



50 AMP SOFT RECOVERY FAST SWITCHING BRIDGE RECTIFIERS

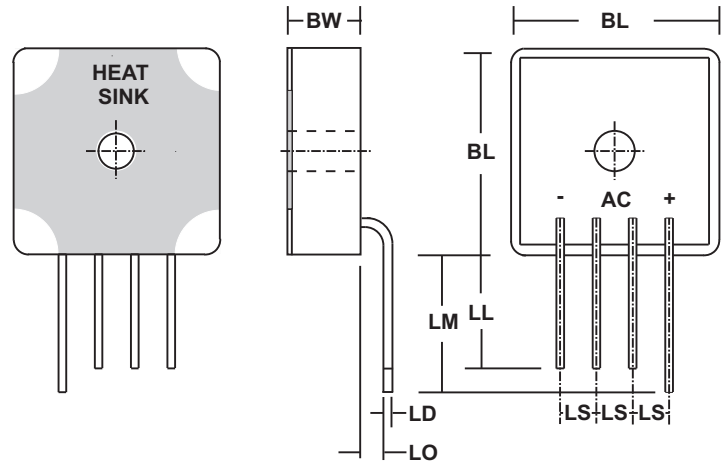
FEATURES

- TRUE SOFT RECOVERY CHARACTERISTIC WITH NO RINGING, SPIKES, or OVERSHOOT
- HIGH FREQUENCY: 250 kHz
FAST RECOVERY: 100nS - 150nS
- UNMATCHED PERFORMANCE - Minimal RFI/EMI, Reduced Power Losses, Extremely Cool Operation Increased Power Supply Efficiency
- VOID FREE Vacuum Die Soldering For Maximum Mechanical Strength And Heat Dissipation (Solder Voids: Typical < 2%, Max. < 10% of Die Area)
- Proprietary Junction Passivation For Superior Reliability and Performance
- Wide Range of Applications: Motor Speed Controllers Inverters, Converters Choppers, Power Supplies, etc.
- **UL RECOGNIZED - FILE #E124962**
- **RoHS COMPLIANT**

MECHANICAL DATA

- Case: Case: Molded epoxy with integral heat sink
Epoxy carries a U/L Flammability rating of 94V-0
- Terminals: Round silver plated copper pins or fast-on terminals
- Soldering: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Marked on side of case
- Mounting Position: Any. Through hole for #8 screw.
Max. mounting torque = 20 in-lb.
- Weight: 0.72 Ounces (20.3 Grams)

MECHANICAL SPECIFICATION



| SYM | MILLIMETERS | | INCHES | |
|-----|-------------|------|-----------|-------|
| | MIN | MAX | MIN | MAX |
| BL | 28.4 | 28.7 | 1.12 | 1.13 |
| BW | n/a | 10.3 | n/a | 0.405 |
| LD | 1.27 Typ | | 0.050 Typ | |
| LL | 15.9 | n/a | 0.625 | n/a |
| LM | 19.0 | n/a | 0.750 | n/a |
| LO | 3.175 Nom | | 0.125 Nom | |
| LS | 5.08 Typ | | 0.200 Typ | |

MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

| PARAMETER (TEST CONDITIONS) | SYMBOL | RATINGS | | | | | UNITS |
|--|-----------------------------------|----------------|------------|------------|------------|------------|-------|
| | | SDB 5000-S | SDB 5001-S | SDB 5002-S | SDB 5004-S | SDB 5006-S | |
| Series Number | | | | | | | |
| Maximum DC Blocking Voltage | V _{RM} | 50 | 100 | 200 | 400 | 600 | VOLTS |
| Maximum RMS Voltage | V _{RMS} | 35 | 70 | 140 | 280 | 420 | |
| Maximum Peak Recurrent Reverse Voltage | V _{RRM} | 50 | 100 | 200 | 400 | 600 | |
| Average Forward Rectified Current @ T _c = 55 °C | I _o | 50 | | | | | AMPS |
| Peak Forward Surge Current (8.3mS single half sine wave superimposed on rated load) | I _{FSM} | 600 | | | | | |
| Maximum Forward Voltage, Per Diode, at 25 Amps DC | V _{FM} | 1.35 | | | | | VOLTS |
| Maximum Average DC Reverse Current at Rated DC Blocking Voltage Per Diode @ T _A = 25 °C @ T _A = 125 °C | I _{RM} | 1.0 50 | | | | | μA |
| Maximum Reverse Recovery Time | T _{RR} | 150 (Typ. 100) | | | | | nS |
| Typical Thermal Resistance, Junction to Case | R _{θJC} | 1.1 | | | | | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -55 to +150 | | | | | °C |

NOTES: (1) Bolt bridge on heat sink with #8 screw, using silicon thermal compound between bridge and mounting surface for maximum heat transfer.