

## 50 AMP SILICON BRIDGE RECTIFIERS

### FEATURES

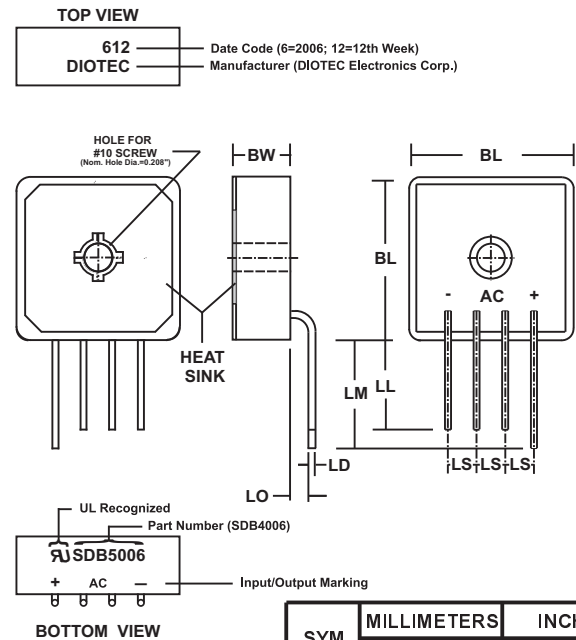
- VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION (Solder Voids: Typical < 2%, Max. < 10% of Die Area)
- BUILT-IN STRESS RELIEF MECHANISM FOR SUPERIOR RELIABILITY AND PERFORMANCE
- INTEGRALLY MOLDED HEAT SINK PROVIDES VERY LOW THERMAL RESISTANCE FOR MAXIMUM HEAT TRANSFER
- 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 a U/L Flammability rating of 94V-0
- Terminals: Round silver plated copper pins or fast-on terminals
- Soldering: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Marked on side of case
- Mounting Position: Any. Through hole for #10 screw. Max. mounting torque = 20 in-lb.
- Weight: 0.55 Ounces (16.0 Grams)

### MECHANICAL SPECIFICATION

#### SERIES: SDB5000 - SDB5010

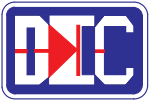


SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
BL	28.4	28.7	1.12	1.13
BW	n/a	10.3	n/a	0.405
LD	1.27 Typ		0.050 Typ	
LL	15.9	n/a	0.625	n/a
LM	19.0	n/a	0.750	n/a
LO	3.175 Nom		0.125 Nom	
LS	5.08 Typ		0.200 Typ	

### 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 5000	SDB 5001	SDB 5002	SDB 5004	SDB 5006	SDB 5008	SDB 5010			
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> = 75° C	I <sub>O</sub>	50									AMPS
Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method). T <sub>J</sub> = 125° C	I <sub>FSM</sub>	600									
Forward Voltage (Per Diode) at 25 Amps DC Max. Typ.	V <sub>FM</sub>	1.10 1.02									VOLTS
Maximum Average DC Reverse Current At Rated DC Blocking Voltage @ T <sub>A</sub> = 25° C @ T <sub>A</sub> = 125° C	I <sub>RM</sub>	1 50									μA
Minimum Insulation Breakdown Voltage (Circuit to Case)	V <sub>ISO</sub>	2500									VOLTS
Typical Thermal Resistance, Junction to Case	R <sub>θJC</sub>	1.10									°C/W
Junction Temperature Range	T <sub>J</sub>	-55 to +150									°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150									



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### RATING & CHARACTERISTIC CURVES FOR SERIES SDB5000 - SDB5010

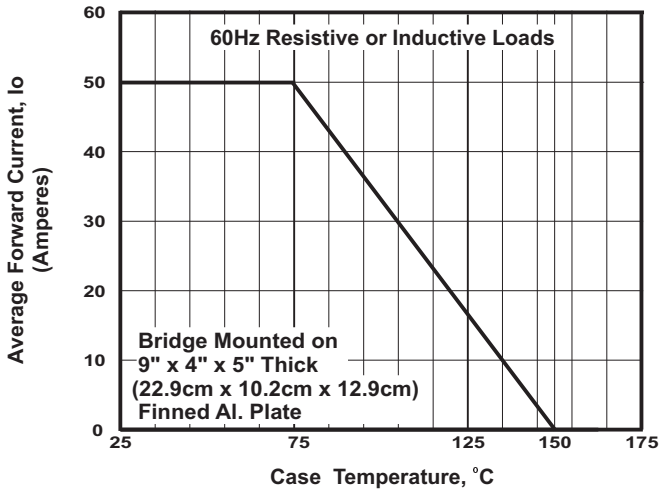


FIGURE 1. FORWARD CURRENT DERATING CURVE

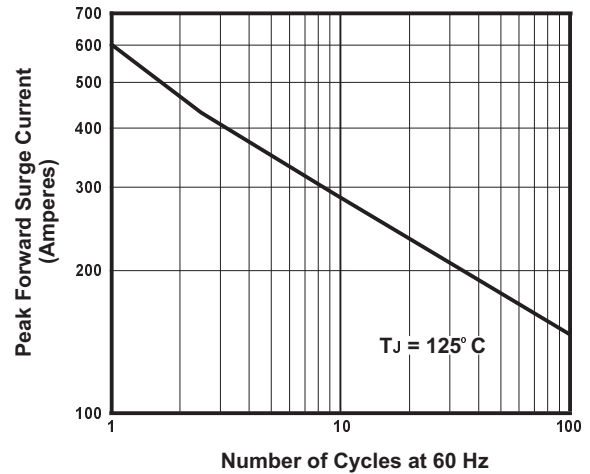


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

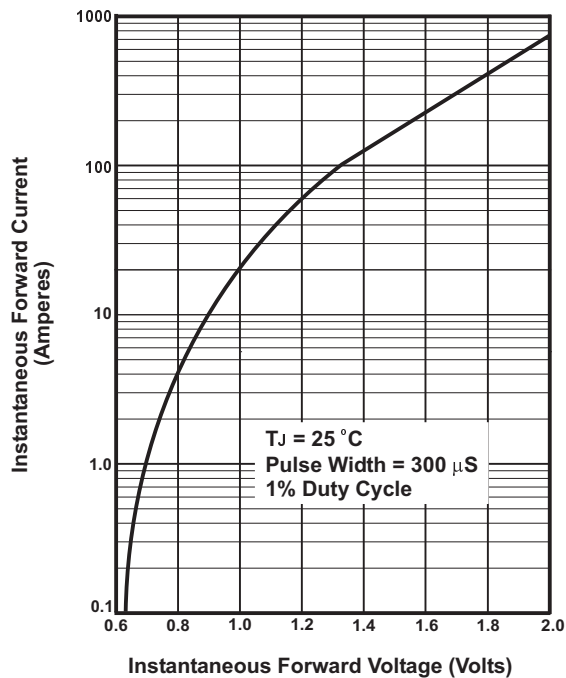


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

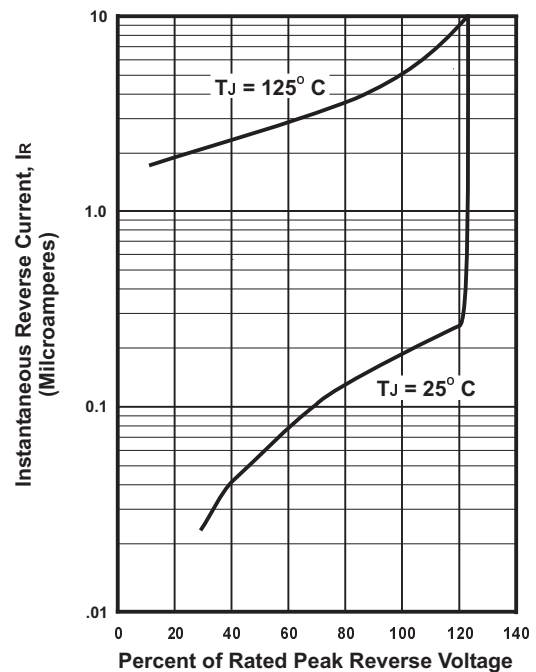


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS