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Data Sheet No. BRDB-300-1C

3 AMP SILICON BRIDGE RECTIFIERS

FEATURES

- PRV Ratings from 50 to 1000 Volts
- Surge overload rating to 60 Amps peak
- Reliable low cost molded epoxy construction
- Ideal for printed circuit board applications

• **UL RECOGNIZED - FILE #E124962**

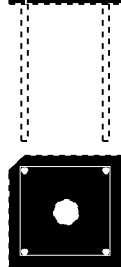
• **RoHS COMPLIANT**

MECHANICAL DATA

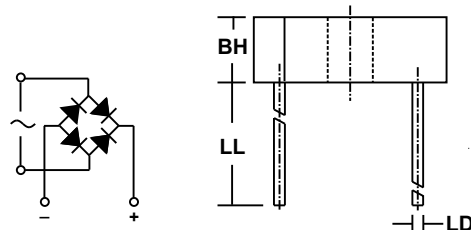
- Case: Molded Epoxy (UL Flammability Rating 94V-0)
- Terminals: Round silver plated copper pins
- Soldering: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Marked on top of case; positive lead at beveled corner
- Mounting Position: Any. Thru hole provided for #6 screw (NOTE 1)
- Weight: 0.13 Ounces (3.6 Grams)

ACTUAL SIZE

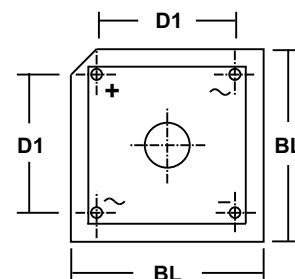
DT
DB306



SERIES DB300-DB310



SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
BL	14.7	15.7	0.58	0.62
BH	4.8	5.3	0.19	0.21
D1	10.3	11.3	0.405	0.445
LL	19.0	n/a	0.75	n/a
LD	0.7	0.9	0.028	0.035



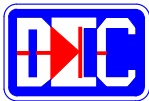
MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

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
Series Number		DB 300	DB 301	DB 302	DB 304	DB 306	DB 308	DB 310		
Maximum DC Blocking Voltage	V _{RM}	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)	35	70	140	280	420	560	700		
Thermal Energy (Rating for Fusing) t < 8.3mSec	I ² t	15							AMPS ² SEC	
Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method). T _c = 60° C	I _{FSM}	60							AMPS	
Average Forward Rectified Current @ T _c = 60° C (Note 2) @ T _A = 25° C (Note 3)	I _O	3 2								
Junction Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150							°C	
Maximum Forward Voltage (Per Diode) at 1.5 Amps DC	V _{FM}	0.95 (Typical < 0.9)								
Typical Junction Capacitance (Note 4)	C _J	21							pF	
Maximum Reverse Current at Rated V _{RM} @ T _A = 25° C @ T _A = 125° C	I _{RM}	1 50							μA	
Minimum Insulation Breakdown Voltage (Circuit to Case)	V _{ISO}	2500							VOLTS	
Typical Thermal Resistance Junction to Ambient (Note 3) Junction to Case (Note 2)	R _{θJA} R _{θJC}	12.0 8.0							°C/W	

NOTES: (1) Bolt bridge on heat sink with #6 screw, using silicon thermal compound between bridge and mounting surface for maximum heat transfer.
(2) Bridge mounted on 4.0" sq. x 0.11" thick (10.5cm sq. x 0.3cm) aluminum plate
(3) Bridge mounted on PC Board with 0.5" sq. (12mm sq.) copper pads and bridge lead length of 0.375" (9.5mm)
(4) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

