



**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. **BSBU-600-1D**

## 6 AMP SILICON BRIDGE RECTIFIERS

### FEATURES

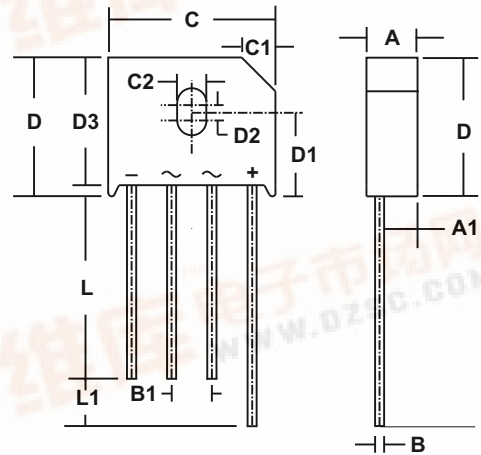
- VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION (Solder Voids: Typical < 2%, Max. < 10% of Die Area)
- BUILT-IN STRESS RELIEF MECHANISM FOR SUPERIOR RELIABILITY AND PERFORMANCE
- SURGE OVERLOAD RATING TO 250 AMPS PEAK
- IDEAL FOR PRINTED CIRCUIT BOARD APPLICATIONS
- THRU-HOLE FOR EASY HEAT SINK MOUNTING
- **UL RECOGNIZED - FILE #E124962**
- **RoHS COMPLIANT**

### MECHANICAL DATA

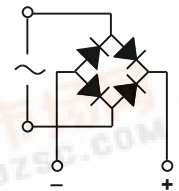
- Case: Molded Epoxy (UL Flammability Rating 94V-0)
- Terminals: Round silver plated pins
- Soldering: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Marked on case
- Mounting Position: Any. Max. mounting torque = 5 in lb
- Weight: 0.3 Ounces (8 Grams)

### MECHANICAL SPECIFICATION

SBU PACKAGE SHOWN ACTUAL SIZE



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	22.7	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	0.650	0.700
L	25.4	n/a	1.0	n/a
L1	4.57	6.8	0.180	0.260



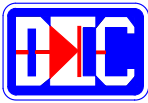
**SERIES SBU6A - SBU6M**

### 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
		SBU 6A	SBU 6B	SBU 6D	SBU 6G	SBU 6J	SBU 6K	SBU 6M	
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> = 100° C (Notes 1, 3) T <sub>A</sub> = 40° C (Note 2)	I <sub>O</sub>	6							AMPS
Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method). T <sub>J</sub> = 150° C	I <sub>FSM</sub>	250							
Maximum Forward Voltage (Per Diode) at 6 Amps DC	V <sub>FM</sub>	0.95 (Typical < 0.90)							VOLTS
Maximum Average DC Reverse Current @ T <sub>A</sub> = 25° C At Rated DC Blocking Voltage @ T <sub>A</sub> = 100° C	I <sub>RM</sub>	1 50							μA
Typical Thermal Resistance Junction to Ambient (Note 2) Junction to Case (Note 3)	R <sub>θJA</sub> R <sub>θJC</sub>	16.0 3.1							°C/W
Minimum Insulation Breakdown Voltage (Circuit to Case)	V <sub>ISO</sub>	2500							VOLTS
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

NOTES: (1) Bridge mounted on 2.6" x 1.4" x 0.06" thick (6.5cm x 3.5cm x 0.15cm) aluminum plate



