

## 10 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 400 AMPS PEAK**
- **UL RECOGNIZED - FILE #E124962**
- **RoHS COMPLIANT**

### MECHANICAL DATA

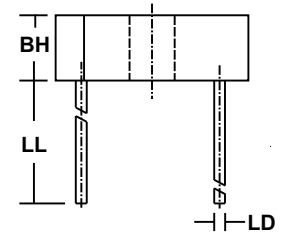
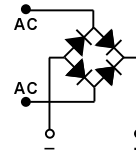
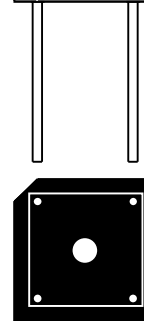
- **Case: Molded Epoxy (UL Flammability Rating 94V-0)**
- **Terminals: Round silver plated copper pins**
- **Soldering: Per MIL-STD 202 Method 208 guaranteed**
- **Polarity: Marked on side of case; positive lead at beveled corner**
- **Mounting Position: Any. Through hole provided for #6 screw**
- **Weight: 0.18 Ounces (5.4 Grams)**

### MECHANICAL SPECIFICATION

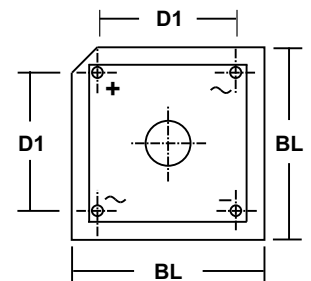
ACTUAL SIZE



**SERIES DB1000-DB1010 and ADB1004-ADB1008**



SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
BL	18.5	19.6	0.73	0.77
BH	6.4	7.6	0.25	0.3
D1	12.2	13.2	0.48	0.52
LL	22.2	n/a	0.875	n/a
LD	1.2	1.3	0.048	0.052



### 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
		CONTROLLED AVALANCHE			NON-CONTROLLED AVALANCHE							
		ADB 1004	ADB 1006	ADB 1008	DB 1000	DB 1001	DB 1002	DB 1004	DB 1006	DB 1008	DB 1010	
<b>Series Number</b>												
<b>Maximum DC Blocking Voltage</b>	V <sub>RM</sub>											VOLTS
<b>Working Peak Reverse Voltage</b>	V <sub>RWM</sub>	400	600	800	50	100	200	400	600	800	1000	
<b>Maximum Peak Recurrent Reverse Voltage</b>	V <sub>R(RM)</sub>											
<b>RMS Reverse Voltage</b>	V <sub>R(RMS)</sub>	280	420	560	35	70	140	280	420	560	700	
<b>Power Dissipation in V<sub>(BR)</sub> Region for 100 μS Square Wave</b>	P <sub>RM</sub>	500			n/a							WATTS
<b>Continuous Power Dissipation in V<sub>(BR)</sub> Region @ T<sub>HS</sub>=80° C (Heat Sink Temp)</b>	P <sub>R</sub>	2			n/a							
<b>Thermal Energy (Rating for Fusing)</b>	I <sup>2</sup> t	64										AMPS <sup>2</sup> SEC
<b>Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method). T<sub>J</sub> = 125° C</b>	I <sub>FSM</sub>	400										AMPS
<b>Average Forward Rectified Current @ T<sub>C</sub> = 50° C (Notes 1, 3) @ T<sub>A</sub> = 50° C (Note 2)</b>	I <sub>O</sub>	10 8										
<b>Junction Operating and Storage Temperature Range</b>	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150										°C
<b>Minimum Avalanche Voltage</b>	V <sub>(BR) Min</sub>	See Note 4			n/a							VOLTS
<b>Maximum Avalanche Voltage</b>	V <sub>(BR) Max</sub>	See Note 4			n/a							
<b>Maximum Forward Voltage (Per Diode) at 5 Amps DC</b>	V <sub>FM</sub>	0.95 (Typ. 0.90)										
<b>Maximum Reverse Current at Rated V<sub>RM</sub> @ T<sub>A</sub> = 25° C @ T<sub>A</sub> = 100° C</b>	I <sub>RM</sub>	1 50										μA
<b>Minimum Insulation Breakdown Voltage (Circuit to Case)</b>	V <sub>ISO</sub>	2000										VOLTS
<b>Typical Thermal Resistance Junction to Ambient (Note 2) Junction to Case (Note 1)</b>	R <sub>θJA</sub> R <sub>θJC</sub>	12 5										°C/W

