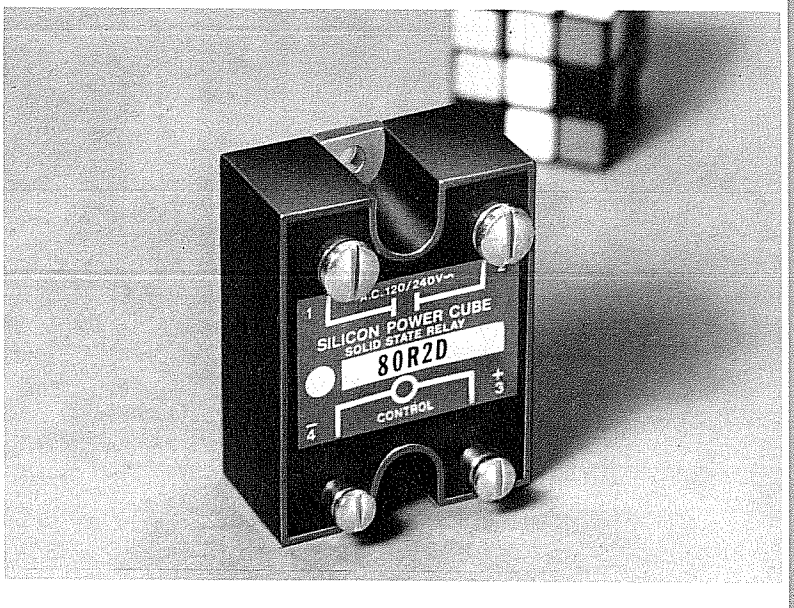
R58503

SILICON POWER CUBE

80R1D/80R2D SOLID-STATE RELAYS

FEATURES

- ☐ Handles Resistive and Inductive Loads to 80 Amps RMS on 120VAC or 240VAC Service
- ☐ High Surge Current Capabilities and an RC Snubber Provide Reliable Long-Term Operation with Inductive Loads
- ☐ Phase-Controllable 80R2D Version for Variable Power Control or Fast Turn-On
- ☐ UL Recognition and CSA Certification
- ☐ SPC's Unitized SCR-Pair Structure Technology Results in Highly Efficient Thermal Management and Greatly Increased Cyclic Life
- ☐ 2500V RMS Isolation (4000V RMS Isolation are Available to Meet VDE Requirements)



SPECIFICATIONS

PARAMETER	UNIT	CHARACTERISTIC	
Model Number		80R1D	80R2D
Type Description		DC Input & Zero Cross Turn-On Output	DC Input & Random Turn-On Output
OUTPUT (120VAC/240VAC SERVICE):			
Load Current (Figure 1)	Max. A RMS	80	
Surge Current, Single Cycle (Figure 2)	A Peak	1200	
Line Frequency	Hz	47—63	
Line Voltage	V RMS	48—280	
Transient Over Voltage	V Peak	500	
Off-State dv/dt	Min. V/μS	200	
Off-State Leakage Current	Max. mA	12	
On-State Voltage Drop	V	1.7	
Thermal Resistance θ_{JC} (T_J=115°C Max.)	°C/W	0.2	
I^2t (t=8.3 mS)		6000	
Power Factor	Min.	0.5	
ISOLATION (PHOTO-COUPLED):			
Isolation	Min. V RMS	2500	
Capacity (Input-Output)	Max. pF	8	
CONTROL:			
Voltage Range	Vdc	3.5—32	3.5—26
Impedance	Typ. Ohms	1500	1200
Reverse Voltage	Max. Vdc	32	26
Must Turn-On Voltage	Max. Vdc	3.5	3.5
Must Turn-Off Voltage	Min. Vdc	1.0	1.0
GENERAL:			
Turn-On Time	Max. mS	8.3	0.02
Turn-Off Time	Max. mS	8.3	8.3
Operating Temperature Range	°C	-30°C to +80°C	
Storage Temperature Range	°C	-30°C to +100°C	

Figure 1. Derating Curve vs. Heat-Sink Designers Curves

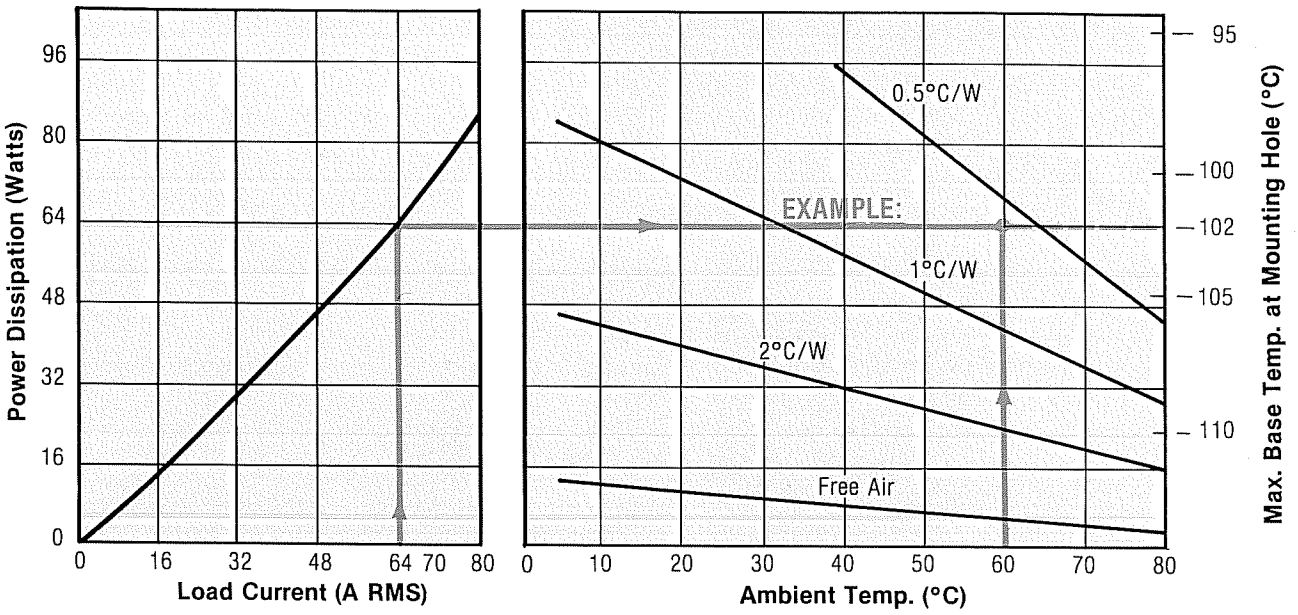
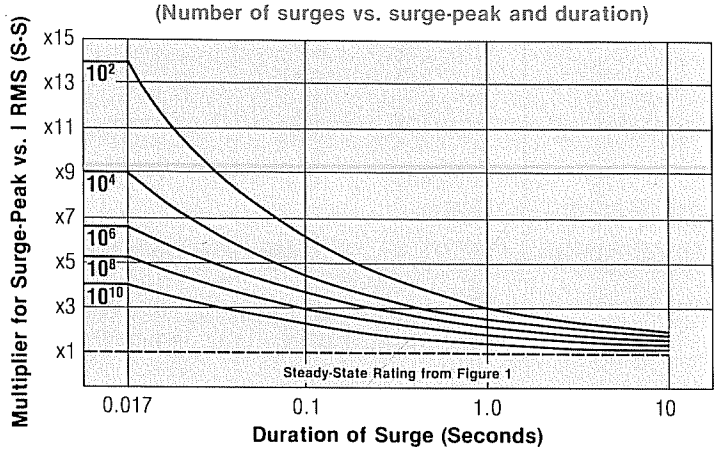


Figure 2. Expected Lifetime

(Number of surges vs. surge-peak and duration)



EXAMPLE:
Load Current = 64 Amps; T (Ambient). = 60°C. Enter chart at a load current of 64 Amps and draw a vertical line to intersect with the dissipation curve. Then move the line horizontally to the right until it intersects with the ambient temperature line of 60°C. This indicates that a heat-sink of approximately 0.60°C/W will be required (allow 0.1°C/W for thermal greased interface). To check the final result, extend the horizontal line to the scale on the far right. This will indicate that the base-plate temperature should not exceed 102°C.

EXAMPLE:
An application with a peak surge current of 5 times the steady-state current and 0.03 second duration indicates a typical lifetime of 10^6 separate operations.

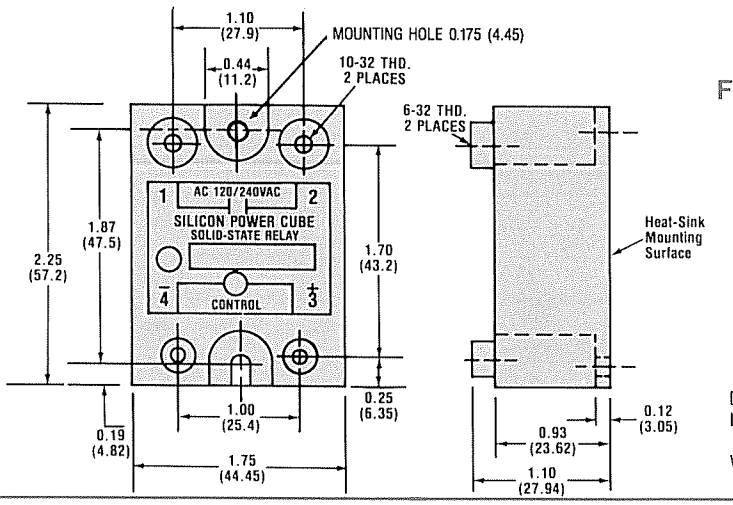
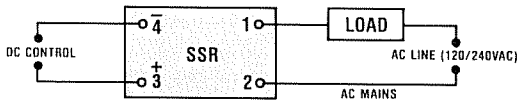


Figure 3. Dimension and Wiring Diagrams



DIMENSIONS ARE SHOWN IN INCHES (MM)

WEIGHT: 4 oz. (113g)

MAXIMUM TORQUE
#8 MOUNTING SCREW = 20 IN./LBS.
#6 TERMINAL SCREW = 10 IN./LBS.
#10 TERMINAL SCREW = 30 IN./LBS.

All specifications and data shown are subject to change without notice.

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