

6 AMP SILICON BRIDGE RECTIFIERS

FEATURES

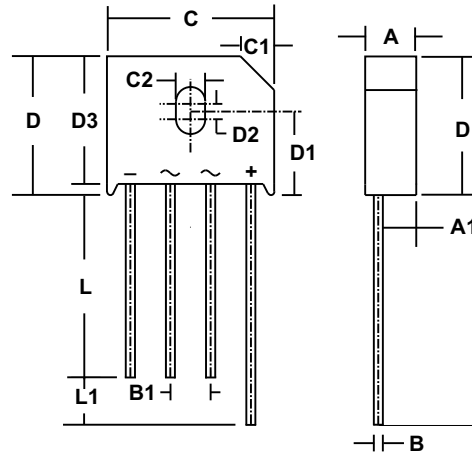
- **VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION (Solder Voids: Typical < 2%, Max. < 10% of Die Area)**
- **BUILT-IN STRESS RELIEF MECHANISM FOR SUPERIOR RELIABILITY AND PERFORMANCE**
- **SURGE OVERLOAD RATING TO 250 AMPS PEAK**
- **IDEAL FOR PRINTED CIRCUIT BOARD 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	0.660	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 _{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 (Notes 1, 3) T _A = 40° C (Note 2)	I _O	6 6							AMPS
Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method). T _J = 150° C	I _{FSM}	250							
Maximum Forward Voltage (Per Diode) at 6 Amps DC	V _{FM}	0.95 (Typical < 0.90)							VOLTS
Maximum Average DC Reverse Current @ T _A = 25° C @ T _A = 100° C	I _{RM}	1 50							μA
Typical Thermal Resistance Junction to Ambient (Note 2) Junction to Case (Note 3)	R _{θJA} R _{θJC}	16.0 3.1							°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 2.6" x 1.4" x 0.06" thick (6.5cm x 3.5cm x 0.15cm) 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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RATING & CHARACTERISTIC CURVES FOR SERIES SBU6A - SBU6M

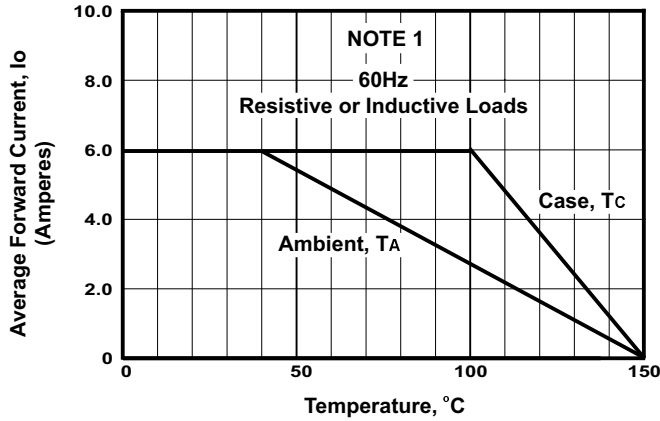


FIGURE 1. FORWARD CURRENT DERATING CURVE

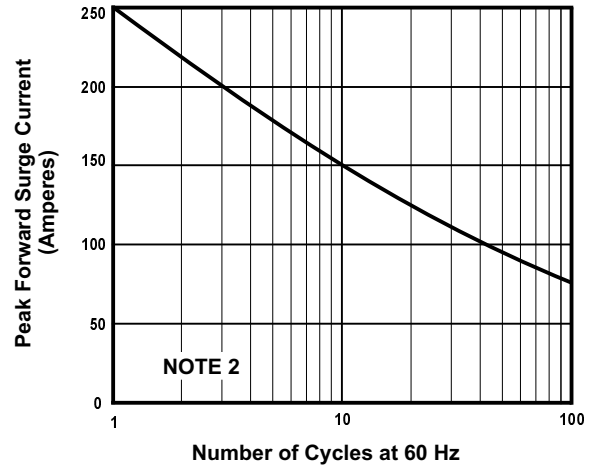


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

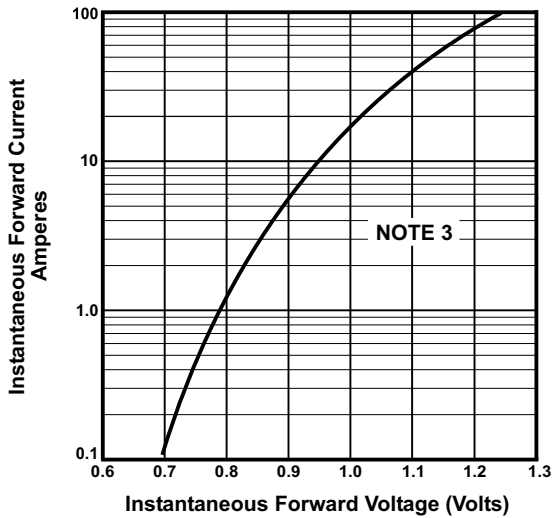


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

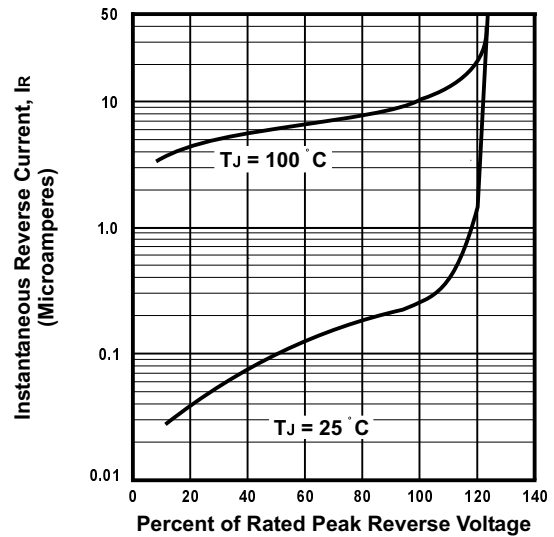


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

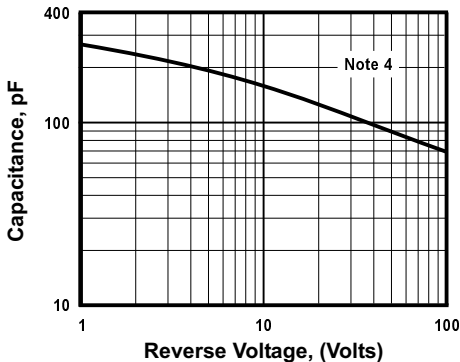


FIGURE 5. TYPICAL JUNCTION CAPACITANCE PER DIODE

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) $T_J = 25^\circ\text{C}$; $f = 1\text{ MHz}$; $V_{sig} = 50\text{mVp-p}$