

## 6 AMP SILICON BRIDGE RECTIFIERS

### FEATURES

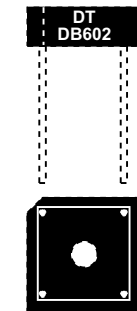
- **VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION (Solder Voids: Typical < 2%, Max. < 10% of Die Area)**
- **BUILT-IN STRESS RELIEF MECHANISM FOR SUPERIOR RELIABILITY AND PERFORMANCE**
- **SURGE OVERLOAD RATING TO 250 AMPS PEAK**
- **UL RECOGNIZED - FILE #E124962**
- **RoHS COMPLIANT**

### MECHANICAL DATA

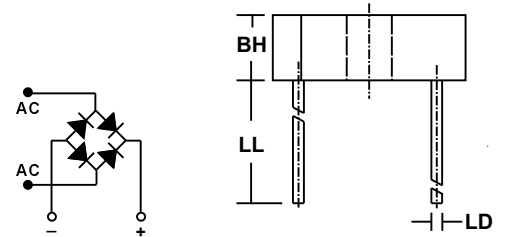
- Case: Molded Epoxy (UL Flammability Rating 94V-0)
- Terminals: Round silver plated copper pins
- Soldering: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Marked on side of case; positive lead at beveled corner
- Mounting Position: Any. Through hole provided for #6 screw
- Weight: 0.13 Ounces (3.6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

### MECHANICAL SPECIFICATION

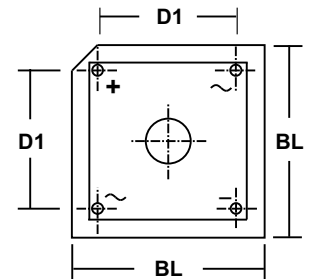
ACTUAL SIZE



**SERIES DB600 - DB610 and ADB604 - ADB608**



SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
BL	14.7	15.7	0.58	0.62
BH	5.8	6.9	0.23	0.27
D1	10.3	11.3	0.405	0.445
LL	19.0	n/a	0.75	n/a
LD	1.0	1.1	0.039	0.042



### 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
		CONTROLLED AVALANCHE				NON-CONTROLLED AVALANCHE						
		ADB 604	ADB 606	ADB 608	DB 600	DB 601	DB 602	DB 604	DB 606	DB 608	DB 610	
Series Number												
Maximum DC Blocking Voltage	V <sub>RM</sub>											VOLTS
Working Peak Reverse Voltage	V <sub>RWM</sub>	400	600	800	50	100	200	400	600	800	1000	
Maximum Peak Recurrent Reverse Voltage	V <sub>RPM</sub>											
RMS Reverse Voltage	V <sub>R (RMS)</sub>	280	420	560	35	70	140	280	420	560	700	
Power Dissipation in V <sub>(BR)</sub> Region for 100 S Square Wave	P <sub>RM</sub>	400				n/a						WATTS
Continuous Power Dissipation in V <sub>(BR)</sub> Region @ T <sub>HS</sub> =80 °C (Heat Sink Temp)	P <sub>R</sub>	2				n/a						
Thermal Energy (Rating for Fusing) t < 8.3mSec	I <sup>2</sup> t	127										AMPS <sup>2</sup> SEC
Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method). T <sub>c</sub> = 60 °C	I <sub>FSM</sub>	250										AMPS
Average Forward Rectified Current, T <sub>c</sub> = 60 °C (Note 2)	I <sub>O</sub>	6										
Junction Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150										°C
Minimum Avalanche Voltage	V <sub>(BR) Min</sub>	See Note 5				n/a						VOLTS
Maximum Avalanche Voltage	V <sub>(BR) Max</sub>	See Note 5				n/a						
Maximum Forward Voltage (Per Diode) at 6 Amps DC	V <sub>FM</sub>	0.95 (Typical < 0.9)										
Typical Junction Capacitance (Note 4)	C <sub>J</sub>	21										pF
Maximum Reverse Current at Rated V <sub>RM</sub> @ T <sub>A</sub> = 25 °C @ T <sub>A</sub> = 125 °C	I <sub>RM</sub>	1 50										A
Minimum Insulation Breakdown Voltage (Circuit to Case)	V <sub>ISO</sub>	2500										VOLTS
Typical Thermal Resistance, Junction to Case (Note 2)	R <sub>θJC</sub>	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. (1.2mm 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  
 (5) These bridges exhibit the avalanche characteristic at breakdown. If your application requires a specific breakdown voltage range, please contact us.

331 0049



## 6 AMP SILICON BRIDGE RECTIFIERS

### RATING & CHARACTERISTIC CURVES FOR SERIES DB600 - DB610 and SERIES ADB604 - ADB608

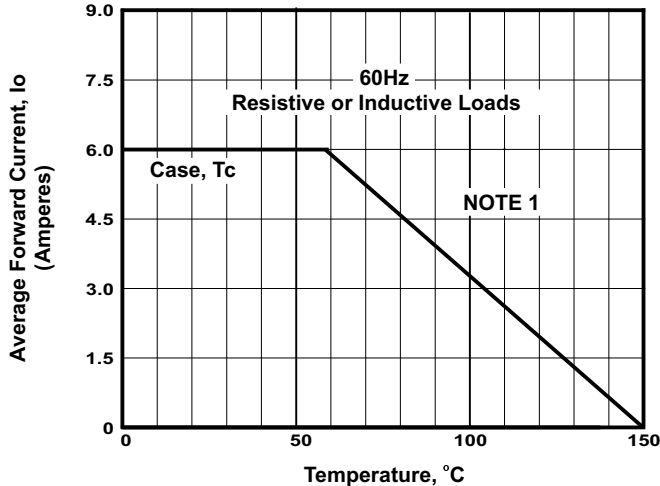


FIGURE 1. FORWARD CURRENT DERATING CURVE

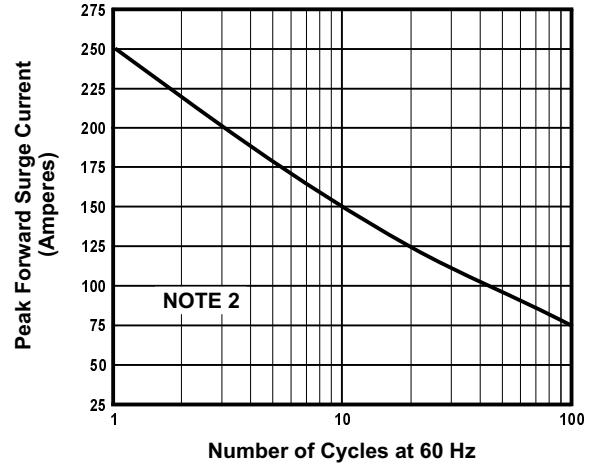


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

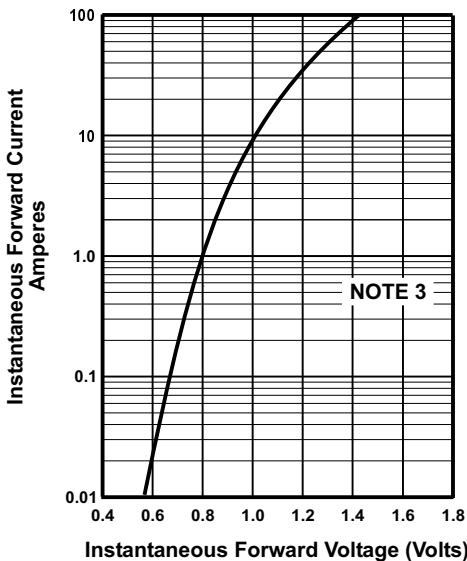


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

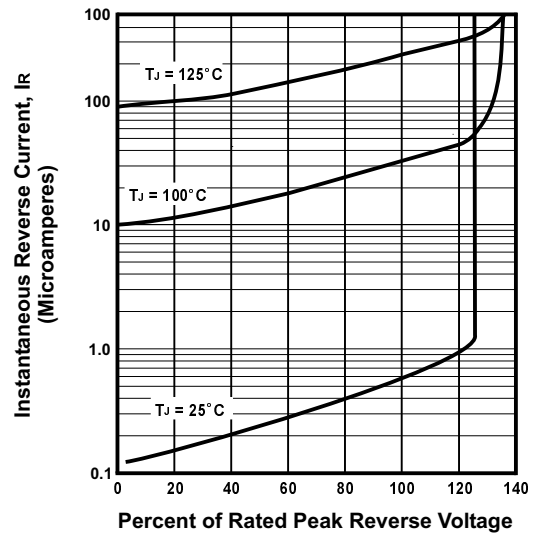


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS PER DIODE

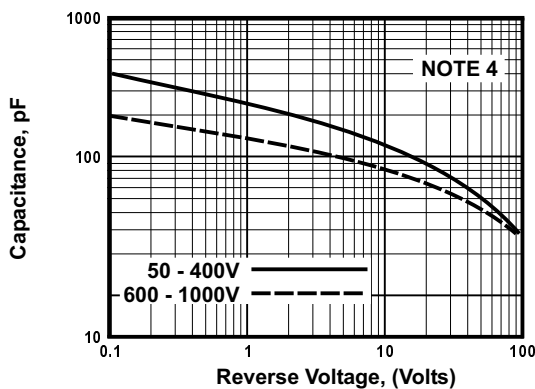


FIGURE 5. TYPICAL JUNCTION CAPACITANCE PER DIODE

#### NOTES

- (1) Case Temperature,  $T_c$ . With Bridge Mounted on 4" Sq. x 0.11" Thick (10.5cm Sq. x 0.3cm) Aluminum Plate
- (2)  $T_J = 125^\circ\text{C}$
- (3)  $T_J = 25^\circ\text{C}$ ; Pulse Width = 300 Sec; 1% Duty Cycle
- (4)  $T_J = 25^\circ\text{C}$ ;  $f = 1\text{ MHz}$ ;  $V_{sig} = 50\text{mVp-p}$