

4 AMP SILICON BRIDGE RECTIFIERS

FEATURES

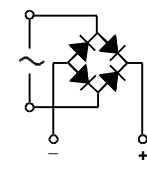
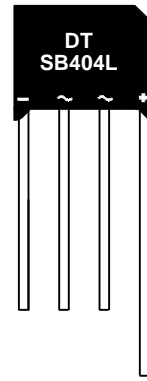
- VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION (Solder Voids: Typical < 2%, Max. < 10% of Die Area)
- BUILT-IN STRESS RELIEF MECHANISM FOR SUPERIOR RELIABILITY AND PERFORMANCE
- SURGE OVERLOAD RATING TO 200 AMPS PEAK
- **UL RECOGNIZED - FILE #E124962**

MECHANICAL DATA

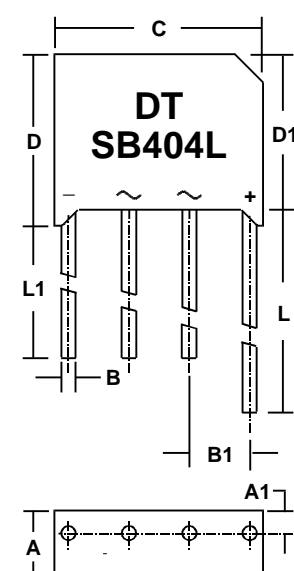
- Case: Molded plastic, U/L Flammability Rating 94V-0
- Terminals: Round silver plated copper pins
- Soldering: Per MIL-STD 202 Method 208 guaranteed (NOTE 1)
- Polarity: Marked on case
- Mounting Position: Any.
- Weight: 0.2 Ounces (5.6 Grams)

MECHANICAL SPECIFICATION

ACTUAL SIZE OF SB4 PACKAGE



SERIES: **SB400L - SB410L**
ASB404L - ASB408L



| SYM | MILLIMETERS | | INCHES | |
|-----|-------------|-------|--------|-------|
| | MIN | MAX | MIN | MAX |
| A | 6.4 | 6.65 | 0.252 | 0.262 |
| A1 | 2.06 | 2.18 | 0.061 | 0.065 |
| B | 1.22 | 1.32 | 0.048 | 0.052 |
| B1 | 4.57 | 5.59 | 0.180 | 0.220 |
| C | 19.1 | 19.3 | 0.750 | 0.760 |
| D | 15.62 | 15.88 | 0.615 | 0.625 |
| D1 | 14.38* | n/a | 0.566* | n/a |
| L | 27.94 | n/a | 1.2 | n/a |
| L1 | 25.4 | n/a | 1.0 | n/a |

* This measurement is "Typical"

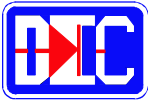
MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

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 | | | | | | |
| | | ASB 404L | ASB 406L | ASB 408L | SB 400L | SB 401L | SB 402L | SB 404L | SB 406L | SB 408L | SB 410L | |
| Series Number | | | | | | | | | | | | |
| 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 | |
| Thermal Energy (Rating for Fusing) | I ² t | 93 | | | | | | | | | | AMPS ² SEC |
| Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method) T _J = 150 °C | I _{FSM} | 200 | | | | | | | | | | AMPS |
| Average Forward Rectified Current @ T _A = 50 °C | I _o | 4 | | | | | | | | | | |
| Junction Operating and Storage Temperature Range | T _J , T _{STG} | -55 to +150 | | | | | | | | | | °C |
| Minimum Avalanche Voltage | V _{(BR) MIN} | 450 | 650 | 850 | n/a | | | | | | VOLTS | |
| Maximum Avalanche Voltage | V _{(BR) MAX} | 900 | 1100 | 1300 | n/a | | | | | | | |
| Maximum Forward Voltage (Per Diode) at 4 Amps DC | V _{FM} | 0.95 (Typical < 0.90) | | | | | | | | | | |
| Maximum Reverse Current at Rated V _{RM} @ T _A = 25 °C @ T _A = 125 °C | I _{RM} | 5 1 | | | | | | | | | | μA mA |
| Minimum Insulation Breakdown Voltage (Circuit to Case) | V _{ISO} | 2500 | | | | | | | | | | VOLTS |
| Typical Thermal Resistance Junction to Ambient (Note 1) Junction to Lead (Note 2) | R _{θJA} R _{θJL} | 19.0 2.4 | | | | | | | | | | °C/W |

NOTES: (1) Bridge mounted on 3.0" sq. x 0.11" thick (7.5cm sq. x 0.3cm) aluminum plate.
 (2) Bridge mounted on PC Board with 0.5" sq. (12mm sq.) copper pads and a lead length of 0.375" (9.5mm).

