Max Freq (MHz)	Min Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ω)	TI (ns)	Breakdown Voltage Min (V)	Package
MA47047-54	1000	1	0.3	0.3	1.5	1000	200	ODS-54
MA47266-146	1000	1	0.5	1.5	0.6	4000	200	ODS-146
MA4P606-4	1000	1	1	0.7	0.7	4000	1000	ODS-4
MA4P606-131	1000	1	15	0.6	0.7	4000	1000	ODS-131 DIE
MADP-000488-13740W	1500	100	15	0.16	1.6	4000	900	ODS-1374 DIE
MADP-000135-01340W	1500	100	50	0.15	1.2	440	200	ODS-134 DIE
MPN3001	2000	—	—	0.25	1	—	200	A15
MA4P404-30	2000	5	7.5	0.4	0.6	1000	250	ODS-30
MADP-042505-130600	2000	50	1.3	0.6	0.8	210	80	ODS-1306 DIE
MADP-042508-130600	2000	50	1.3	0.6	0.9	310	100	ODS-1306 DIE
MADP-000165-01340W	2000	100	50	0.06	2.5	200	200	ODS-134 DIE
MA4P604-30	2500	1	15	0.5	1	3000	1000	ODS-30
MADP-000506-014400	4000	1	10	0.7	0.3	100	500	ODS-144
MA4P506-131	4000	1	13.6	0.7	0.3	3000	500	ODS-131 DIE
MA4P505-36	4000	1	15	0.55	0.5	2000	500	ODS-36
MA4P303-186	4000	20	0.3	0.35	1.5	200	200	ODS-186
MA4P303-120	4000	20	5	0.35	1.5	200	200	ODS-120
MA4P203-1056	4000	30	0.3	0.35	1.5	100	100	ODS-1056
MA4P203-30	4000	30	5	0.35	1.5	100	100	ODS-30
MA4P202-120	4000	50	0.3	0.25	2.5	60	100	ODS-120
MADP-042405-130600	4000	50	1.3	0.27	0.8	210	80	ODS-1306 DIE
MMP7092	6000	1	—	0.2	0.6	1000	500	DIE/Various
MMP7024	6000	1	—	0.25	0.5	60	70	DIE/Various
MPN7420	6000	1	2.5	0.06	1	1000	400	C12
MPN7453A	6000	1	3	0.1	0.7	700	300	C22
MPN7453B	6000	1	3	0.15	0.6	2500	400	C22
MPN7453C	6000	1	3	0.18	0.4	1000	300	C22
MADP-017025-1314	6000	1	5	0.23	1	2300	1335	ODS-1314 DIE
MADP-017015-1314	6000	1	5	0.32	0.7	1300	115	ODS-1314 DIE
MPN7380	6000	1	10	0.4	0.3	2500	800	C38
MPN7360	6000	1	10	0.8	0.2	2500	600	C37
MPN7370	6000	1	10	2	0.2	5000	700	C39
MA4P505-131	6000	1	10.7	0.35	0.5	2000	500	ODS-131 DIE
MADP-030025-1314	6000	1	11.5	0.5	0.7	2800	135	ODS-1314 DIE
MADP-030015-13140P	6000	1	11.5	0.78	0.5	1600	115	ODS-1314 DIE
MPN7320-H20	6000	5	1	0.2	3	120	150	H20
MPN7345	6000	5	4	0.3	0.3	500	300	C40
MPN7315-H20	6000	10	1	0.26	1.2	180	150	H20
MPN7312A-H20	6000	20	1	0.26	1.2	150	120	H20
MPN7312B-H20	6000	20	1	0.36	0.8	250	120	H20
MADP-042305-130600	6000	50	1	0.14	1.3	180	80	ODS-1306 DIE
MADP-042308-130600	6000	50	1	0.14	1.3	280	100	ODS-1306 DIE
MPN7306-H20	6000	100	1	0.26	1.2	50	70	H20
MPN7302-H20	6000	500	1	0.26	1.2	8	20	H20
MMP7023	8000	1	—	0.2	0.7	60	70	DIE/Various
MA47222	8000	1	3.8	0.4	1.6	160	150	ODS-144
MA47223	8000	1	7.5	0.4	0.6	1000	500	ODS-144

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PIN Switch and Attenuator Diodes (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ω)	TI (ns)	Breakdown Voltage Min (V)	Package
MA4P504-144	8000	1	7.5	0.4	0.6	1000	500	ODS-144
MA4P604-131	8000	1	15	0.3	1	3000	1000	ODS-131 DIE
MNP0012A-T54P	8000	5	0.25	0.36	0.6	650	350	T54p
MNP0012A-T55P	8000	5	0.25	0.31	0.6	650	350	T55p
MNP0012A-T89P	8000	5	0.25	0.43	0.6	650	350	T89p
MNP0012A	8000	5	1	0.18	0.6	650	350	C22p
MA47416-132	10000	DC	5	0.15	6	2000	200	ODS-132 DIE
MMP7022	10000	1	—	0.15	0.9	60	70	DIE/Various
MNP0014-T55P	10000	1	0.1	0.25	0.8	750	450	T55p
MNP0014-T54P	10000	1	0.1	0.32	0.8	750	450	T54p
MNP0014-T89P	10000	1	0.1	0.37	0.8	750	450	T89p
MNP0014	10000	1	1.5	0.12	1.3	750	500	C22p
MA47418-134	10000	5	6	0.15	3	1000	200	ODS-134 DIE
MA4P504-132	10000	1	7.5	0.2	0.6	1000	500	ODS-132 DIE
MA4P404-132	10000	5	7.5	0.2	0.7	600	250	ODS-132 DIE
MNP0012-T55P	12000	5	0.25	0.21	3.5	350	300	T55p
MNP0012-T54P	12000	5	0.25	0.28	3.5	350	300	T54p
MNP0012-T89P	12000	5	0.25	0.33	3.5	350	300	T89p
MPN7320	12000	5	1	0.02	3	120	150	C01
MNP0012	12000	5	1	0.08	3.5	350	300	C12p
MNP0010-T55P	12000	10	0.25	0.21	2	300	150	T55p
MNP0010-T54P	12000	10	0.25	0.28	2	300	150	T54p
MNP0010-T89P	12000	10	0.25	0.33	2	300	150	T89p
MPN7312B	12000	20	1	0.18	0.8	250	120	C12
MNP0008-T55P	12000	100	0.25	0.21	2	150	100	T55p
MNP0008-T54P	12000	100	0.25	0.28	2	150	100	T54p
MNP0008-T89P	12000	100	0.25	0.33	2	150	100	T89p
MPN7306	12000	100	1	0.08	1.2	50	70	C12
MMP7011	12000	200	—	0.15	0.8	10	25	DIE/Various
MPN7302	12000	500	1	0.08	1.2	8	20	C11
MMP7021	14000	1	—	0.1	1	60	70	DIE/Various
MADP-042905-130600	16000	50	0.8	0.06	3.1	140	80	ODS-1306 DIE
MADP-042908-130600	16000	50	0.8	0.06	3.1	230	100	ODS-1306 DIE
MMP7025	18000	1	—	0.03	1.9	100	100	DIE/Various
MMP7020	18000	1	—	0.05	1.2	60	70	DIE/Various
MA4P203-134	18000	30	5	0.15	1.5	100	100	ODS-134 DIE
MA4P303-134	18000	20	5	0.15	1.5	200	200	ODS-134 DIE
MADP-000402-12530P	18000	50	1	0.04	4.5	200	70	ODS-1253 DIE
MA4SPS402	18000	50	1	0.04	5	200	100	ODS-1253 DIE
MADP-000402-12530G	18000	50	1	0.04	5	200	1000	ODS-1253 DIE
MADP-064908-131000	18000	50	1	0.05	5	200	100	ODS-1310 DIE
MA4P7493-134	18000	50	2.5	0.05	1.8	80	150	ODS-134 DIE
MA4PBL027	18000	100	0.2	0.03	4	150	90	Beam Lead DIE
MA4PI61-134	18000	100	2.3	0.1	1.5	150	100	ODS-134 DIE
MMPN080045	20000	2000	—	—	—	—	200	C50
MA4SPS302	26000	1	0.8	0.4	1.3	460	100	SURMOUNT™ DIE
MA4SPS502	26000	1	35	0.14	2.4	2800	275	ODS-1270

