



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-4000-1B

40 AMP SILICON BRIDGE RECTIFIERS

FEATURES

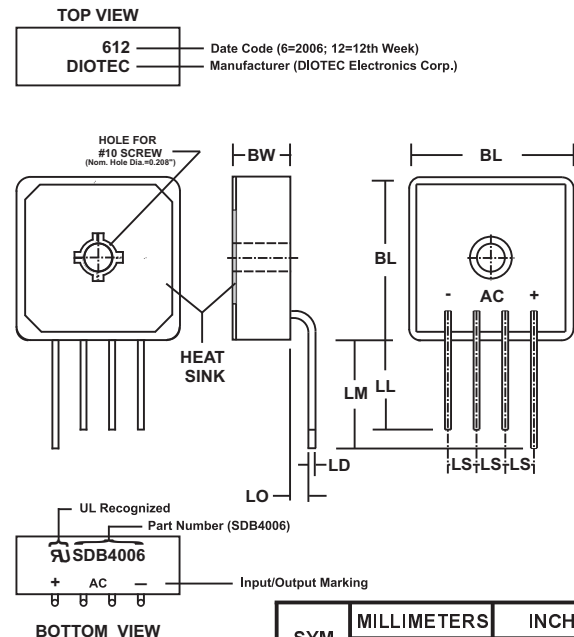
- VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION (Solder Voids: Typical < 2%, Max. < 10% of Die Area)
- BUILT-IN STRESS RELIEF MECHANISM FOR SUPERIOR RELIABILITY AND PERFORMANCE
- INTEGRALLY MOLDED HEAT SINK PROVIDES VERY LOW THERMAL RESISTANCE FOR MAXIMUM HEAT TRANSFER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

MECHANICAL DATA

- Case: 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: SDB4000 - SDB4010



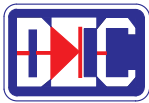
SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
BL	28.4	28.7	1.12	1.13
BW	n/a	10.3	n/a	0.405
LD	1.27 Typ		0.050 Typ	
LL	15.9	n/a	0.625	n/a
LM	19.0	n/a	0.750	n/a
LO	3.175 Nom		0.125 Nom	
LS	5.08 Typ		0.200 Typ	

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 4000	SDB 4001	SDB 4002	SDB 4004	SDB 4006	SDB 4008	SDB 4010		
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	40								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 20 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 _{θJC}	1.1								°C/W
Junction Temperature Range	T _J	-55 to +150								°C
Storage Temperature Range	T _{STG}	-55 to +150								

3.01 4x13



40 AMP SILICON BRIDGE RECTIFIERS

RATING & CHARACTERISTIC CURVES FOR SDB4000-4010 SERIES

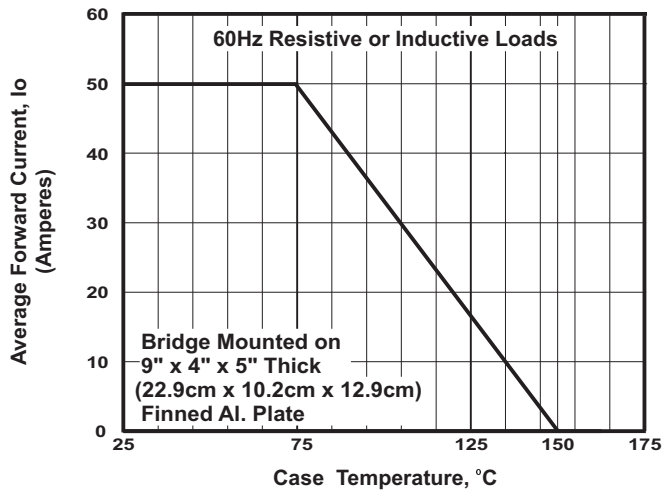


FIGURE 1. FORWARD CURRENT DERATING CURVE

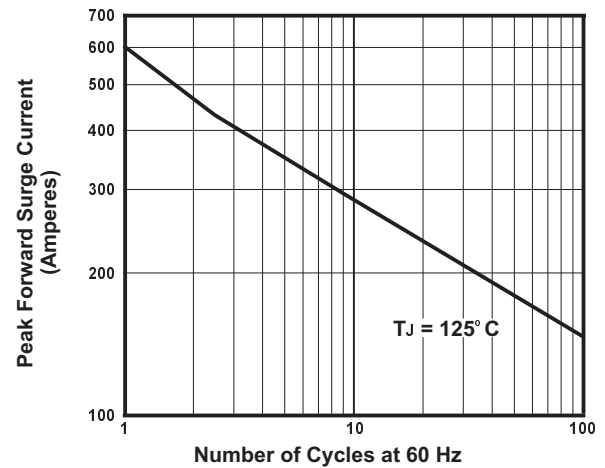


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

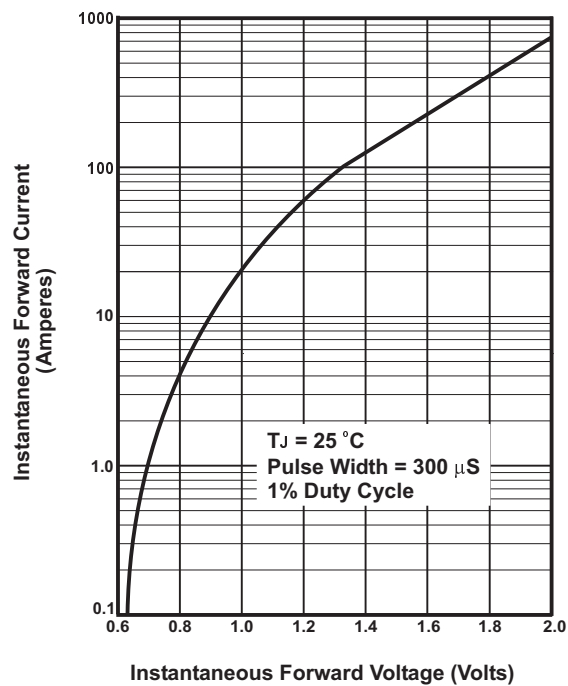


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

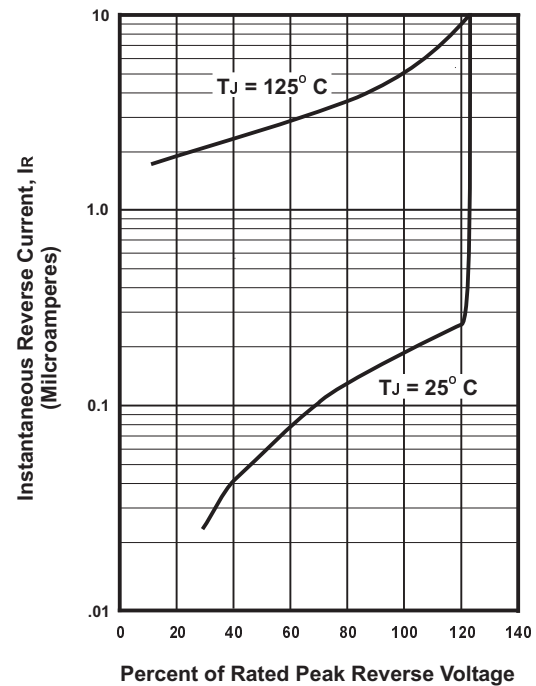


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS