

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. **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

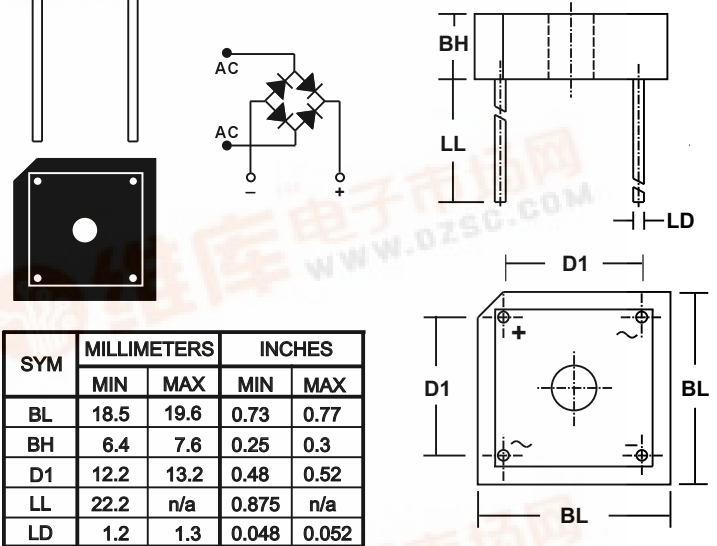
- Case: Molded Epoxy (UL Flammability Rating 94V-0)
- Terminals: Round silver plated copper pins
- Soldering: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Marked on side of case; positive lead at beveled corner
- Mounting Position: Any. Through hole provided for #6 screw
- Weight: 0.18 Ounces (5.4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

MECHANICAL SPECIFICATION

ACTUAL SIZE

DT
DB1004

SERIES DB1000-DB1010 and ADB1004-ADB1008

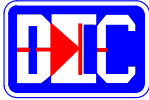


MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

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}											VOLTS
Working Peak Reverse Voltage	V _{RWM}	400	600	800	50	100	200	400	600	800	1000	
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 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



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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

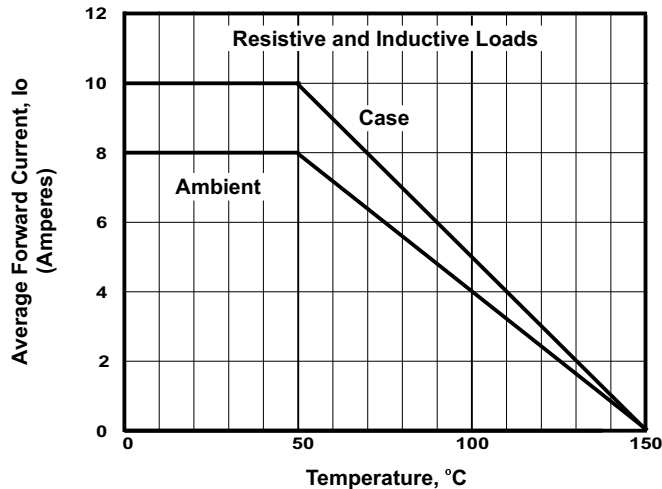


FIGURE 1. FORWARD CURRENT DERATING CURVE

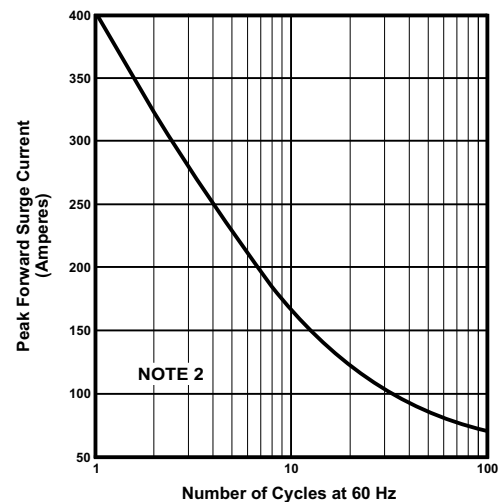


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

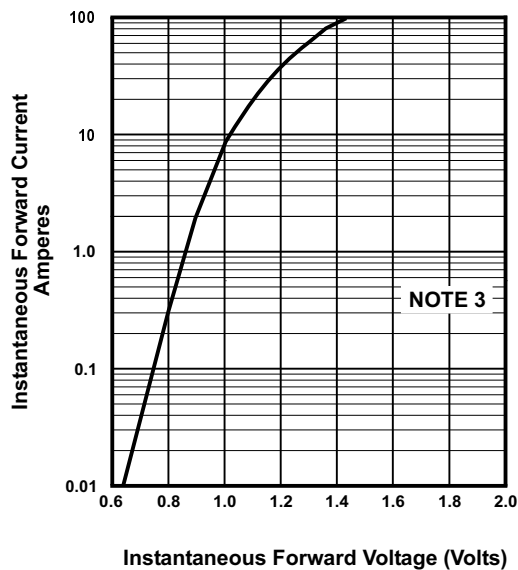


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

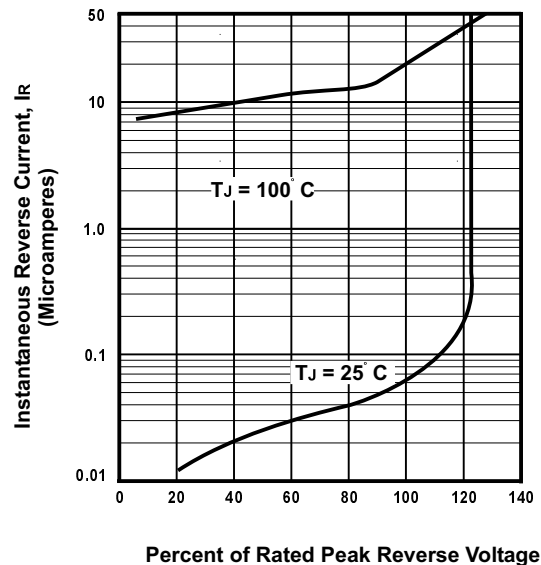


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

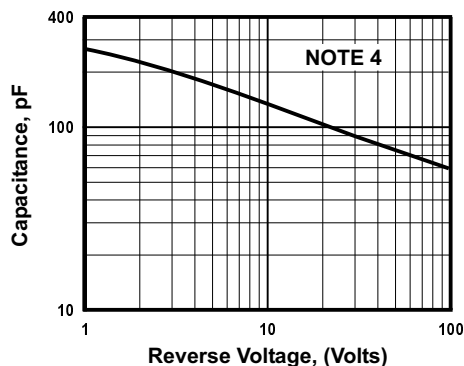


FIGURE 5. TYPICAL JUNCTION CAPACITANCE PER DIODE

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

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

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