

## 40 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
- INTEGRALLY MOLDED HEAT SINK PROVIDES VERY LOW THERMAL RESISTANCE FOR MAXIMUM HEAT TRANSFER
- SPACE SAVING IN-LINE DESIGN FOR PRINTED CIRCUIT BOARD APPLICATIONS

**UL RECOGNIZED-FILE # E124962**

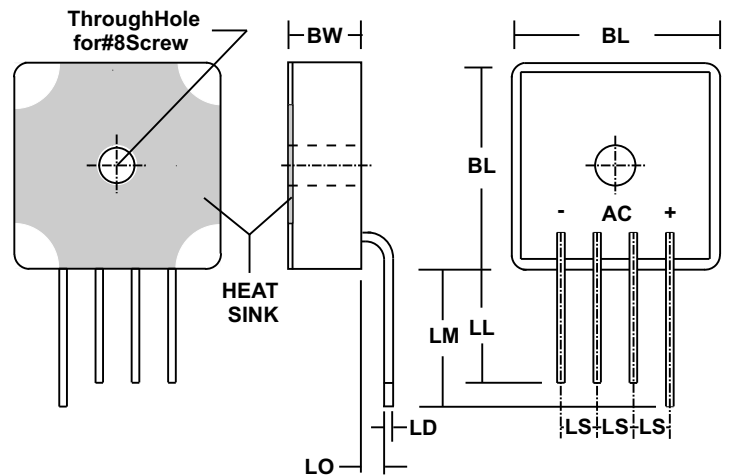
**RoHS COMPLIANT**

### MECHANICAL DATA

- Case: Molded epoxy with integral heat sink Epoxy carries UL Flammability rating of 94V-0
- Terminals: Round silver plated copper pins on terminals
- Soldering: Per MIL-STD-202 Method 208 guaranteed
- Polarity: Marked on side of case
- Mounting Position: Any. Through hole for #8 screw  
Max. mounting torque = 20 in.-lb.
- Weight: 0.55 Ounces (16.0 Grams)

### MECHANICAL SPECIFICATION

SDB PACKAGES SHOWN ACTUAL SIZE



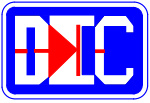
SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
BL	28.4	28.7	1.12	1.13
BW	n/a	10.3	n/a	0.405
LD	1.27 Typ		0.050 Typ	
LL	15.9	n/a	0.625	n/a
LM	19.0	n/a	0.750	n/a
LO	3.175 Nom		0.125 Nom	
LS	5.08 Typ		0.200 Typ	

### 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
		SDB 4000	SDB 4001	SDB 4002	SDB 4004	SDB 4006	SDB 4008	SDB 4010		
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>c</sub> = 55 °C	I <sub>O</sub>	40								AMPS
Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method). T <sub>J</sub> = 175 °C	I <sub>FSM</sub>	600								
Forward Voltage (Per Diode) at 20 Amps DC	V <sub>FM</sub>	1.10 1.02 (Max. Typ.)								VOLTS
Maximum Average DC Reverse Current At Rated DC Blocking Voltage	I <sub>RM</sub>	1 50 (@ T <sub>A</sub> = 25 °C @ T <sub>A</sub> = 125 °C)								μA
Minimum Insulation Breakdown Voltage (Circuit to Case)	V <sub>ISO</sub>	2500								VOLTS
Typical Thermal Resistance, Junction to Case	R <sub>θJC</sub>	1.1								°C/W
Junction Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +175								°C

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### RATING & CHARACTERISTIC CURVES FOR SDB4000-4010 SERIES

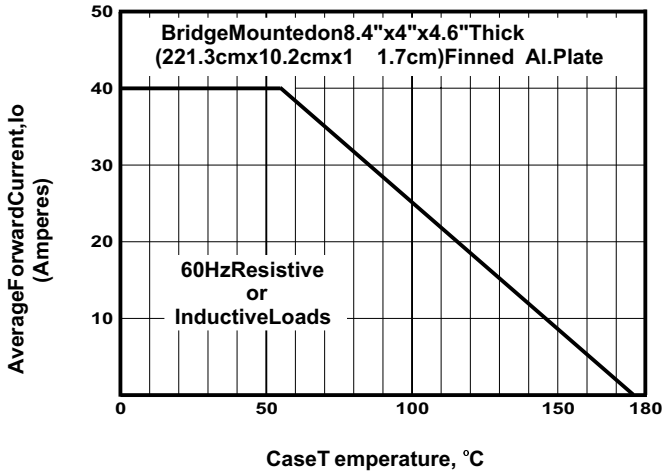


FIGURE 1. FORWARD CURRENT DERATING CURVE

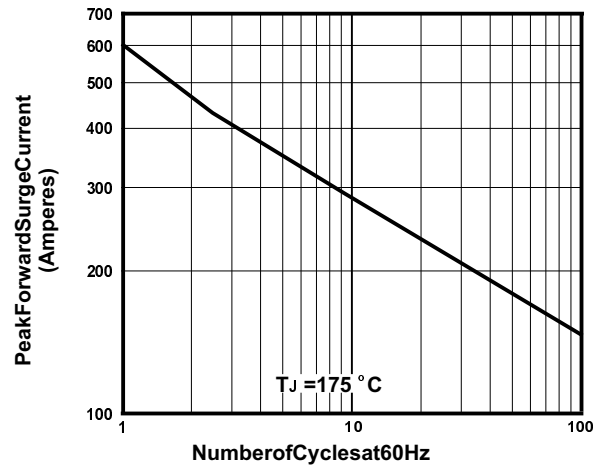


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

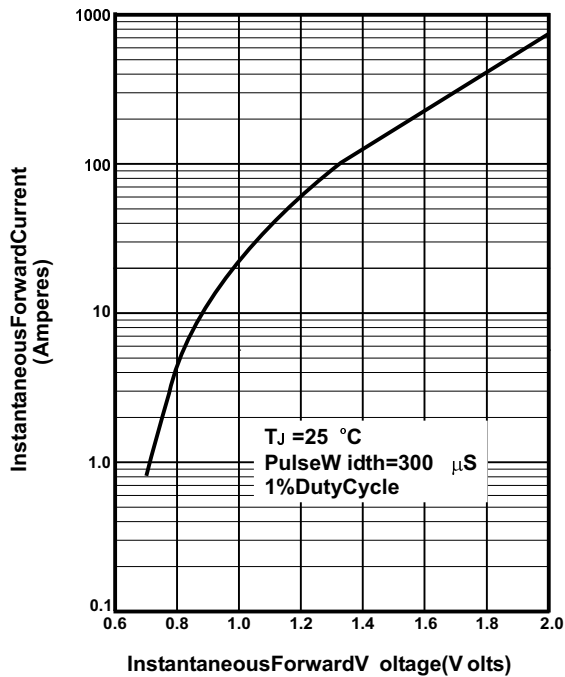


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

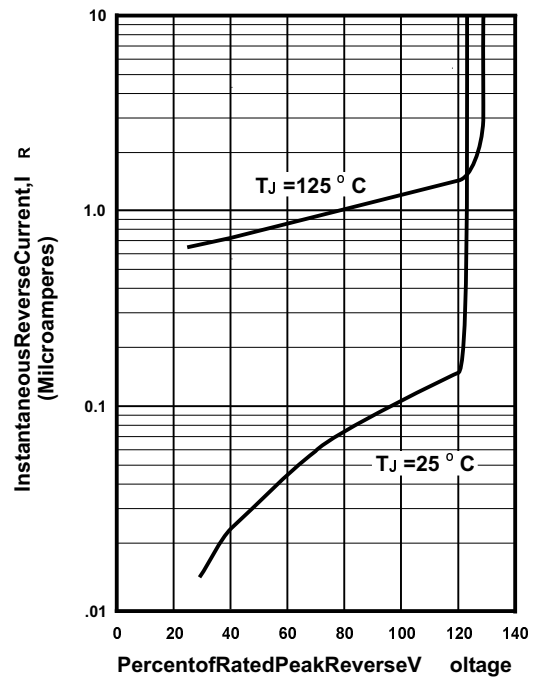


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS