

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

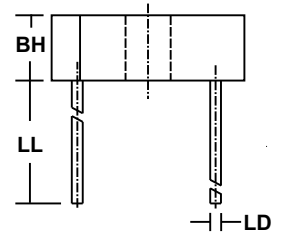
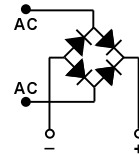
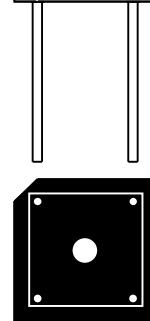
- **Case: Molded Epoxy (UL Flammability Rating 94V-0)**
- **Terminals: Round silver plated copper pins**
- **Soldering: Per MIL-STD 202 Method 208 guaranteed**
- **Polarity: Marked on side of case; positive lead at beveled corner**
- **Mounting Position: Any. Through hole provided for #6 screw**
- **Weight: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

MECHANICAL SPECIFICATION

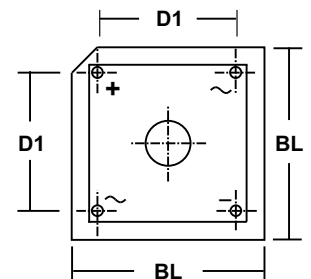
ACTUAL SIZE



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	
Series Number												
Maximum DC Blocking Voltage	V _{RM}											VOLTS
Working Peak Reverse Voltage	V _{RWM}	400	600	800	50	100	200	400	600	800	1000	
Maximum Peak Recurrent Reverse Voltage	V _{R(RM)}											
RMS Reverse Voltage	V _{R(RMS)}	280	420	560	35	70	140	280	420	560	700	
Power Dissipation in V_(BR) Region for 100 μS Square Wave	P _{RM}	500			n/a							WATTS
Continuous Power Dissipation in V_(BR) Region @ T_{HS}=80° C (Heat Sink Temp)	P _R	2			n/a							
Thermal Energy (Rating for Fusing)	I ² t	64										AMPS ² SEC
Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method). T_J = 150° C	I _{FSM}	400										AMPS
Average Forward Rectified Current @ T_C = 50° C (Notes 1, 3) @ T_A = 50° C (Note 2)	I _O	10 8										
Junction Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150										°C
Minimum Avalanche Voltage	V _{(BR) Min}	See Note 4			n/a							VOLTS
Maximum Avalanche Voltage	V _{(BR) Max}	See Note 4			n/a							
Maximum Forward Voltage (Per Diode) at 5 Amps DC	V _{FM}	0.95 (Typ. 0.90)										
Maximum Reverse Current at Rated V_{RM} @ T_A = 25° C @ T_A = 100° C	I _{RM}	1 50										μA
Minimum Insulation Breakdown Voltage (Circuit to Case)	V _{ISO}	2000										VOLTS
Typical Thermal Resistance Junction to Ambient (Note 2) Junction to Case (Note 1)	R _{θJA} R _{θJC}	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.



