



## 5 AMP SILICON BRIDGE RECTIFIERS

### FEATURES

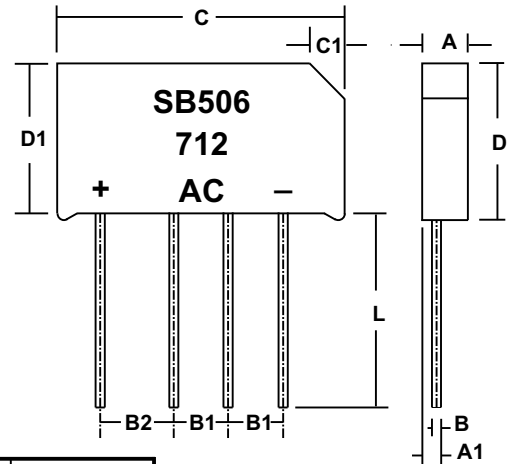
- VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION (Solder Voids: Typical < 2%, Max. < 10% of Die Area)
- BUILT-IN STRESS RELIEF MECHANISM FOR SUPERIOR RELIABILITY AND PERFORMANCE
- SURGE OVERLOAD RATING TO 200 AMPS PEAK
- IDEAL FOR PRINTED CIRCUIT BOARD APPLICATIONS
- RELIABLE LOW-COST MOLDED PLASTIC CONSTRUCTION
- **RoHS COMPLIANT**

### MECHANICAL DATA

- Case: Molded Epoxy (UL Flammability Rating 94V-0)
- Terminals: Round silver plated pins
- Soldering: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Marked on case
- Mounting Position: Any
- Weight: 0.38 Ounces (10.6 Grams)

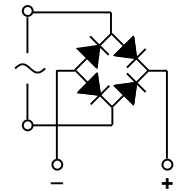
### MECHANICAL SPECIFICATION

*SB5 PACKAGE SHOWN ACTUAL SIZE*



SYM	MILLIMETERS		INCHES	
	TYP	MAX	TYP	MAX
A	6.4		0.250	
A1	2.06		0.070	
B	1.27		0.05	
B1	7.6		0.300	
B2	10.2		0.400	
C	39.9		1.570	
C1	4.8		0.188	
D	21.7		0.855	
D1		21.0		0.820
L	25.4*		1.0*	

\* This measurement is a "Minimum"



**SERIES SB500 - SB510**

### MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive loads, derate current by 20%.

PARAMETER (TEST CONDITIONS)	SYMBOL	RATINGS							UNITS
		SB 500	SB 501	SB 502	SB 504	SB 506	SB 508	SB 510	
Series Number									
Maximum DC Blocking Voltage	V <sub>RM</sub>	50	100	200	400	600	800	1000	VOLTS
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	
Maximum Peak Recurrent Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	
Average Forward Rectified Current @ T <sub>A</sub> = 55° C	I <sub>O</sub>	5							AMPS
Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method). T <sub>J</sub> = 150° C	I <sub>FSM</sub>	200							
Maximum Forward Voltage (Per Diode) at 5 Amps DC	V <sub>FM</sub>	1.0 (Typical < 0.95)							VOLTS
Maximum Average DC Reverse Current @ T <sub>A</sub> = 25° C	I <sub>RM</sub>	1							μA
At Rated DC Blocking Voltage @ T <sub>A</sub> = 100° C		50							
Typical Thermal Resistance Junction to Ambient (Note 1)	R <sub>θJA</sub>	17							°C/W
Junction to Lead (Note 1)	R <sub>θJL</sub>	3.3							
Minimum Insulation Breakdown Voltage (Circuit to Case)	V <sub>ISO</sub>	2500							VOLTS
Junction Operating Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

NOTES: (1) Unit mounted on 3.0" sq. x 0.11" (7.5cm sq. x 0.3cm) aluminum plate

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### RATING & CHARACTERISTIC CURVES FOR SERIES SB500 - SB510

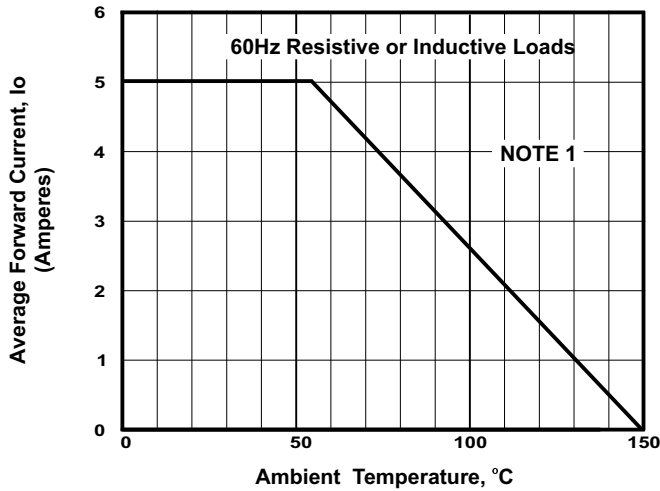


FIGURE 1. FORWARD CURRENT DERATING CURVE

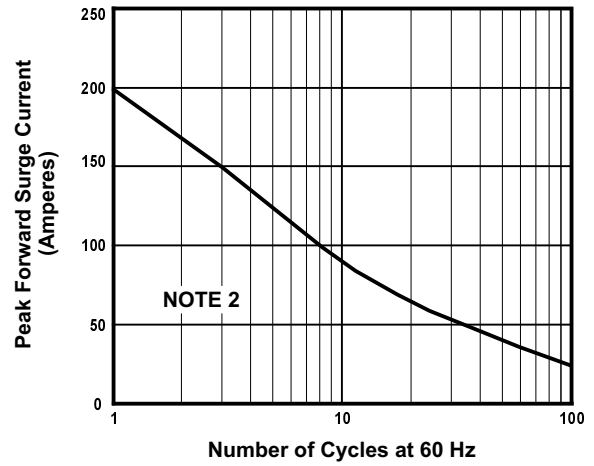


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

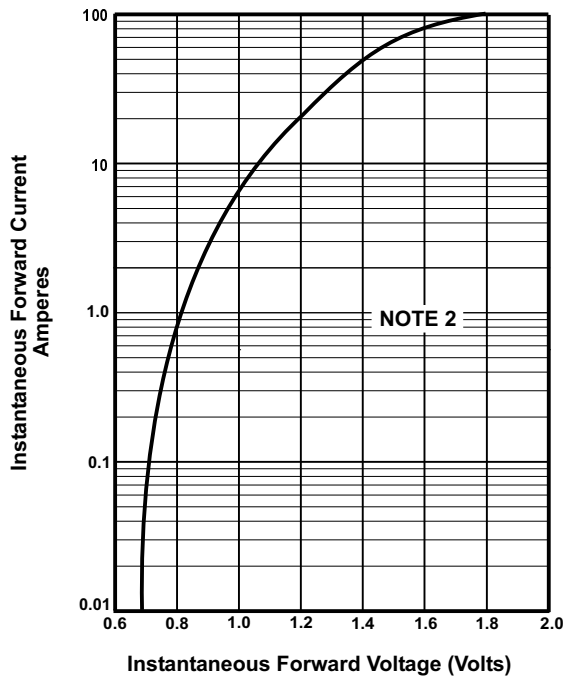


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

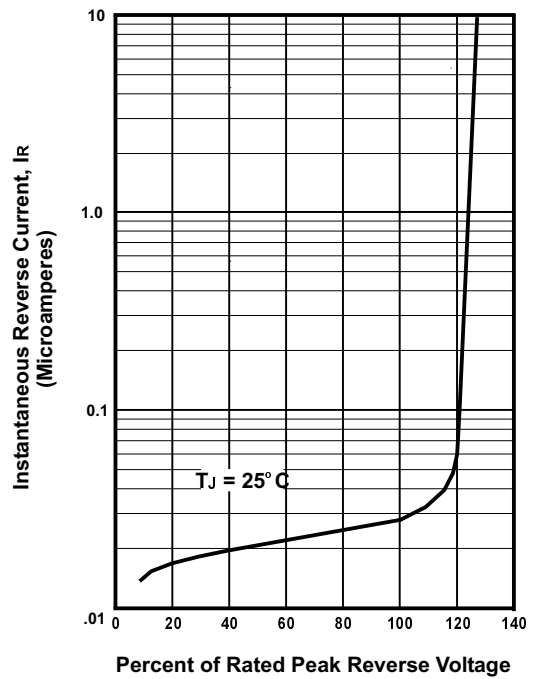


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

#### NOTES

- (1) Bridge Mounted on 3.0" sq. x 0.11" (7.5cm sq. x 0.3cm) Aluminum Plate
- (2)  $T_J = 150^\circ\text{C}$
- (3)  $T_J = 25^\circ\text{C}$ ; Pulse Width = 300  $\mu\text{Sec}$ ; 1% Duty Cycle