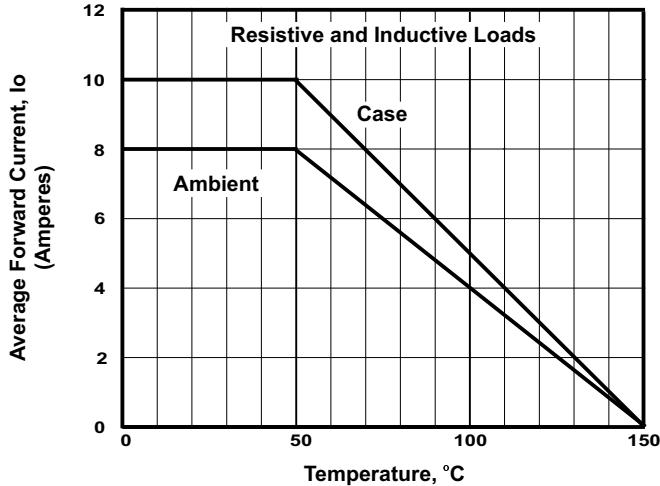
NOTES: (1) Bridge mounted on 5.1" x 4.3" x 0.11" thick (12.9cm x 10.8cm x 0.3cm) aluminum plate  
 (2) Bridge mounted on PC Board with 0.5" sq. (12mm sq.) copper pads and bridge lead length of 0.375" (9.5mm)  
 (3) Bolt bridge on heat sink with #6 screw, using silicon thermal compound between bridge and mounting surface for maximum heat transfer.  
 (4) These bridges exhibit the avalanche characteristic at breakdown. If your application requires a specific breakdown voltage range, please contact us.

3.01 1008

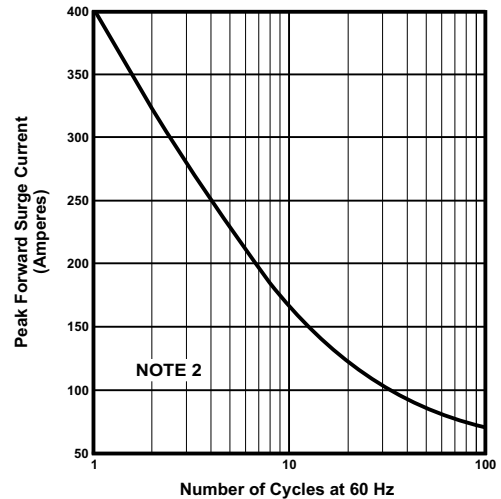


## 10 AMP SILICON BRIDGE RECTIFIERS

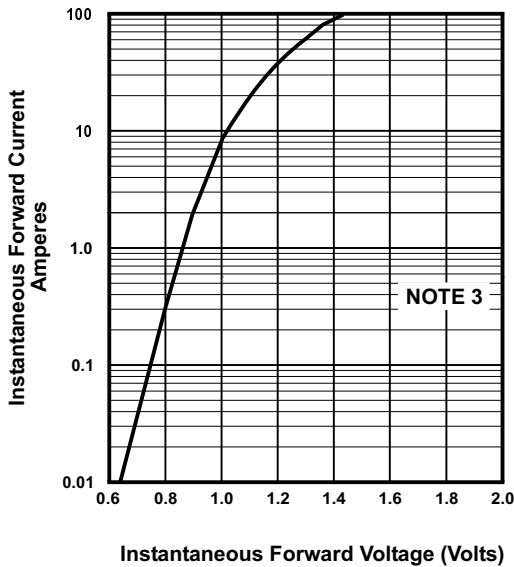
### RATING & CHARACTERISTIC CURVES FOR SERIES DB1000 - DB1010 and SERIES ADB1004 - ADB1008



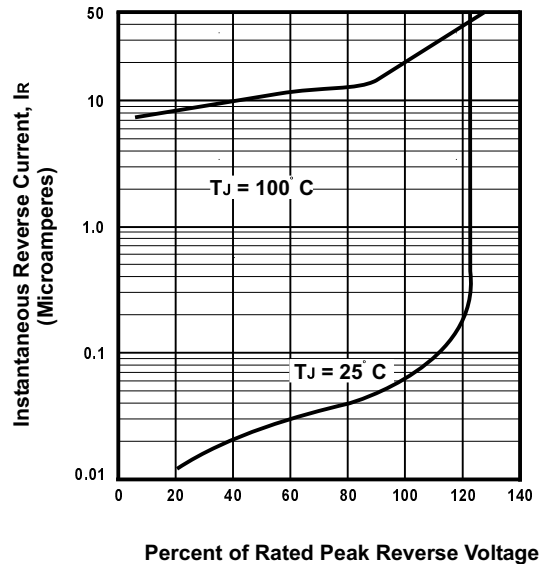
**FIGURE 1. FORWARD CURRENT DERATING CURVE**



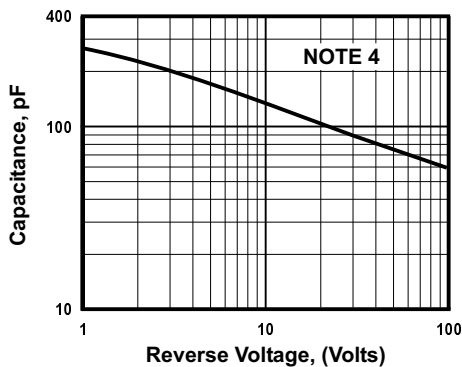
**FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT**



**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 5.1" x 4.3" x 0.11" Thick (12.9cm x 10.8cm x 0.3cm) Aluminum Plate

Ambient Temperature,  $T_A$ . With Bridge Mounted on PC Board With 0.5" Sq. (12mm Sq.) Copper Pads And Bridge Lead Length of 0.375" (9.5mm)

(2)  $T_J = 125^\circ\text{C}$

(3)  $T_J = 25^\circ\text{C}$ ; Pulse Width = 300 Sec; 1% Duty Cycle

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