DIOTEC ELECTRONICS CORP.
18020 Hobart Blvd., Unit B
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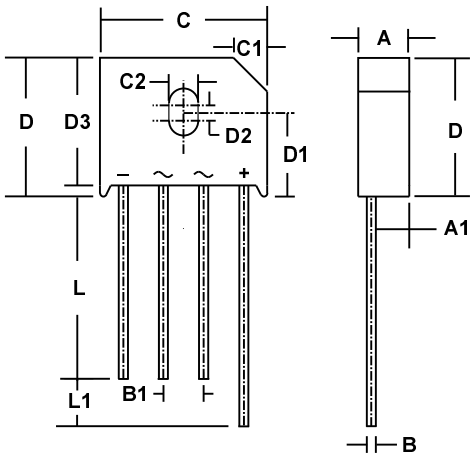
Data Sheet No. BSBU-400-1C

4 AMP SILICON BRIDGE RECTIFIERS

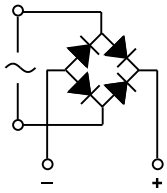
FEATURES

- **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**
- **UL RECOGNIZED - FILE #E124962**
- **RoHS COMPLIANT**

MECHANICAL SPECIFICATION



SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	6.6	7.1	0.260	0.280
A1	4.7	5.2	0.185	0.205
B	1.22	1.32	0.048	0.052
B1	4.57	5.59	0.180	0.220
C	22.70	23.24	0.895	0.915
C1	4.2	4.7	0.165	0.185
C2	3.6	4.1	0.140	0.160
D	n/a	19.3	n/a	0.760
D1	10.3	11.3	0.405	0.455
D2	1.7	2.2	0.065	0.085
D3	16.5	17.8	0.660	0.700
L	25.4	n/a	1.0	n/a
L1	4.57	6.8	0.180	0.260



SERIES SBU4A - SBU4M

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. Max. mounting torque = 5 in lb
- Weight: 0.3 Ounces (8 Grams)

MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

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

PARAMETER (TEST CONDITIONS)	SYMBOL	RATINGS							UNITS
Series Number		SBU 4A	SBU 4B	SBU 4D	SBU 4G	SBU 4J	SBU 4K	SBU 4M	
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 = 100°C (Note 1) / T_A = 30°C (Note 2)	I_O	4 / 4							AMPS
Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method). T_J = 150° C	I_{FSM}	200							
Maximum Forward Voltage (Per Diode) at 4 Amps DC	V_{FM}	0.95 (Typical < 0.90)							VOLTS
Maximum Average DC Reverse Current @ T_A = 25°C / At Rated DC Blocking Voltage @ T_A = 100°C	I_{RM}	1 / 50							µA
Typical Thermal Resistance Junction to Ambient (Note 2) / Junction to Lead (Note 1)	$R_{\theta JA}$ / $R_{\theta JL}$	19.0 / 2.4							°C/W
Minimum Insulation Breakdown Voltage (Circuit to Case)	V_{ISO}	2500							VOLTS
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150							°C

NOTES: (1) Bridge mounted on 2.0" x 1.6" x 0.3" thick (5cm x 4cm x 0.8cm) aluminum plate
(2) Bridge mounted on PC Board with 0.5" sq. (12mm sq.) copper pads and bridge lead length of 0.375" (9.5mm)
(3) Bolt bridge on heat sink with #6 screw, using silicon thermal compound between bridge and mounting surface for maximum heat transfer.

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4 AMP SILICON BRIDGE RECTIFIERS

