DIOTEC ELECTRONICS CORP.
18020 Hobart Blvd., Unit B
Gardena, CA 90248 U.S.A
Tel.: (310) 767-1052 Fax: (310) 767-7958

Data Sheet No. BSDB-5000-1B

50 AMP SILICON BRIDGE RECTIFIERS

FEATURES

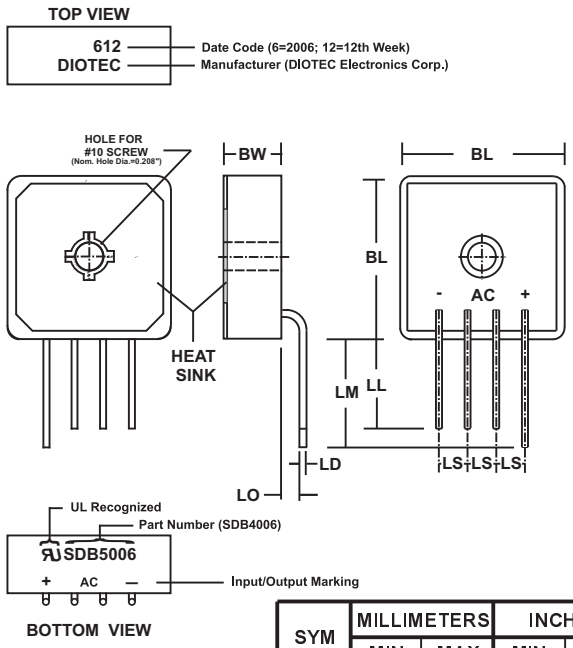
- VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION (Solder Voids: Typical < 2%, Max. < 10% of Die Area)
- BUILT-IN STRESS RELIEF MECHANISM FOR SUPERIOR RELIABILITY AND PERFORMANCE
- INTEGRALLY MOLDED HEAT SINK PROVIDES VERY LOW THERMAL RESISTANCE FOR MAXIMUM HEAT TRANSFER
- SPACE SAVING IN-LINE DESIGN FOR PRINTED CIRCUIT BOARD APPLICATIONS
- **UL RECOGNIZED - FILE #E124962**
- **RoHS COMPLIANT**

MECHANICAL DATA

- Case: 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
Series Number		SDB 5000	SDB 5001	SDB 5002	SDB 5004	SDB 5006	SDB 5008	SDB 5010	
Maximum DC Blocking Voltage	V_{RM}	50	100	200	400	600	800	1000	VOLTS
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	
Maximum Peak Recurrent Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	
Average Forward Rectified Current @ T_C = 75° C	I_O	50							AMPS
Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method). T_J = 125° C	I_{FSM}	600							
Forward Voltage (Per Diode) at 25 Amps DC Max. / Typ.	V_{FM}	1.10 1.02							VOLTS
Maximum Average DC Reverse Current @ T_A = 25° C At Rated DC Blocking Voltage @ T_A = 125° C	I_{RM}	1 50							µA
Minimum Insulation Breakdown Voltage (Circuit to Case)	V_{ISO}	2500							VOLTS
Typical Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.10							°C/W
Junction Temperature Range	T_J	-55 to +150							°C
Storage Temperature Range	T_{STG}	-55 to +150							