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PIN Switch and Attenuator Diodes (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ω)	TI (ns)	Breakdown Voltage Min (V)	Package
MA4SPS52	26000	50	1	0.06	1.7	2500	200	ODS-1270
MMPN080150	35000	2000	—	—	—	—	200	C51
MA4AGBLP912	40000	100	0.1	0.02	4	5	50	Beam Lead DIE
MA4GP022	40000	100	0.3	0.15	1	20	50	ODS-277
MA4GP030	40000	100	0.3	0.06	2	25	100	ODS-277
MMSPN050-C53	40000	1000	40	—	0.6	4000	200	C53
MMSPN050-C54	40000	1000	40	—	0.6	4000	200	C54

PIN Limiter Diodes

Part Number	Incident Power, Max (W)	Thermal Resistance	Junction Capacitance (pF)	Resistance (Ω)	Lifetime (ns)	Vb (V)	Package
MADL-04L401-0113W0	—	25	0.3	1.2	800	—	ODS-134 DIE
MLP7140	50	100	0.12	2	7	30 – 40	DIE/Various
MLP7100	50	100	0.2	1.5	5	20 – 45	DIE/Various
MLP7130	50	120	0.12	2	5	15 – 30	DIE/Various
MA4L011-134	80	175	0.18	2.1	10	—	ODS-134 DIE
MADL-000011-13880G	80	175	0.18	2.1	10	—	ODS-13880G DIE
MA4L011-186	80	175	0.33	2.1	10	—	ODS-186
MA4L011-30	80	175	0.36	2.1	10	—	ODS-30
MA4L011-31	80	175	0.36	2.1	10	—	ODS-31
MA4L011-1056	80	175	0.38	2.1	10	—	ODS-1056
MA4L011-32	80	175	0.48	2.1	10	—	ODS-32
MA4L022-134	90	175	0.19	2	10	—	ODS-134 DIE
MA4L021-134	90	175	0.2	2.1	10	—	ODS-134 DIE
MADL-011021-14210G	90	175	0.2	2.1	10	—	ODS-1056
MA4L022-120	90	175	0.32	2	10	—	ODS-120
MA4L021-120	90	175	0.33	2.1	10	—	ODS-120
MA4L022-186	90	175	0.34	2	10	—	ODS-186
MA4L022-30	90	175	0.37	2	10	—	ODS-30
MA4L021-31	90	175	0.38	2.1	10	—	ODS-31
MADL-000021-003000	90	175	0.38	21	10	—	ODS-30
MA4L022-1056	90	175	0.39	2	10	—	ODS-1056
MA4L021-1056	90	175	0.4	2.1	10	—	ODS-1056
MA4L022-32	90	175	0.49	2	10	—	ODS-32
MLP7102	100	55	0.7	1	10	20 – 45	DIE/Various
MLP7141	100	70	0.2	1.5	7	30 – 60	DIE/Various
MLP7131	100	80	0.2	1.5	5	15 – 30	DIE/Various
MLP7101	100	80	0.5	1.2	10	20 – 45	DIE/Various
MA4L032-134	125	150	0.2	2.5	15	—	ODS-134 DIE
MA4L031-134	125	150	0.21	2	20	—	ODS-134 DIE
MADL-000031-13880G	125	150	0.21	2.1	20	—	ODS-1388
MADL-000032-003000	125	150	0.21	2.1	20	—	ODS-3000
MADL-011010-01340W	125	150	0.24	1.5	15	—	ODS-134
MA4L032-186	125	150	0.35	2.5	15	—	ODS-186
MA4L031-186	125	150	0.36	2	20	—	ODS-186
MA4L032-31	125	150	0.38	2.5	15	—	ODS-31
MA4L031-31	125	150	0.39	2	20	—	ODS-31
MA4L032-1056	125	150	0.4	2.5	15	—	ODS-1056

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PIN Limiter Diodes (continued)

Part Number	Incident Power, Max (W)	Thermal Resistance	Junction Capacitance (pF)	Resistance (Ω)	Lifetime (ns)	Vb (V)	Package
MA4L031-1056	125	150	0.41	2	20	—	ODS-1056
MA4L032-32	125	150	0.5	2.5	15	—	ODS-32
MLP7110	200	80	0.2	1.5	10	45 – 75	DIE/Various
MA4L062-134	200	150	0.15	2.5	10	—	ODS-134 DIE
MADL-000062-13880G	200	150	0.15	2.5	10	—	ODS-13880G DIE
MADL-011011-01340W	200	150	0.17	2.3	10	—	ODS-134
MADL-000062-105600	200	150	0.35	2.5	10	—	ODS-1056
MA4L101-134	250	30	0.15	2	90	—	ODS-134 DIE
MADL-000101-13880G	250	30	0.15	2	90	—	ODS-13880G DIE
MA4L101-186	250	30	0.3	2	90	—	ODS-186
MA4L101-30	250	30	0.33	2	90	—	ODS-30
MLP7111	400	60	0.5	1.2	15	45 – 75	DIE/Various
MADL-000301-01340W	500	30	0.2	1.5	200	—	ODS-134 Die
MADL-000301-13870G	500	30	0.2	1.5	200	—	ODS-1370
MA4L301-31	500	30	0.38	1.5	200	—	ODS-31
MA4L301-1056	500	30	0.4	1.5	200	—	ODS-1056
MADL-011052-14280W	500	36	0.19	2	222	—	ODS-134 DIE
MLP7112	795	40	0.7	1	20	45 – 75	DIE/Various
MA4L401-134	1000	25	0.3	1.2	800	—	ODS-134 DIE
MADL-000401-13870G	1000	25	0.3	1.2	800	—	ODS-13870G DIE
MA4L401-120	1000	25	0.43	1.2	800	—	ODS-32
MA4L401-30	1000	25	0.48	1.2	800	—	ODS-30
MA4L401-31	1000	25	0.48	1.2	800	—	ODS-31
MA4L401-1056	1000	25	0.5	1.2	800	—	ODS-1056
MLP7120	1000	40	0.2	1.5	50	120 – 180	DIE/Various
MLP7121	2000	20	0.6	1	50	120 – 180	DIE/Various
MLP7122	4000	15	0.8	0.5	100	120 – 180	DIE/Various

Schottky Mixer and Detector Diodes

Part Number	Max Freq (MHz)	Min Freq (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ω)	Vf (mV)	Vb (V)	Package
MA4E929A-119	18	DC	—	0.25	—	15	ODS-119
MA4E929B-119	18	DC	—	0.25	—	1	ODS-119
MA4E932A-186	18	DC	—	0.25	—	1	ODS-186
MA4E932B-186	18	DC	—	0.25	—	1	ODS-186
MGR703	1000	DC	1	—	—	20	DIE/Various
MGR700	1000	DC	1.2	—	—	8	DIE/Various
MGR705	1000	DC	1.2	—	—	70	DIE/Various
MNM207	2600	DC	0.14	20	0.425	4	DIE/Various
MNM201	2600	DC	0.2	20	0.4	3	DIE/Various
MNM212	2600	DC	0.21	20	0.475	5	DIE/Various
MA40261	3000	DC	—	0.32	—	70	ODS-186
MA4E2811	3000	DC	1.2	—	—	15	ODS-56
MA4E2812-54	3000	DC	1.2	—	—	20	ODS-57
IN5711	3000	DC	1.2	2	—	70	ODS-54
MSS20-054-C15	8000	DC	0.2	80	—	0.8	C15P
MSS20-055-C15	8000	DC	0.2	80	—	0.8	C15P
MZB600-32	8000	DC	0.2	3500	0.3	3	CS32

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Schottky Mixer and Detector Diodes (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ω)	Vf (mV)	Vb (V)	Package
MZB604-B11	8000	DC	0.2	5000	0.3	4	B11
MSS20-054-H27	8000	DC	0.35	80	—	0.8	H27
MSS20-055-H27	8000	DC	0.35	80	—	0.8	H27
MSS20-054-T86	8000	DC	0.41	80	—	0.8	T86p
MSS20-055-T86	8000	DC	0.41	80	—	0.8	T86p
MA4E931Z2-1261A	10000	DC	—	—	—	—	DIE
MA40205-119	10000	DC	—	—	0.32	—	3
MA40205-119	10000	DC	—	—	0.32	—	ODS-119
MA40201-119	10000	DC	0.32	—	—	—	ODS-119
MA40264	10000	DC	0.32	—	—	3	ODS-186
MSS20-050-C15	12000	DC	0.15	80	—	0.8	C15P
MSS20-051-C15	12000	DC	0.15	80	—	0.8	C15P
MSS39-152-B10B	12000	DC	0.18	—	—	3.5	B10Bp
MSS39-048-P55	12000	DC	0.3	—	—	5	P55p
MSS20-047-T86	12000	DC	0.31	80	—	0.8	T86p
MSS20-050-H27	12000	DC	0.3	80	—	0.8	H27
MSS20-051-H27	12000	DC	0.3	80	—	0.8	H27
MSS20-054-0805-2	12000	DC	0.3	80	—	0.8	0805-2
MSS39-048-P86	12000	DC	0.32	—	—	5	P86p
MSS39-148-H20	12000	DC	0.33	—	—	3.5	H20
MSS20-050-T86	12000	DC	0.36	80	—	0.8	T86p
MSS20-051-T86	12000	DC	0.36	80	—	0.8	T86p
MA40215-120	16000	DC	0.32	—	—	5	ODS-1200
MADS-011030-14280W	16000	DC	0.33	6.5	100	3.5	DIE
MSS39-045-C15	18000	DC	0.1	—	—	5	C15p
MSS30-142-B10B	18000	DC	0.1	22	—	2	B10B
MSS30-242-B20	18000	DC	0.1	22	—	2	B20
MSS30-442-B42	18000	DC	0.1	22	—	2	B42
MSS30-442-H40	18000	DC	0.1	22	—	2	H40
MSS30-442-B41	18000	DC	0.1	22	—	4	B41
MSS40-141-B10B	18000	DC	0.1	22	0.42	3	B10B
MSS20-046-C15	18000	DC	0.1	80	—	0.8	C15P
MSS20-047-C15	18000	DC	0.1	80	—	0.8	C15P
MSS39-148-B10B	18000	DC	0.12	—	—	3.5	B10Bp
MSS40-045-C15	18000	DC	0.12	15	—	3	C15
MSS30-046-C15	18000	DC	0.12	18	—	2	C15
MSS50-146-B10B	18000	DC	0.12	18	0.5	4	B10B
MSS30-PCB46-B48	18000	DC	0.12	20	—	2	B48
MSS40-PCB46-B48	18000	DC	0.12	20	0.47	3	B48
MSS40-244-B20	18000	DC	0.12	22	0.44	3	B20
MSS40-CR46-B49	18000	DC	0.125	22	0.47	3	B49
MSS30-B46-B45	18000	DC	0.125	25	—	2	B45
MSS50-B46-B45	18000	DC	0.13	20	0.5	4	B45
MSS30 PCR46-B47	18000	DC	0.13	22	—	2	B47
MSS40-PCR46-B47	18000	DC	0.13	22	0.47	3	B47
MSS40-B46-B45	18000	DC	0.13	25	0.47	3	B45
MSS30-148-B10B	18000	DC	0.15	15	—	2	B10B

Note: Part numbers are RoHS compliant. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

Schottky Mixer and Detector Diodes (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ω)	Vf (mV)	Vb (V)	Package
MSS30-248-B20	18000	DC	0.15	15	—	2	B20
MSS30-448-B41	18000	DC	0.15	15	—	2	B41
MSS30-448-B42	18000	DC	0.15	15	—	2	B42
MSS40-048-C15	18000	DC	0.15	15	—	3	C15
MSS40-148-B10B	18000	DC	0.15	17	0.4	3	B10B
MSS40-448-B42	18000	DC	0.15	17	0.4	3	B42
MSS40-248-B20	18000	DC	0.15	17	0.44	3	B20
MSS30-050-C15	18000	DC	0.18	15	—	2	C15
MSS39-144-H27	18000	DC	0.24	—	—	3.5	H27
MSS39-146-H27	18000	DC	0.25	—	—	3.5	H27
MSS30-154-B10B	18000	DC	0.25	12	—	2	B10B
MSS30-454-B40	18000	DC	0.25	12	—	2	B40
MSS50-448-B40	18000	DC	0.25	14	0.5	4	B40
MSS30-B53-B45	18000	DC	0.25	15	—	2	B45
MSS30-CR53-B49	18000	DC	0.25	15	—	2	B49
MSS30-PCR53-B47	18000	DC	0.25	15	—	2	B47
MSS40-B53-B45	18000	DC	0.25	15	0.43	3	B45
MSS50-B53-B45	18000	DC	0.25	15	0.5	4	B45
MSS50-CR53-B49	18000	DC	0.25	15	0.5	4	B49
MSS50-PCR53-B48	18000	DC	0.25	15	0.5	4	B47
MSS20-046-H27	18000	DC	0.25	80	—	0.8	H27
MSS20-047-H27	18000	DC	0.25	80	—	0.8	H27
MSS39-045-P86	18000	DC	0.27	—	—	5	P86p
MSS40-045-P55	18000	DC	0.28	15	—	3	P55
MSS50-046-P55	18000	DC	0.28	20	—	4	P55
MSS40-045-P86	18000	DC	0.3	15	—	3	P86
MSS30-346-B21	18000	DC	0.3	16	—	2	B21
MSS40-455-B40	18000	DC	0.3	17	0.38	3	B40
MSS30-046-P55	18000	DC	0.3	18	—	2	P55
MSS40-141-H20	18000	DC	0.3	18	0.42	3	H20
MSS30-142-H20	18000	DC	0.31	22	—	2	H20
MSS30-242-H30	18000	DC	0.31	22	—	2	H30
MSS40-455-H40	18000	DC	0.32	14	0.38	3	H40
MSS40-048-P86	18000	DC	0.33	15	—	3	P86
MSS30-046-P86	18000	DC	0.33	18	—	2	P86
MSS30-CR46-H40	18000	DC	0.33	22	—	2	H40
MSS50-146-H20	18000	DC	0.34	18	0.5	4	H20
MSS30-050-P55	18000	DC	0.35	15	—	2	P55
MSS30-448-H40	18000	DC	0.35	15	—	2	H40
MSS40-CR46-H40	18000	DC	0.35	15	—	3	H40
MSS50-B46-H40	18000	DC	0.35	20	—	4	H40
MSS30-B46-H40	18000	DC	0.35	25	—	2	H40
MSS39-152-H20	18000	DC	0.36	—	—	3.5	H20
MSS50-448-E45	18000	DC	0.36	10	0.5	4	E45
MSS30-148-H20	18000	DC	0.36	15	—	2	H20
MSS30-248-H30	18000	DC	0.36	15	—	2	H30
MSS40-448-H40	18000	DC	0.36	15	0.4	3	H40

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Schottky Mixer and Detector Diodes (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ω)	Vf (mV)	Vb (V)	Package
MSS50-B53-E45	18000	DC	0.36	15	0.5	4	E45
MSS40-155-0402	18000	DC	0.38	14	0.38	3	0402
MSS30-050-P86	18000	DC	0.38	15	—	2	P86
MSS30-154-H20	18000	DC	0.46	12	—	2	H20
MSS30-254-H30	18000	DC	0.46	12	—	2	H30
MSS30-454-H40	18000	DC	0.46	12	—	2	H40
MSS30-B53-H40	18000	DC	0.46	15	—	2	H40
MSS50-CR53-H40	18000	DC	0.46	15	0.5	4	H40
MSS50-448-H40	18000	DC	0.48	10	0.5	4	H40
MSS50-B53-H40	18000	DC	0.48	15	—	4	H40
MSS30-346-H20	18000	DC	0.5	16	—	2	H20
MSS40-155-H20	18000	DC	0.51	14	0.38	3	H20
MSS39-146-B10B	26000	DC	0.1	—	—	3.5	B10Bp
MA4E2513L-1289	26000	DC	0.12	10	—	3	ODS-1289
MA4E2501L-1290	26000	DC	0.12	10	—	5	ODS-1290
MA4E2502H-1246	26000	DC	0.12	11	—	3	ODS-1246
MA4E2502M-1246	26000	DC	0.12	12	—	3	ODS-1246
MA4E2514M-1116	26000	DC	0.12	12	—	3	ODS-1116
MA4E2502L-1246	26000	DC	0.12	16	—	3	ODS-1246
MA4E2514L-1116	26000	DC	0.12	16	—	3	ODS-1116
MA4E2532M-1113	26000	DC	0.16	10	—	5	ODS-1113
MA4E2508H-1112	26000	DC	0.24	6	—	5	ODS-1112
MA4E2508M-1112	26000	DC	0.24	12	—	5	ODS-1112
MA4E2508L-1112	26000	DC	16	0.24	—	5	ODS-1112
MSS39-144-B10B	40000	DC	0.08	—	—	3.5	B10Bp
MSS25-141-B10D	40000	DC	0.08	65	—	3	B10D
MSS20-140-B10D	40000	DC	0.08	80	—	0.8	B10D
MSS20-141-B10D	40000	DC	0.08	80	—	0.8	B10D
MSS25-143-B10D	40000	DC	0.1	60	—	3	B10D
MSS25-047-C15c	40000	DC	0.1	65	—	3	C15c
MSS20-142-0402	40000	DC	0.1	80	—	0.8	0402
MSS20-142-B10D	40000	DC	0.1	80	—	0.8	B10D
MSS20-143-B10D	40000	DC	0.1	80	—	0.8	B10D
MSS25-049-C15c	40000	DC	0.12	52	—	3	C15c
MSS25-145-B10D	40000	DC	0.12	52	—	3	B10D
MSS20-145-B10D	40000	DC	0.12	80	—	0.8	B10D
MSS20-146-B10D	40000	DC	0.12	80	—	0.8	B10D
MGS912	60000	DC	0.03	28	—	20	B89
MGS906	60000	DC	0.04	14	—	10	B90
MGS907	60000	DC	0.04	14	—	—	B85
MGS908	60000	DC	0.04	14	—	10	B86
MA4E2037	60000	DC	0.05	4	—	4.5	Beam Lead
MA4E2039	60000	DC	0.05	4	—	4.5	Beam Lead
MA4E2040	60000	DC	0.05	4	—	4.5	Beam Lead
MGS904	60000	DC	0.06	7	—	—	B85
MGS901	60000	DC	0.06	7	—	5	Beam Lead
MGS903	60000	DC	0.06	7	—	5	Beam Lead

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Schottky Mixer and Detector Diodes (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ω)	Vf (mV)	Vb (V)	Package
MGS905	60000	DC	0.06	7	—	5	B86
MGS907A	60000	DC	0.06	12	—	—	B85
MGS904A	60000	DC	0.08	5	—	—	B85
MGS902	60000	DC	0.1	7	—	—	Beam Lead
MGS910	60000	DC	0.1	21	—	—	B87
MGS909	60000	DC	0.1	21	—	15	B90

Switches

Part Number	Max Freq (MHz)	Min Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
SPST						
MASW-001150-1316	2500	45	0.3	65	40	DIE
MA4SW110	26500	50	0.6	48	40	HMIC DIE
MA4AGSW1	50000	50	0.2	43	—	DIE
MA4AGSW1A	50000	50	1.2	48	—	DIE
SPDT						
SW-313-PIN	3000	50	0.8	52	46	CR-2
SW-228-PIN	4000	0	0.7	42	46	CR-2
SW-226-PIN	4000	0	1	48	46	CR-2
MASW-010647	10500	8000	0.8	37	60	DIE
MASW-011021	14000	6000	0.7	34	60	SURMOUNT™ DIE
MASW-002102-13580	18000	2	1.8	55	40	DIE
MASW-011108-DIE	18000	6000	0.6	44	—	DIE
MASW-002103-1363	20000	50	0.8	38	40	SURMOUNT™ DIE
MASW-011052	26000	2000	0.8	50	43	DIE
MA4SW210B-1	26000	2000	1.2	48	40	DIE
MASW-002100-1191	26500	50	0.3	65	40	DIE
MA4SW210	26500	50	0.6	52	40	HMIC DIE
MASW-011144-DIE	40000	20000	65	30	—	DIE
MASW-010646	40000	26000	0.6	39	60	DIE
MASW-011036	40000	26000	0.7	40	60	DIE
MA4AGSW2	50000	50	0.6	46	—	DIE
MASW-011111-DIE	100000	80000	0.8	25	—	DIE
SP3T						
MASW-003102-13590	18000	2000	0.8	50	40	DIE
MASW-011053	18000	2000	0.8	50	48	DIE
MASW-003103-1364	20000	50	0.8	40	40	SURMOUNT™ DIE
MA4SW310B-1	26000	2000	1.2	47	40	DIE
MASW-003100-1192	26500	50	0.3	65	40	DIE
MA4SW310	26500	50	0.8	48	40	DIE
MA4AGSW3	50000	50	0.6	48	—	DIE
MASW-011029	100000	75000	1.3	33	—	DIE
SP4T						
MASW-004102-12760	18000	2	1.5	50	40	DIE
MA4SW410B-1	18000	2000	0.8	48	40	DIE
MASW-004103-1365	20000	50	0.8	50	63	SURMOUNT™ DIE
MASW-004240-13170	24000	10	2.5	50	—	DIE
MASW-004100-1193	26500	50	0.3	65	40	DIE

Note: Part numbers are RoHS compliant.

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Switches (continued)

Part Number	Max Freq (MHz)	Min Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
MA4SW410	26500	50	0.7	48	40	DIE
MASW-011087	30000	27000	0.85	50	55	DIE
MA4AGSW4	50000	50	0.8	42	40	DIE

SP5T

MASW-010351	4000	10	1.4	57	50	4 mm PQFN-24
MA4SW510B-1	18000	2000	0.9	40	40	DIE
MASW-005102-13600	18000	2000	0.9	40	40	DIE
MA4SW510	26500	50	0.9	38	40	DIE
MASW-005100-1194	26500	50	0.9	38	40	DIE
MASW-006102-13610	26500	50	0.3	65	40	DIE
MA4AGSW5	50000	50	1.1	47	40	DIE

SP6T

MA4SW610B-1	18000	2000	1.3	45	40	DIE
MASW-006102-13610	26500	50	1.3	45	40	DIE

SP8T

MA4AGSW8-1	50000	50	1.5	37	40	DIE
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Phase Detectors

Part Number	SRD VBR Min (V)	SRD CJ Typ (pF)	SRD TL Typ (ns)	SRD TT Max (ps)	Cap CT Typ (pF)	SD CJ Typ (pF)	SD VF Typ	SD RD Typ (mV)	FMW Typ (GHz)	Package
MSPD2018-H50	15	0.35	5	55	0.6	0.1	430	16	22	H50
MSPD1012-H50	15	0.5	10	70	2.5	0.18	270	9	12	H50
MSPD1000-H50	15	1	35	95	20	0.4	270	7	0.5	H50

MNS Chip Capacitors

Part Number	Capacitance (pF)	Standoff Voltage (V)	Chip Style	Package
MA4M3010	10	200	350	DIE
MA4M2020	20	200	132	DIE
MA4M3030	30	200	352	DIE
MA4M1050	50	100	132	DIE
MA4M3050	50	200	354	DIE
MA4M3100	100	50	358	DIE
MA4M1100	100	100	199	DIE
MA4M3150	150	50	359	DIE

High Q MNOS Series Chip Capacitors: 9100 Series VB >50 V & 9100 Series VB >100 V

Part Number	Capacitance (pF)	Working Voltage	Chip Size + .002"	Package
910R1 thru 911R9	0.1 - 1.9	100	0.010" x 0.010" x 0.005"	DIE
912R0 thru 919R9	2 - 9.9	100	0.015" x 0.015" x 0.005"	DIE
902R0 thru 9010R	2 - 10	50	0.010" x 0.010" x 0.005"	DIE
9110R thru 9129R	10 - 29	100	0.020" x 0.020" x 0.006"	DIE
9011R thru 9029R	11 - 29	50	0.015" x 0.015" x 0.005"	DIE
9030R thru 9049R	30 - 49	50	0.020" x 0.020" x 0.006"	DIE
9130R thru 9149R	30 - 49	100	0.030" x 0.030" x 0.006"	DIE
9050R thru 9099R	50 - 99	50	0.030" x 0.030" x 0.006"	DIE
9150R thru 9199R	50 - 99	100	0.040" x 0.040" x 0.008"	DIE
0100 thru 0199R	100 - 199	50	0.040" x 0.040" x 0.008"	DIE
91100 thru 91199	100 - 199	100	0.050" x 0.050" x 0.008"	DIE

Note: Part numbers are RoHS compliant.

Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.

All specifications are subject to change.

High Q MNOS Series Chip Capacitors: 9000 Series VB >50 V & 9100 Series VB >100 V

Part Number	Capacitance (pF)	Working Voltage	Chip Size + .002"	Package
91200 thru 91399	200 – 399	100	0.070" x 0.070" x 0.008"	DIE
90200 thru 90399R	200 – 399	50	0.050" x 0.050" x 0.008"	DIE
90400 thru 90600R	400 – 600	50	0.070" x 0.070" x 0.008"	DIE

Beam Lead Capacitors: 9000 Series VB >50 V

Part Number	Capacitance Range (pF)	Package
90R1 thru 90R9	0.1 – 0.9	14-1
90R5 thru 90I0	0.5 – 1.0	14-2
90I0 thru 90IR5	1 – 1.5	14-1
90I0 thru 902R2	1 – 2.2	14-2
902R2 thru 904R7	2.2 – 4.7	14-2
905R6M	5.6 + 20%	14-2
906R8M	6.8 + 20%	14-2
908R2M	8.2 + 20%	14-2
9010ROM	10 + 20%	14-3
9015ROM	15 + 20%	14-3
9022ROM	22 + 20%	14-3
9033ROM	33 + 20%	14-3
9047ROM	47 + 20%	14-4
9068ROM	68 + 20%	14-4
9082ROM	82 + 20%	14-4
90100ROM	100 + 20%	14-4

DC Floating/RF Bypass Mounting Capacitors: 9100 & 9000 Series

Part Number	Capacitance Range (pF)	Chip Size A	Chip Size B	Pad Size D	Pad Size E	Customer Specified Field D
SP49	5 – 50	0.014	0.034	0.011	0.031	0.005 – 0.020
SP84	7 – 70	0.02	0.04	0.016	0.03	0.005 – 0.020
SP51	8 – 80	0.015	0.045	0.013	0.043	0.005 – 0.020
SP14	9 – 90	0.02	0.04	0.016	0.036	0.005 – 0.020
SP34	9 – 90	0.024	0.034	0.02	0.03	0.005 – 0.020
SP6	10 – 100	0.014	0.055	0.012	0.053	0.005 – 0.020
SP89	12 – 120	0.02	0.06	0.014	0.055	0.005 – 0.020
SP80	13 – 130	0.016	0.065	0.014	0.063	0.005 – 0.020
SP12	14 – 140	0.02	0.055	0.018	0.053	0.005 – 0.020
SP87	15 – 150	0.013	0.12	0.009	16	0.005 – 0.020
SP81	17 – 170	0.015	0.09	0.013	0.088	0.005 – 0.020
SP22	24 – 240	0.025	0.08	0.021	0.075	0.005 – 0.020
SP88	25 – 250	0.021	0.121	0.015	0.115	0.005 – 0.020
SP48	29 – 290	0.035	0.065	0.031	0.061	0.005 – 0.020
SP64	75 – 750	0.055	0.102	0.051	0.098	0.005 – 0.020
SP120	90 – 900	0.055	0.12	0.05	0.115	0.005 – 0.020
SP7	100 – 1000	0.085	0.085	0.081	0.081	0.005 – 0.020
SP2	150 – 1500	0.11	0.11	0.1	0.1	0.005 – 0.020
SP68	175 – 1750	0.101	0.124	0.097	0.12	0.005 – 0.020
SP1	200 – 2000	0.11	0.14	0.1	0.13	0.005 – 0.020
SP5	200 – 1000	0.1	0.1	0.095	0.095	0.005 – 0.020

Note: Part numbers are RoHS compliant.
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.

DC Floating/RF Bypass Mounting Capacitors: 9100 & 9000 Series (continued)

Part Number	Capacitance Range (pF)	Chip Size A	Chip Size B	Pad Size D	Pad Size E	Customer Specified Field D
SP20	200 – 2000	0.12	0.14	0.11	0.13	0.005 – 0.020
SP29	200 – 2000	0.121	0.121	0.115	0.115	0.005 – 0.020
SP38	200 – 2000	0.094	0.152	0.091	0.148	0.005 – 0.020
SP39	200 – 2000	0.12	0.134	0.11	0.13	0.005 – 0.020
SP40	200 – 2000	0.107	0.134	0.103	0.13	0.005 – 0.020
SP77	300 – 3000	0.118	0.175	0.114	0.171	0.005 – 0.020
SP52	300 – 3000	0.13	0.17	0.124	0.164	0.005 – 0.020
SP104	350 – 3500	0.142	0.171	0.138	0.167	0.005 – 0.020
SP111	350 – 3500	0.143	0.18	0.138	0.167	0.005 – 0.020
SP37	350 – 3500	0.151	0.168	0.147	0.164	0.005 – 0.020
SP44	350 – 3500	0.14	0.17	0.135	0.165	0.005 – 0.020
SP55	360 – 3600	0.117	0.22	0.113	0.216	0.005 – 0.020

MNOS Series Capacitors

Part Number	Type	Range (pF)	Capacitance Range Min (pF)	Capacitance DvV Min (V)	R Min (Ω)	TCC Typ (ppm/+°C)	Package
MBC50-0.2B14	Beam Lead	0.24	0.16	50	1000	55	B14
MBC50-1.0B14	Beam Lead	1.2	0.8	50	1000	55	B14
MBC50-1B12	Beam Lead	1.2	0.8	50	1000	55	B12
MBC50-1.5B14	Beam Lead	1.8	1.2	50	1000	55	B14
MBC50-2B12	Beam Lead	2.4	1.6	50	1000	55	B12
MBC50-2.0B14	Beam Lead	2.4	1.6	50	1000	55	B14
MBC50-3B12	Beam Lead	3.6	2.4	50	1000	55	B12
MBC50-4B12	Beam Lead	4.8	3.2	50	1000	55	B12
MBC50-6B12	Beam Lead	7.2	4.8	50	1000	55	B12
MBC50-8B12	Beam Lead	9.6	6.4	50	1000	55	B12
MBC50-10B12	Beam Lead	12	8	50	1000	55	B12
MBC50-15B12	Beam Lead	18	12	50	1000	55	B12
MBC50-20B12	Beam Lead	24	16	50	1000	55	B12
MBC50-33B13	Beam Lead	39.6	26.4	50	1000	55	B13
MBC50-47B13	Beam Lead	56.4	37.6	50	1000	55	B13
MBC50-68B13	Beam Lead	81.6	54.4	50	1000	55	B13
MBC50-82B13	Beam Lead	96	65.6	50	1000	55	B13
MBC50-100B13	Beam Lead	120	80	50	1000	55	B13
MC2DXXX010-010	Chips	5	0.1	50	1000	55	DIE
MC2SXXX010-010	Chips	8	0.25	50	1000	55	DIE
MC2SXXX011-011	Chips	12	1	50	1000	55	B12
MC2DXXX015-015	Chips	15	1.5	50	1000	55	DIE
MC2RXXX010-015	Chips	20	2	50	1000	55	DIE
MC2SXXX015-015	Chips	30	3	50	1000	55	DIE
MC2SXXX016-016	Chips	35	3	50	1000	55	DIE
MC2RXXX015-020	Chips	42	5	50	1000	55	DIE
MC2DXXX020-020	Chips	50	5	50	1000	55	DIE
MC2SXXX020-020	Chips	55	5	50	1000	55	DIE
MC2SXXX022-022	Chips	60	5	50	1000	55	DIE
MC2RXXX015-032	Chips	62	5	50	1000	55	DIE
MC2SXXX025-025	Chips	100	10	50	1000	55	DIE
MC2SXXX030-030	Chips	120	10	50	1000	55	DIE

Note: Part numbers are RoHS compliant. Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

MNOS Series Capacitors (continued)

Part Number	Type	Range (pF)	Capacitance Range Min (pF)	Capacitance Dvw Min (V)	R Min (Ω)	TCC Typ (ppm/+°C)	Package
MC2RXXX022-042	Chips	120	15	50	1000	55	DIE
MC2SXXX035-035	Chips	150	15	50	1000	55	DIE
MC2SXXX040-040	Chips	200	20	50	1000	55	DIE
MC2SXXX050-050	Chips	250	25	50	1000	55	DIE
MC2SXXX055-055	Chips	300	25	50	1000	55	DIE
MC2SXXX060-060	Chips	375	35	50	1000	55	DIE
MC2SXXX070-070	Chips	550	50	50	1000	55	DIE
MC2SXXX080-080	Chips	700	70	50	1000	55	DIE
MC2RXXX097-107	Chips	999	100	50	1000	55	DIE
MC2RXXX099-138	Chips	999	100	50	1000	55	DIE
MC2SXXX100-100	Chips	999	100	50	1000	55	DIE
MC2RXXX127-145	Chips	1800	200	50	1000	55	DIE
MC2RXXX142-160	Chips	2200	200	50	1000	55	DIE
MC2B0.8020-020	Binary Chip	1.8	1.2	50	1000	55	C20
MC2B002020-020	Binary Chip	4.5	3	50	1000	55	C20
MC2B004020-020	Binary Chip	9.6	6.4	50	1000	55	C20
MC2B008020-020	Binary Chip	18	12	50	1000	55	C20
MC2B016020-020	Binary Chip	36	24	50	1000	55	C20

NLTL GaAs Comb Generators

Part Number	Power Max (dBm)	Power Min (dBm)	Output Harmonics 1	Output Harmonics 2	Output Harmonics 3	Package
MLPNC-7100S1-SMA800	24 @ 250 MHz	18 @ 75 MHz	-15 @ 1 GHz	-18 @ 2 GHz	-24 @ 4 GHz	SMA800
MLPNC-7100-SMA850	24 @ 400 MHz	18 @ 100 MHz	-8 @ 4 GHz	-18 @ 12 GHz	-35 @ 20 GHz	SMA850
MLPNC-7102-SMA800	24 @ 700 MHz	19 @ 300 MHz	-8 @ 4 GHz	-16 @ 12 GHz	-20 @ 20 GHz	SMA800
MLPNC-7102S1-SMA800	24 @ 700 MHz	18 @ 300 MHz	-10 @ 4 GHz	-15 @ 8 GHz	-22 @ 12 GHz	SMA800
MLPNC-7103-SMA800	24 @ 1500 MHz	19 @ 600 MHz	-5 @ 6 GHz	-15 @ 18 GHz	-20 @ 30 GHz	SMA800
MLPNC-7103S1-SMA800	24 @ 1500 MHz	18 @ 600 MHz	-10 @ 4 GHz	-8 @ 8 GHz	-20 @ 15 GHz	SMA800

True Time Delay

Part Number	Description	Max Frequency (MHZ)	Min Frequency (MHZ)	Bit Count	Min Delay (ns)	Full Delay (ns)	Insertion Loss (dB)	CTRL Interface	Package
CGY2394SUH	6 – 18 GHz 1 Bit True Time Delay	18000	6000	1	330	330	6	0/+4	DIE
CGY2393SUH	6 – 18 GHz 5 Bit True Time Delay	18000	6000	5	10	310	6	0/+4	DIE

Note: Part numbers are RoHS compliant.
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.

Appendix and Part Number Index

Package Selection Guide

Decibels-Volts-Watts Conversion Table

Wavelength and Frequency

Part Number Index

PACKAGE SELECTION GUIDE



Plastic Leadless Packages		
Package	Approx Outline Dimensions (mm)	
1 mm X1-DFN-6LD	1 x 1 x 0.45	
1.2 x 1.5 TDFN-6LD	1.2 x 1.5 x 0.75	
1.5 x 1.2 TDFN-6LD	1.5 x 1.2 x 0.75	
2 mm STDFN-8LD	2 x 2 x 0.55	
2 mm STQFN-12LD	2 x 2 x 0.55	
2 x 2.5 mm STQFN-14LD	2 x 2.5 x 0.55	
3 mm PQFN-12LD/16LD	3 x 3 x 0.9	
3 mm TQFN-12LD/16LD	3 x 3 x 0.75	
3 mm HQFN-16LD	3 x 3 x 1.5	
4 mm PQFN-16LD/20LD/24LD	4 x 4 x 0.9	
4 mm TQFN-16LD/20LD	4 x 4 x 0.75	
4 mm HQFN-8LD/16LD/20LD	4 x 4 x 1.5	
4 x 5 mm PQFN-28LD	4 x 5 x 0.9	
4 x 6 mm PQFN-32LD	4 x 6 x 0.9	
4 x 7 mm PQFN-36LD	4 x 7 x 0.9	
5 mm PQFN-20LD/24LD/28LD/32LD/40LD	5 x 5 x 0.9	
5 mm HQFN-32LD	5 x 5 x 1.5	
5 x 7 mm PQFN-40LD	5 x 7 x 0.9	
5 x 8 mm PQFN-52LD	5 x 8 x 0.9	
6 mm PQFN-28LD/40LD/48LD	6 x 6 x 0.9	
7 mm PQFN-13LD/16L/32LD/44LD	7 x 7 x 0.9	
7 mm HQFN-16LD/32LD	7 x 7 x 1.5	

Plastic Leadless Packages		
Package	Approx Outline Dimensions (mm)	
SC-79	0.8 x 1.6 x 0.6	
SOD-323	1.3 x 2.5 x 1.1	
SOD-23	2.9 x 2.4 x 1	
SOD-25	2.9 x 2.8 x 1.3	
SOD-26	2.9 x 2.8 x 1.3	

Plastic Leadless Packages (continued)		
Package	Approx Outline Dimensions (mm)	
SOT-89	4.5 x 4 x 1.5	
SOT-143	2.9 x 2.4 x 1	
SC70 3LD (SOT-323)	2 x 2.1 x 1	
SC70 6LD (SOT-363)	2 x 2.1 x 1	
SOIC-8/SOIC-8EP	4.9 x 6 x 1.6	
SOIC-14	8.7 x 6 x 1.6	
SOIC-16	9.9 x 6 x 1.6	
SOW-16	10.3 x 10.3 x 2.5	
SOW-24	15.4 x 10.3 x 2.5	
TSSOP-16	5 x 6.4 x 1.1	
SSOP-20	7.2 x 7.8 x 1.9	
MSOP-8	3 x 4.9 x 1	
MSOP-8EP	3 x 4.9 x 1	
MSOP-10/MSOP-10EP	3 x 4.9 x 1	
QSOP-16	4.9 x 6 x 1.6	
QSOP-24	8.7 x 6 x 1.6	
QSOP-28	9.9 x 6 x 1.6	

Ceramic		
Package	Approx Outline Dimensions (mm)	
CQFN-12	3.0 x 3.0 x 1.55	

PACKAGE SELECTION GUIDE

Ceramic/Chip Diode Packages

Package	Approx Outline Dimensions (mm)	
30 Ceramic	3.2 diameter x 5.7	
134 Die O.	4 x 0.4 x 0.2	
186 Ceramic	11.2 x 2.5 x 1.1	
401 Axial Lead	2.3 diameter x 55	
1027 Ceramic	8 diameter x 6.9	
1056 Ceramic	1.9 x 1.9 x 1	
1072 Ceramic	2.4 x 2.4 x 3.4	
1073 Ceramic	12.3 diameter x 10	
1038 Ceramic	8 diameter x 17	
1080 Ceramic	8 diameter x 22.2	
1082 Ceramic	8 diameter x 19.8	
1088 Ceramic	2.4 x 1.3 x 1	
1246 SURMOUNT™	1.2 x 0.5 x 0.2	

Metal/Ceramic Packages

Package	Approx Outline Dimensions (mm)	
CR2-6LD	18.3 x 11.3 x 1.3	
CR2	18.3 x 17.1 x 1.3	
CR3	16.2 x 4.6 x 1.6	
CR4	12.4 x 12.4 x 1.6	
CR5	8.9 x 8.0 x 1.6	
CR6	11.4 x 8.9 x 1.6	
CR12	11.4 x 11.4 x 2.0	
CR13	16.5 x 11.4 x 2.0	
CR15	17.8 x 11.4 x 2	
CR16	9.8 x 8.3 x 1.5	
1000017733	23.5 x 13.8 x 2	

PACKAGE SELECTION GUIDE

Metal/Ceramic Packages (continued)

Package	Approx Outline Dimensions (mm)	
MOD2	20.3 x 15 x 6.6	
MOD3	20.3 x 15 x 4.8	
SMA-AMP	23.4 x 27.9 x 13.3	
SMA-MXR	22.9 x 22.9 x 14	
SMT-01	11.4 x 11.4 x 4.3	
SMT-02	10 x 13 x 4	
SMT-88	13.4 x 13.4 x 4.3	
SMT-88F	11.4 x 11.4 x 4.3	
TO-8-01	12.7 diameter x 11	
TO-8-02	12.7 diameter x 9.7	

Metal/Ceramic Packages (continued)

Package	Approx Outline Dimensions (mm)	
TO-8-03	15.2 diameter x 9.7	
CSM	12.5 x 9.4 x 4.8	
FP	13 x 9.8 x 3.6	
MOD1	14.2 x 13.2 x 4.8	

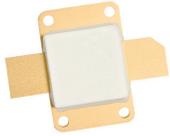
Passives Packages

Package	Approx Outline Dimensions (mm)	
SM-2	12.5 x 9.4 x 6.4	
SM-4	12.4 x 9.4 x 5.8	
SM-22	3.8 x 3.8 x 3.8	
SM-55	7.1 x 6.4 x 3.6	
SM-85	30 x 30 x 9	
SM-89	8 x 6.4 x 0.15	
SM-138	4.2 x 5.3 x 3.9	
SM-152	4.2 x 5.3 x 4.3	

PACKAGE SELECTION GUIDE



Transistor Packages

Package	Approx Outline Dimensions (mm)	
P-237 Ceramic	20 x 15 x 4	
P-238 Ceramic	34 x 19.6 x 4	
P-239 Ceramic	21 x 1 x 4	
355E-01, Style 1 Ceramic	23 x 21 x 5	
368-03, Style 2 Ceramic	38 x 50 x 9	
PH1214-M Series Ceramic	23 x 10 x 4.5	
P-8TF	20.8 x 6.4 x 3.5	
P-51H	22.9 x 10.2 x 5.5	
P-94C	22.9 x 10.2 x 5.5	

Transistor Packages (continued)

Package	Approx Outline Dimensions (mm)	
P-94D	22.9 x 10.2 x 4.2	
P-94I	22.9 x 10.2 x 4.2	
P-154C	25.4 x 15.2 x 5.1	
Pallet	50.8 x 35.8 x 7	

GaN Packages

Package	Approx Outline Dimensions (mm)	
Ceramic		
AC-200B-2	13.97 x 8.13 x 3.1	
AC-200S-2	5.18 x 8.13 x 3.1	
AC-360B-2	20.32 x 10.92 x 3.86	
AC-360S-2	9.65 x 10.92 x 3.86	

PACKAGE SELECTION GUIDE

GaN Packages (continued)

Package	Approx Outline Dimensions (mm)	
AC-400S-2	10.16 x 14.96 x 4.11	
AC-780B-2	34.04 x 19.43 x 3.6	
AC-780S-2	20.57 x 19.43 x 3.6	
AC-780B-4	34.04 x 19.43 x 3.36	
AC-780S-4	20.57 x 19.43 x 3.62	
AC-1230B-4	41.28 x 19.61 x 4.42	
AC-1230S-4	32.26 x 19.61 x 4.42	

Plastic

3 x 6 mm PDFN-14	6.0 x 3.0 x 1.0	
SOIC-EP	4.9 x 6.1 x 1.47	

GaN Packages (continued)

Package	Approx Outline Dimensions (mm)	
4 mm PQFN-24	4.0 x 4.0	
5 x 6 mm PDFN-8	6.0 x 5.0	
5 x 7 mm PDFN-40	4.0 x 4.0	
TO-272-2	23.62 x 11.18 x 2.59	
TO-272-4	23.62 x 14.1 x 2.59	
TO-272S-2	17.25 x 11.18 x 2.59	
TO-272S-2B	17.25 x 11.18 x 2.59	
TO-272S-4	17.25 x 11.18 x 2.59	
TO-272S-4I	17.25 x 11.18 x 2.59	

DECIBELS — VOLTS - WATTS CONVERSION TABLE



50-Ω System Terminated

dBm	V	Po	dBm	V	Po	dBm	mV	Po	dBm	V	Po
53	100	200 W	—	—	—						
50	70.7	100 W	0	0.225	1 mW	-49	0.8	—	-97	3.2	—
49	64	80 W	-1	0.2	0.8 mW	-50	0.71	.01 μW	-98	2.9	—
48	58	64 W	-2	0.18	0.64 mW	-51	0.64	—	-99	2.51	—
47	50	50 W	-3	0.16	0.5 mW	-52	0.57	—	-100	2.25	0.1 pW
46	44.5	40 W	-4	0.141	0.4 mW	-53	0.5	—	-101	2	—
45	40	32 W	-5	0.125	0.32 mW	-54	0.45	—	-102	1.8	—
44	32.5	25 W	-6	0.115	0.25 mW	-55	0.4	—	-103	1.6	—
43	32	20 W	-7	0.1	0.2 mW	-56	0.351	—	-104	1.41	—
42	28	16 W	-8	0.09	0.16 mW	-57	0.32	—	-105	1.27	—
41	26.2	12.5 W	-9	0.08	0.125 mW	-58	0.286	—	-106	1.18	—
40	22.5	10 W	-10	0.071	0.1 mW	-59	0.251	—	—	—	—
39	20	8 W	-11	0.064	—	-60	0.225	0.001 μW	dBm	nV	—
38	18	6.4 W	-12	0.058	—	-61	0.2	—	-107	1000	—
37	16	5 W	-13	0.05	—	-62	0.18	—	-108	900	—
36	14.1	4 W	-14	0.045	—	-63	0.16	—	-109	800	—
35	12.5	3.2 W	-15	0.04	—	-64	0.141	—	-110	710	0.01 pW
34	11.5	2.5 W	-16	0.0355	—	—	-111	640	—	—	—
33	10	2 W	—	dBm	μV	—	-112	580	—	—	—
32	9	1.6 W	dBm	mV	—	-65	128	—	-113	500	—
31	8	1.25 W	-17	31.5	—	-66	115	—	-114	450	—
30	7.1	1 W	-18	28.5	—	-67	100	—	-115	400	—
29	6.4	800 mW	-19	25.1	—	-68	90	—	-116	355	—
28	5.8	640 mW	-20	22.5	.01 mW	-69	80	—	-117	825	—
27	5	500 mW	-21	20	—	-70	71	0.1 nW	-118	285	—
26	4.45	400 mW	-22	17.9	—	-71	65	—	-119	251	—
25	4	320 mW	-23	15.9	—	-72	58	—	-120	225	0.001 pW
24	3.55	250 mW	-24	14.1	—	-73	50	—	-121	200	—
23	3.2	200 mW	-25	12.8	—	-74	45	—	-122	180	—
22	2.8	160 mW	-26	11.5	—	-75	40	—	-123	160	—
21	2.52	125 mW	-27	10	—	-76	35	—	-124	141	—
20	2.25	100 mW	-28	8.9	—	-77	32	—	-125	128	—
19	2	80 mW	-29	8	—	-78	29	—	-126	117	—
18	1.8	64 mW	-30	7.1	.001 mW	-79	25	—	-127	100	—
17	1.6	50 mW	-31	6.25	—	-80	22.5	0.01 nW	-128	90	—
16	1.41	40 mW	-32	5.8	—	-81	20	—	-129	80	0.1 fW
15	1.25	32 mW	-33	5	—	-82	18	—	-130	71	—
14	1.15	25 mW	-34	4.5	—	-83	16	—	-131	61	—
13	1	20 mW	-35	4	—	-84	11.1	—	-132	58	—
12	0.9	16 mW	-36	3.5	—	-85	12.9	—	-133	50	—
11	0.8	12.5 mW	-37	3.2	—	-86	11.5	—	-134	45	—
10	0.71	10 mW	-38	2.85	—	-87	10	—	-135	40	—
9	0.64	8 mW	-39	2.5	—	-88	9	—	-136	35	—
8	0.58	6.4 mW	-40	2.25	1 μW	-89	8	—	-137	33	—
7	0.5	5 mW	-41	2	—	-90	7.1	0.001 nW	-138	29	—
6	0.445	4 mW	-42	1.8	—	-91	6.1	—	-139	25	—
5	0.4	3.2 mW	-43	1.6	—	-92	5.75	—	-140	23	0.01 fW
4	0.355	2.5 mW	-44	1.4	—	-93	5	—	—	—	—
3	0.32	2 mW	-45	1.25	—	-94	4.5	—	—	—	—
2	0.28	1.6 mW	-46	1.18	—	-95	4	—	—	—	—
1	0.252	1.25 mW	-47	1	—	-96	3.51	—	—	—	—
—	—	—	-48	0.9	—	—	—	—	—	—	—

Frequency Band Designations

Previous Frequency Designations	P	L	S	C	X	Ku	K	Ka					
Current Frequency Designations	C	D	E	F	G	H	I	J	K				
	0.5	1.0	2.0	3.0	4.0	6.0	8.0	10.0	12.4	18.0	20.0	26.5	40.0
	Frequency (GHz)												

Wavelength and Frequency

For all forms of wave, the velocity, wavelength, and frequency are related such that

$$\lambda F \sqrt{\epsilon_r \mu_r} = c$$

- λ = wavelength in meters (m)
- F = frequency in hertz (Hz)
- ε_r = relative dielectric constant of propagation medium
- c = velocity of light (300,000,000 m/s)
- μ_r = relative permeability of propagation medium

The dielectric constant (ε) is a property of the medium in which the wave propagates. The value of ε is defined as 1.000 for a perfect vacuum, and very nearly 1.0 for dry air (typically 1.006). In most practical applications, the value of ε in dry air is taken to be 1.000.

For mediums other than air or vacuum, however, the velocity of propagation is slower, and the value of ε relative to a vacuum is higher. Teflon®, for example, can be made with dielectric constant values (ε) from about 2 to 11.

Frequency vs Wavelength

Frequency	Wavelength
1 MHz	300 meters (m)
10 MHz	30 m
100 MHz	3 m
300 MHz	1 m – 100 centimeters (cm)
1 GHz	30 cm
10 GHz	3 cm
100 GHz	3 millimeters (mm)
300 GHz	1 mm – 10 ⁻³ m
3 x 10 ¹⁴	1 micron – 10 ⁻⁶ m

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