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

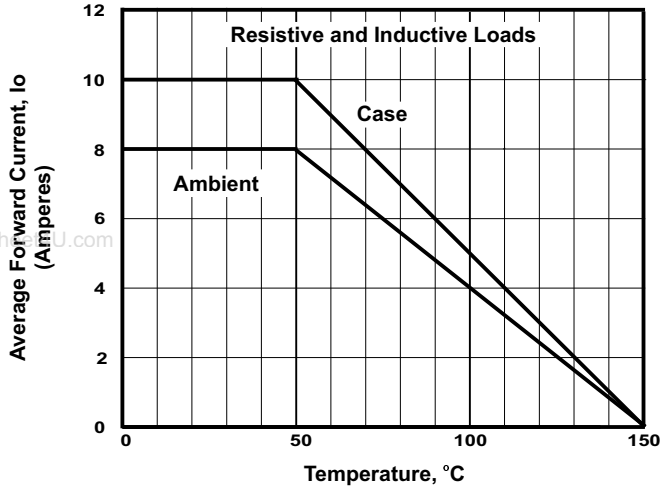


FIGURE 1. FORWARD CURRENT DERATING CURVE

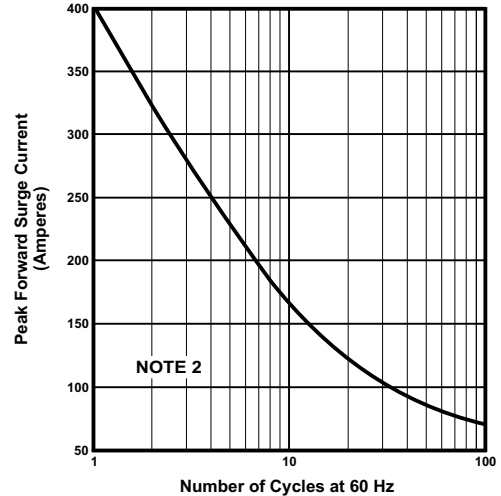


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

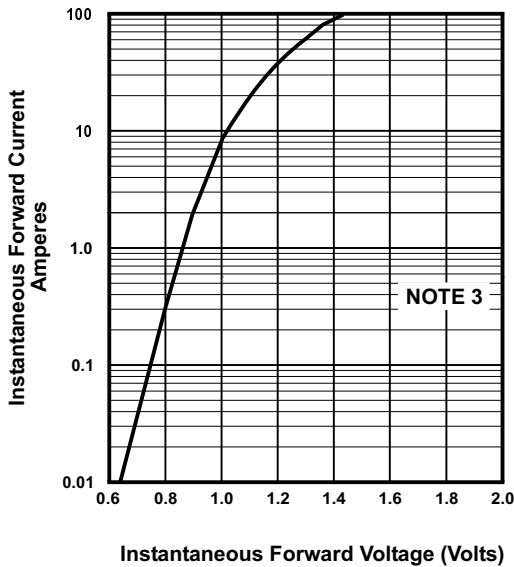


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

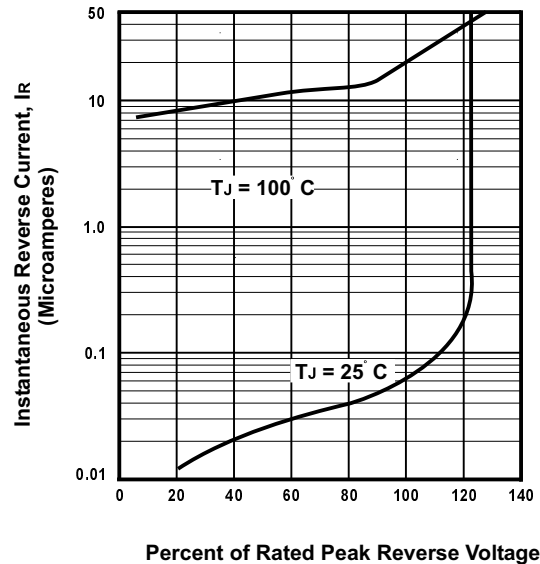


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

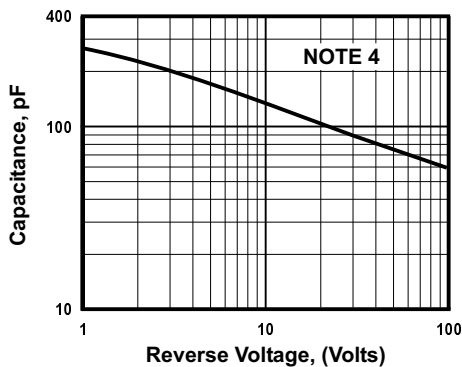


FIGURE 5. TYPICAL JUNCTION CAPACITANCE PER DIODE

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) $T_J = 150^\circ\text{C}$

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

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