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RATING & CHARACTERISTIC CURVES FOR SERIES SDB5000 - SDB5010

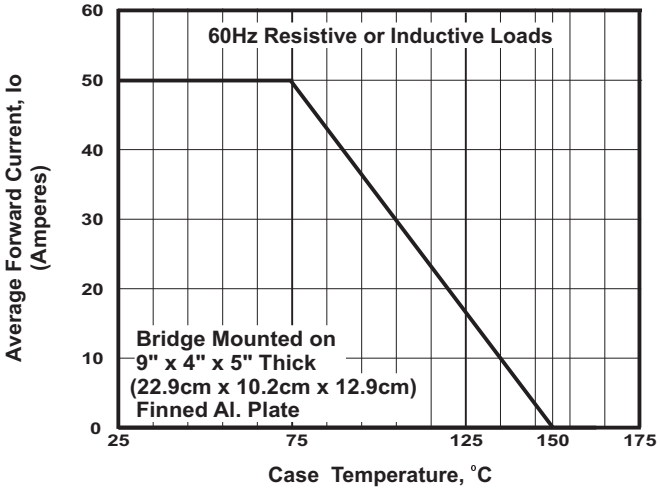


FIGURE 1. FORWARD CURRENT DERATING CURVE

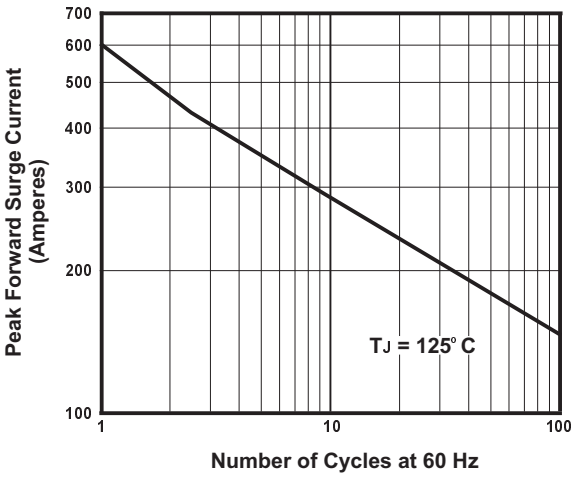


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

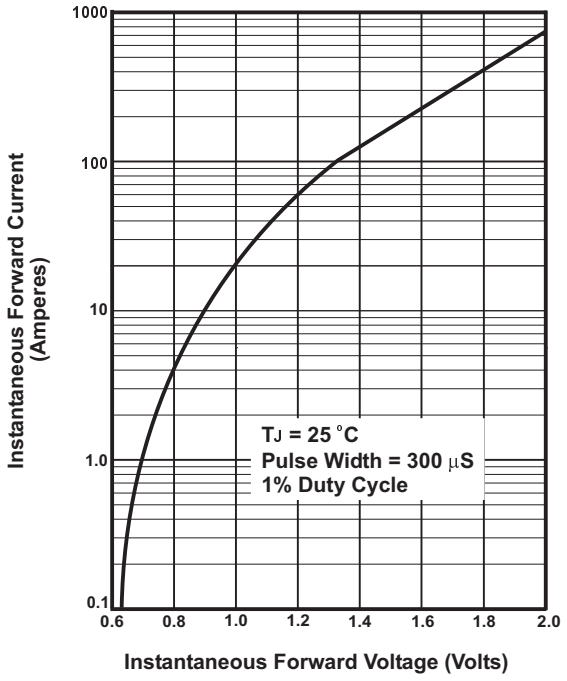


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

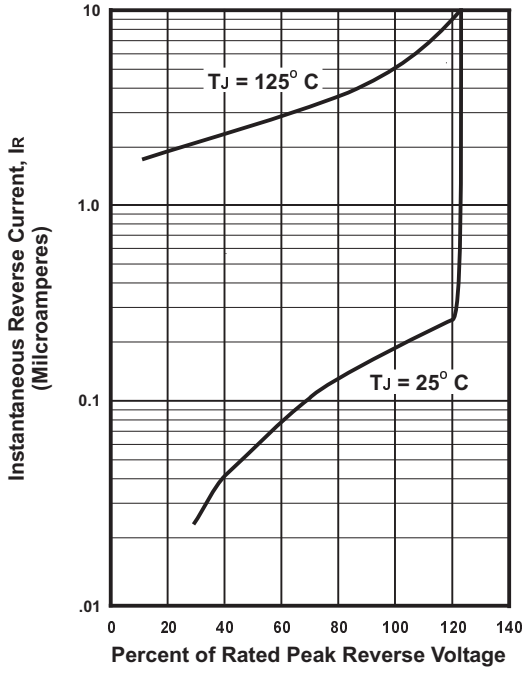


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS