

6 AMP SILICON BRIDGE RECTIFIERS

FEATURES

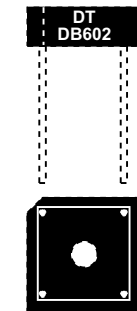
- **VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION (Solder Voids: Typical < 2%, Max. < 10% of Die Area)**
- **BUILT-IN STRESS RELIEF MECHANISM FOR SUPERIOR RELIABILITY AND PERFORMANCE**
- **SURGE OVERLOAD RATING TO 250 AMPS PEAK**
- **UL RECOGNIZED - FILE #E124962**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

MECHANICAL DATA

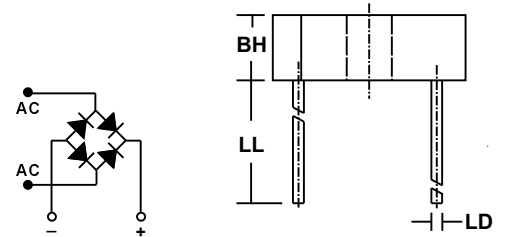
- Case: Molded Epoxy (UL Flammability Rating 94V-0)
- Terminals: Round silver plated copper pins
- Soldering: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Marked on side of case; positive lead at beveled corner
- Mounting Position: Any. Through hole provided for #6 screw
- Weight: 0.13 Ounces (3.6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

MECHANICAL SPECIFICATION

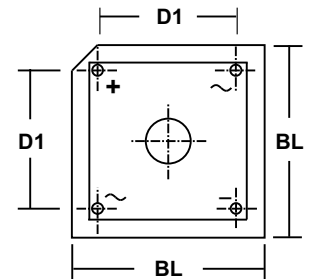
ACTUAL SIZE



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 |



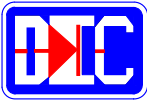
MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

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 _{RM} | | | | | | | | | | | |
| Working Peak Reverse Voltage | V _{RWM} | 400 | 600 | 800 | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | VOLTS |
| Maximum Peak Recurrent Reverse Voltage | V _{RPM} | | | | | | | | | | | |
| RMS Reverse Voltage | V _R (RMS) | 280 | 420 | 560 | 35 | 70 | 140 | 280 | 420 | 560 | 700 | |
| Power Dissipation in V _(BR) Region for 100 S Square Wave | P _{RM} | 400 | | | | 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) t < 8.3mSec | I ² t | 127 | | | | | | | | | | AMPS ² SEC |
| Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method). T _c = 60 °C | I _{FSM} | 250 | | | | | | | | | | AMPS |
| Average Forward Rectified Current, T _c = 60 °C (Note 2) | I _O | 6 | | | | | | | | | | |
| Junction Operating and Storage Temperature Range | T _J , T _{STG} | -55 to +150 | | | | | | | | | | °C |
| Minimum Avalanche Voltage | V _{(BR) Min} | See Note 5 | | | | n/a | | | | | | VOLTS |
| Maximum Avalanche Voltage | V _{(BR) Max} | See Note 5 | | | | n/a | | | | | | |
| Maximum Forward Voltage (Per Diode) at 6 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 | | | | | | | | | | A |
| Minimum Insulation Breakdown Voltage (Circuit to Case) | V _{ISO} | 2500 | | | | | | | | | | VOLTS |
| Typical Thermal Resistance, Junction to Case (Note 2) | R _{θJC} | 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.

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

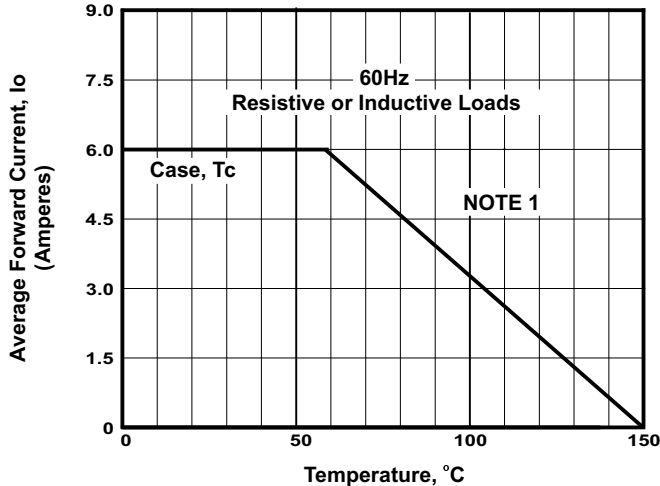


FIGURE 1. FORWARD CURRENT DERATING CURVE

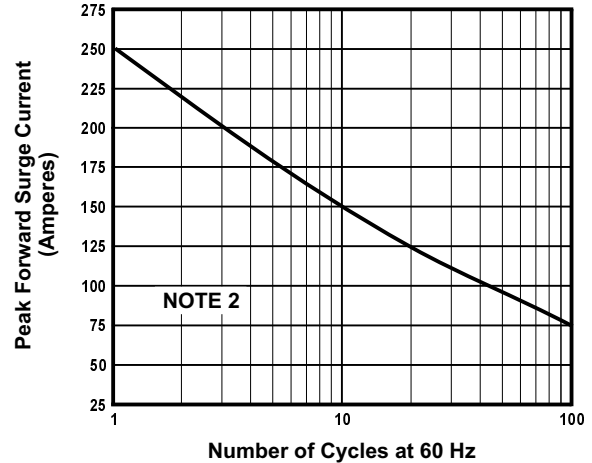


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

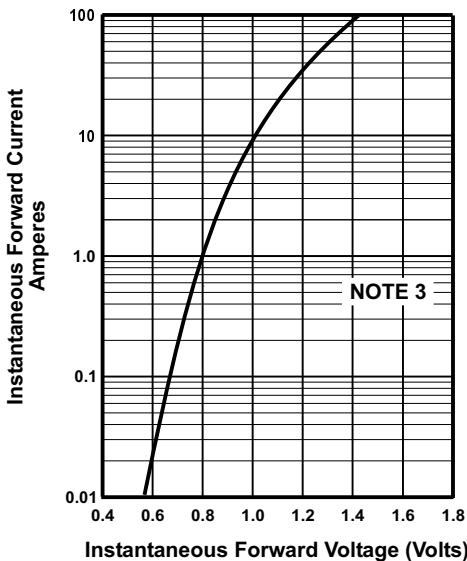


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

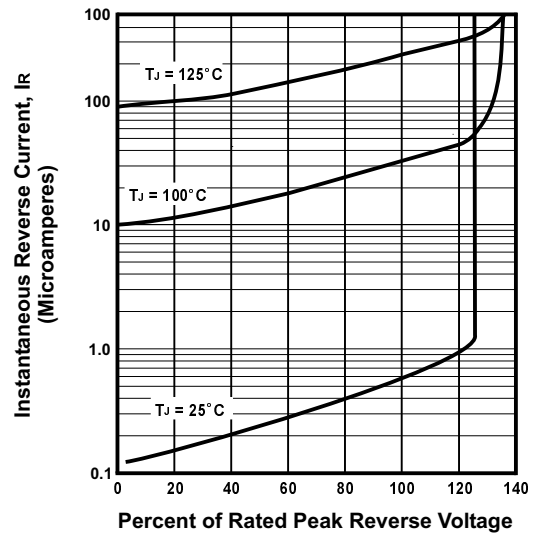


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS PER DIODE

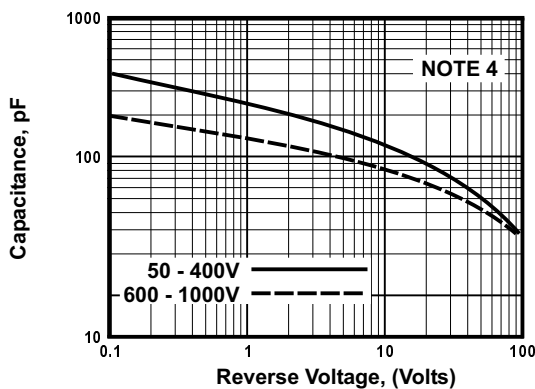


FIGURE 5. TYPICAL JUNCTION CAPACITANCE PER DIODE

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