DIOTEC ELECTRONICS CORP.
18020 Hobart Blvd., Unit B
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Data Sheet No. BRDB-1000-1C
ABDB-1000-1C

10 AMP SILICON BRIDGE RECTIFIERS

FEATURES

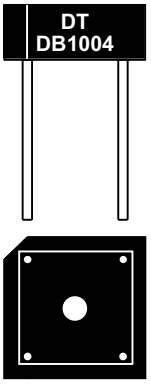
- **VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION (Solder Voids: Typical < 2%, Max. < 10% of Die Area)**
- **BUILT-IN STRESS RELIEF MECHANISM FOR SUPERIOR RELIABILITY AND PERFORMANCE**
- **SURGE OVERLOAD RATING TO 400 AMPS PEAK**
- **UL RECOGNIZED - FILE #E124962**
- **RoHS COMPLIANT**

MECHANICAL DATA

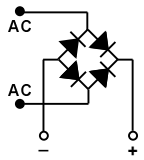
- Case: Molded Epoxy (UL Flammability Rating 94V-0)
- Terminals: Round silver plated copper pins
- Soldering: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Marked on side of case; positive lead at beveled corner
- Mounting Position: Any. Through hole provided for #6 screw
- Weight: 0.18 Ounces (5.4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

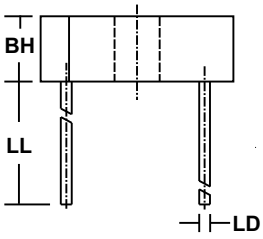
MECHANICAL SPECIFICATION

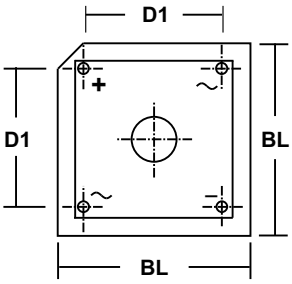
ACTUAL SIZE



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							
Series Number		ADB 1004	ADB 1006	ADB 1008	DB 1000	DB 1001	DB 1002	DB 1004	DB 1006	DB 1008	DB 1010	
Maximum DC Blocking Voltage	V_{RM}	400	600	800	50	100	200	400	600	800	1000	VOLTS
Working Peak Reverse Voltage	V_{RWM}											
Maximum Peak Recurrent Reverse Voltage	V_{RRM}											
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^2t	64										$AMPS^2$ SEC
Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method). TJ = 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)	$R_{\theta JA}$ $R_{\theta JC}$	12 5										°C/W

3.01 10db

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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Data Sheet No. BRDB-1000-2C
ABDB-1000-2C

10 AMP SILICON BRIDGE RECTIFIERS

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

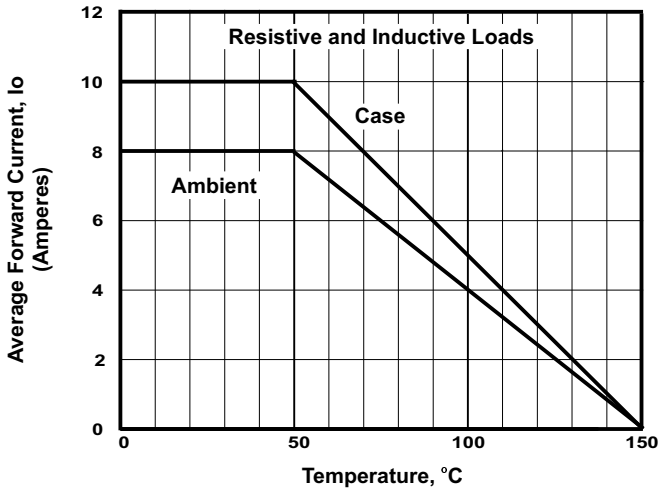

FIGURE 1. FORWARD CURRENT DERATING CURVE

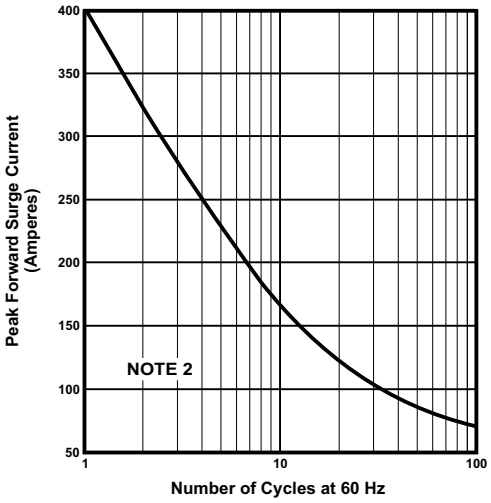

FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

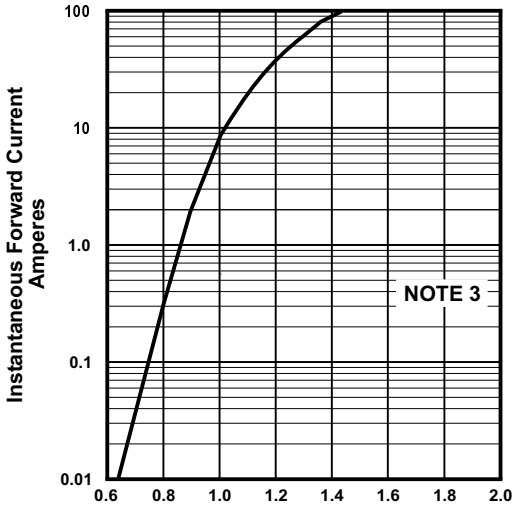

FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

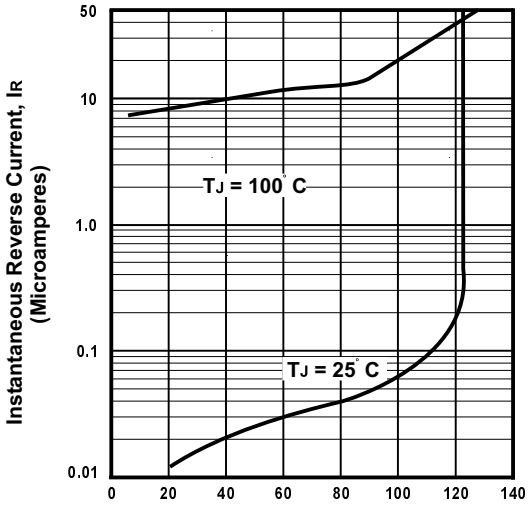

FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

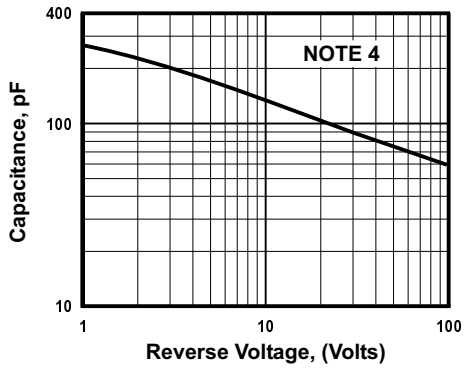

FIGURE 5. TYPICAL JUNCTION CAPACITANCE PER DIODE

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 = 150°C

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

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

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