RATING & CHARACTERISTIC CURVES FOR SERIES SBU4A - SBU4M

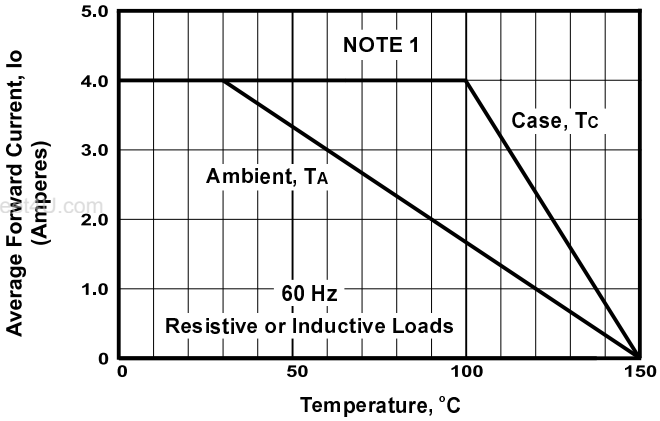

FIGURE 1. FORWARD CURRENT DERATING CURVE

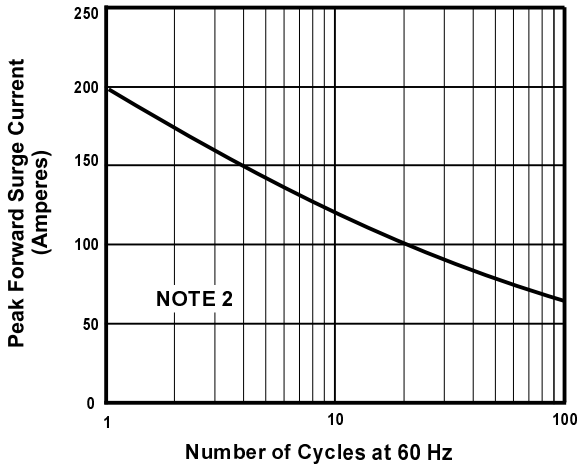

FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

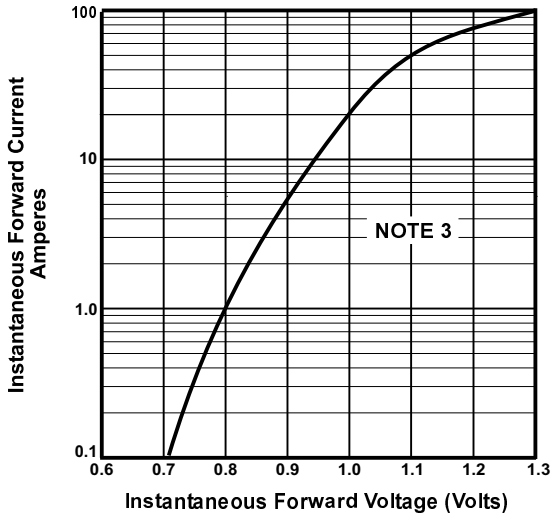

FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

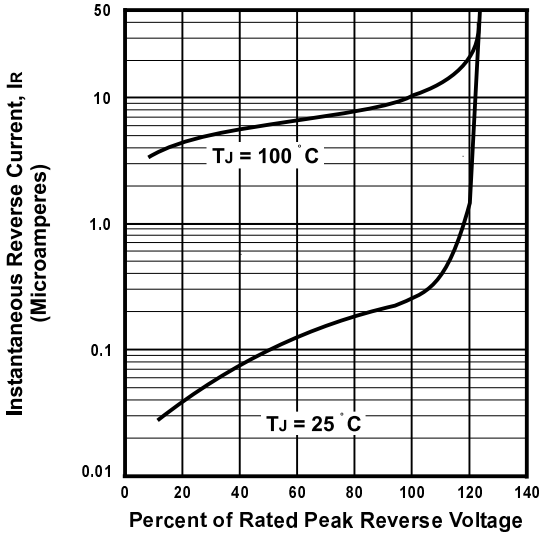

FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

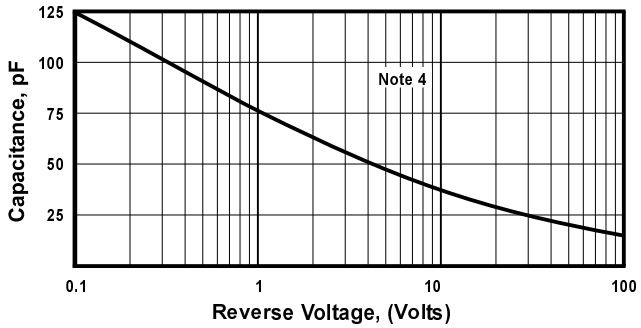

FIGURE 5. TYPICAL JUNCTION CAPACITANCE PER DIODE

NOTES

(1) Case Temperature, TC, With Bridge Mounted on 2.0" x 1.6" x 0.3" Thick (5cm x 4cm x 0.8cm) Aluminum Plate

Ambient Temperature, TA, With Bridge Mounted on PC Board With 0.5" Sq. (12mm Sq.) Pads and Bridge Lead Length of 0.375" (9.5mm)

(2) TJ = 150°C

(3) TJ = 25°C; Pulse Width = 300 Sec; 1% Duty Cycle

(4) TJ = 25°C; f = 1 MHz; Vsig = 50mVp-p