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RATING & CHARACTERISTIC CURVES FOR SERIES SB400L - SB410L and SERIES ASB404L - ASB408L

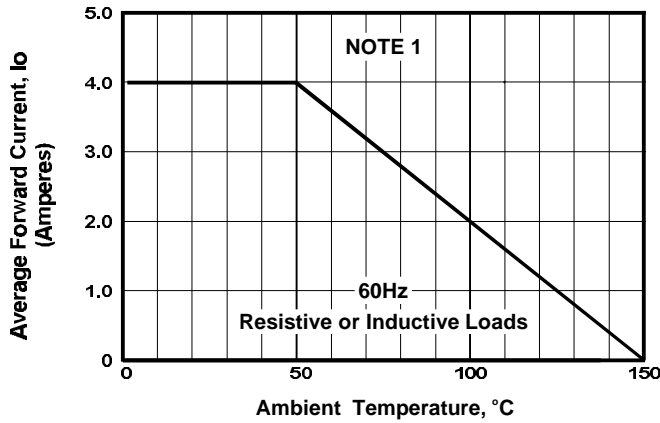


FIGURE 1. FORWARD CURRENT DERATING CURVE

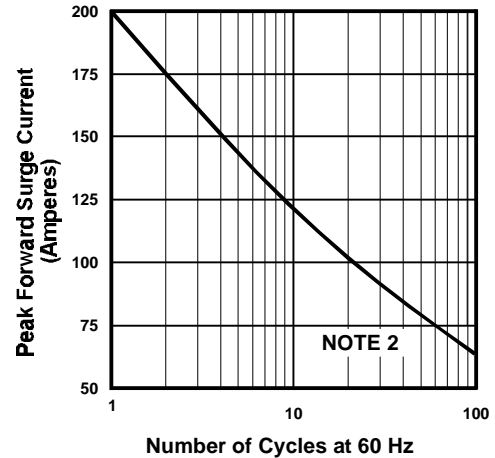


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

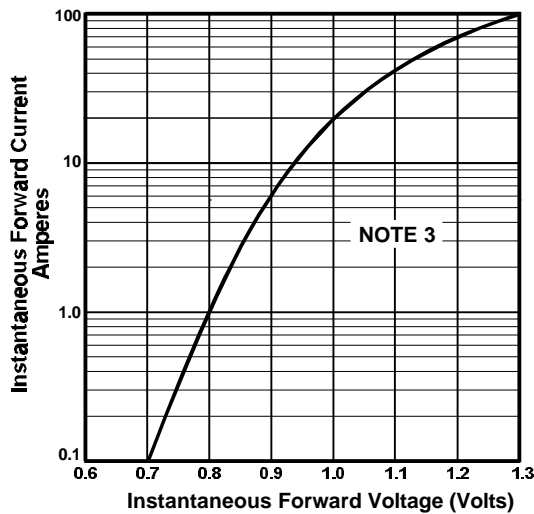


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

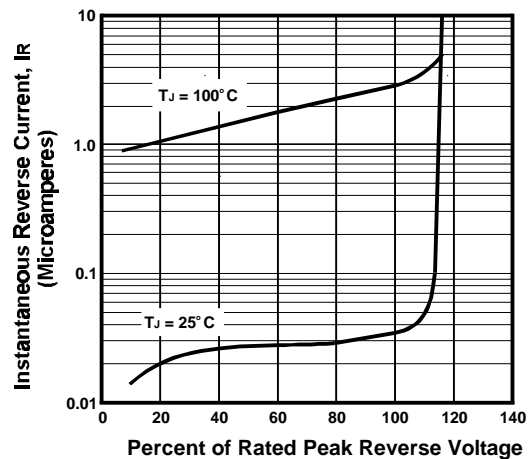


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

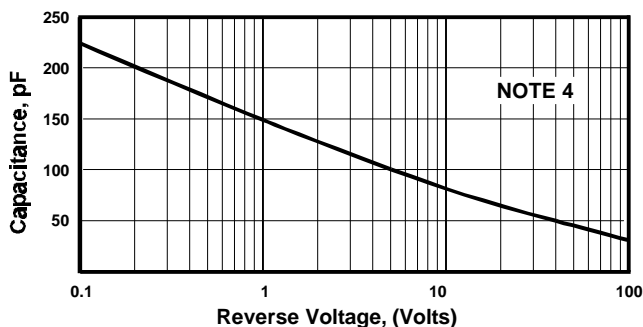


FIGURE 5. TYPICAL JUNCTION CAPACITANCE PER DIODE

NOTES

- (1) Bridge Mounted on 3.0" Sq. x 0.11" Thick (7.5cm Sq. x 0.15cm) Aluminum Plate
- (2) $T_J = 150^\circ\text{C}$
- (3) $T_J = 25^\circ\text{C}$; Pulse Width = 300 μSec ; 1%Duty Cycle
- (4) $T_J = 25^\circ\text{C}$; $f = 1\text{ MHz}$; $V_{sig} = 50\text{mVp-p}$