3.01 0300



3 AMP SILICON BRIDGE RECTIFIERS

RATING & CHARACTERISTIC CURVES FOR SERIES DB300 - DB310

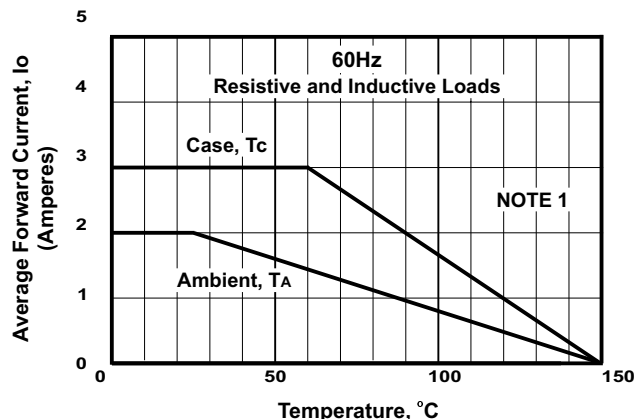


FIGURE 1. FORWARD CURRENT DERATING CURVE

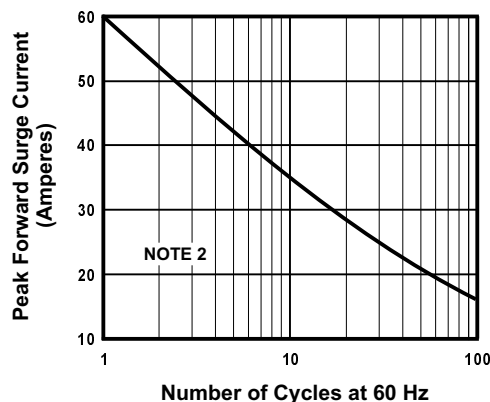


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

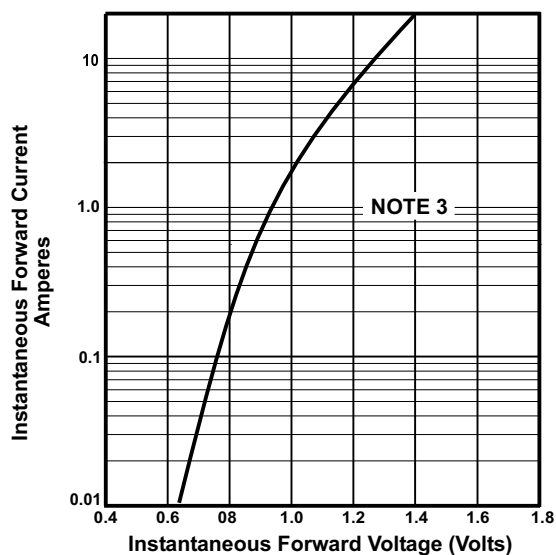


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

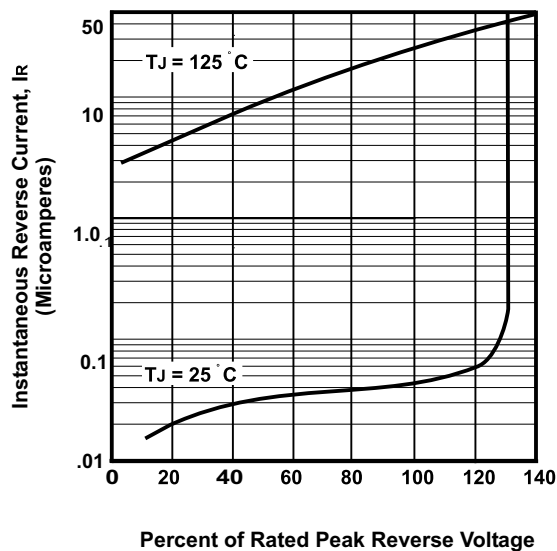


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

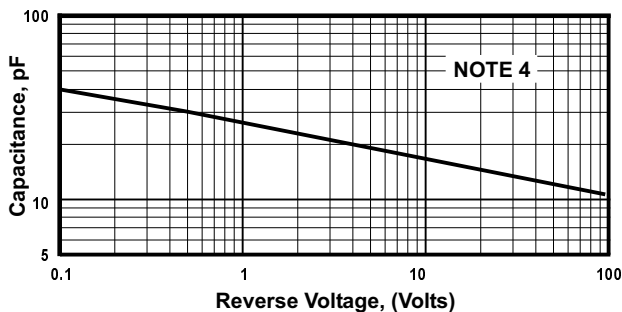


FIGURE 5. TYPICAL JUNCTION CAPACITANCE PER DIODE

NOTES

(1) Case Temperature, T_c . With Bridge Mounted on 4" Sq. x 0.11" Thick (10.5cm Sq. x 0.3cm) Aluminum Plate

Ambient Temperature, T_a . With Bridge Mounted on PC Board With 0.5" Sq. (12mm Sq.) Pads and Lead Length of 0.375" (9.5mm)

(2) $T_c = 60^\circ\text{C}$

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

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