## 6 AMP SILICON BRIDGE RECTIFIERS

### RATING & CHARACTERISTIC CURVES FOR SERIES SBU6A - SBU6M

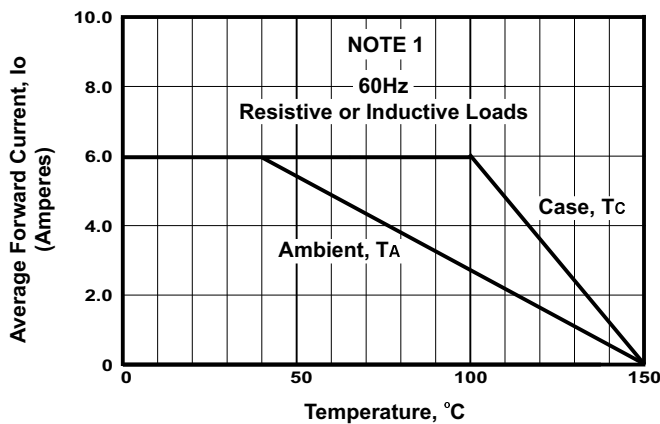


FIGURE 1. FORWARD CURRENT DERATING CURVE

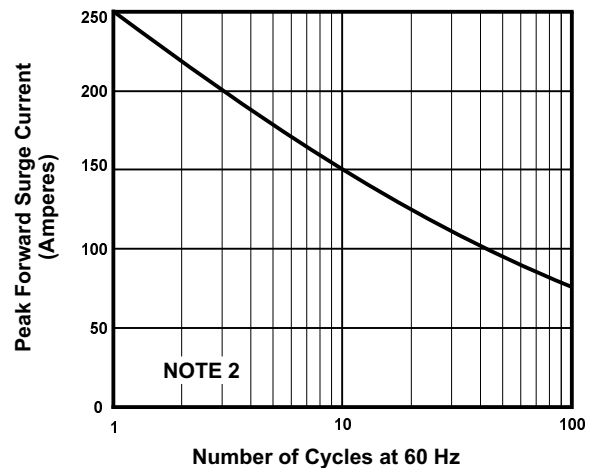


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

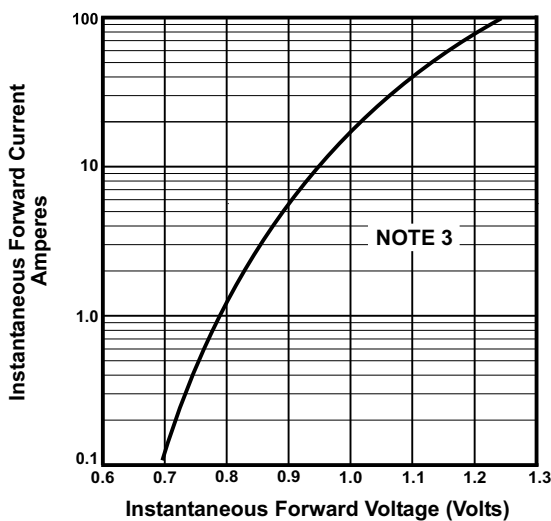


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

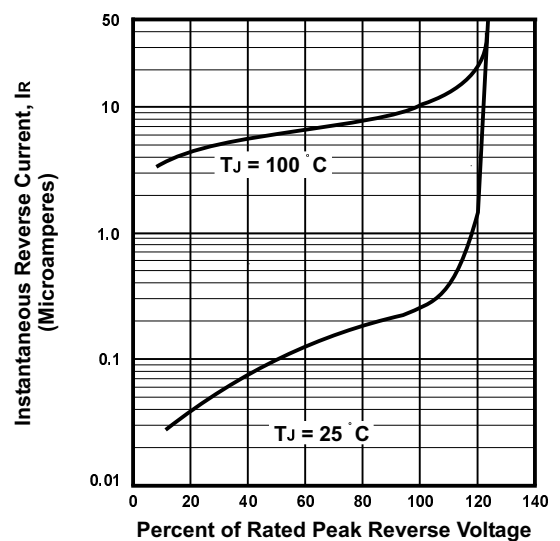


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

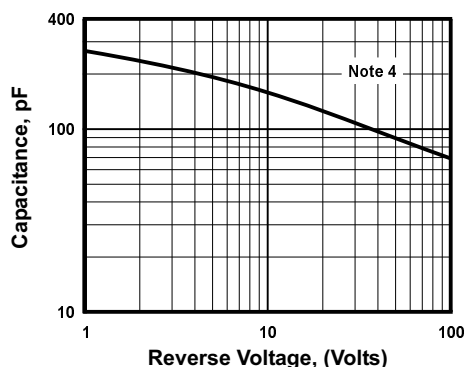


FIGURE 5. TYPICAL JUNCTION CAPACITANCE PER DIODE

#### NOTES

- (1) Case Temperature,  $T_c$ . With Bridge Mounted on 2.6" x 1.4" x 0.06" Thick (6.5cm x 3.5cm x 0.15cm) Aluminum Plate  
  
Ambient Temperature,  $T_A$ . With Bridge Mounted on PC Board With 0.5" Sq. (12mm Sq.) Pads and Bridge Lead Length of 0.375" (9.5mm)
- (2)  $T_J = 150^\circ\text{C}$
- (3)  $T_J = 25^\circ\text{C}$ ; Pulse Width = 300 Sec; 1% Duty Cycle
- (4)  $T_J = 25^\circ\text{C}$ ;  $f = 1\text{ MHz}$ ;  $V_{sig} = 50\text{mVp-p}$