



SBL20xxCT, SBLF20xxCT & SBLB20xxCT Series

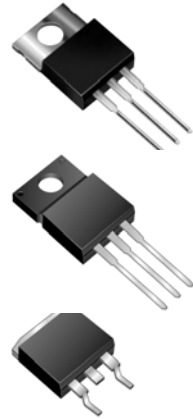
Dual Low V_F Schottky Barrier Rectifiers
Reverse Voltage 30 to 40 Volts Forward Current 20.0 Amperes

Features

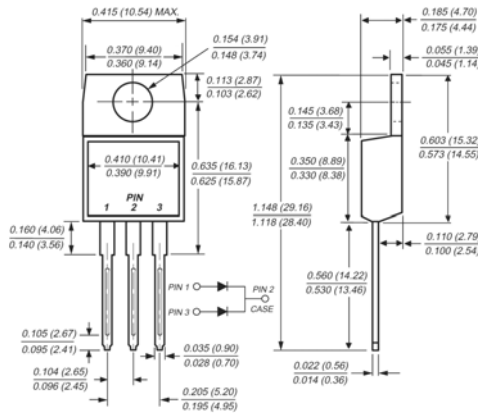
- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Dual rectifier construction, positive center tap
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ Guardring for overvoltage protection
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆ High temperature soldering guaranteed:
250°C/10 seconds, 0.25" (6.35mm) from case

Mechanical Data

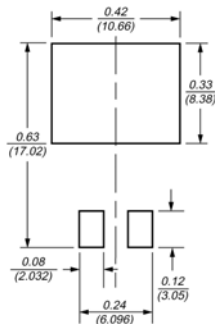
- ◆ Case: JEDEC TO-220AB, ITO-220AB & TO-263AB molded plastic body
- ◆ Terminals: Plated leads, solderable per MIL-STD-750, Method 2026
- ◆ Polarity: As marked
- ◆ Mounting Position: Any
- ◆ Mounting Torque: 10 in-lbs maximum
- ◆ Weight: 0.08 ounce, 2.24 grams



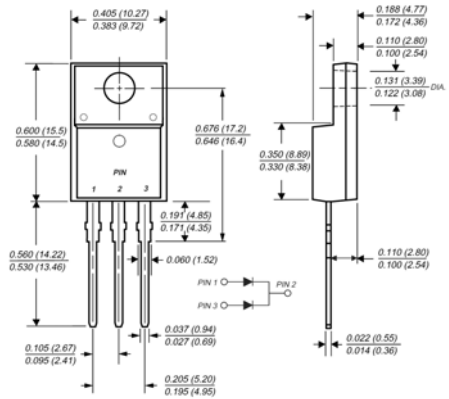
TO-220AB



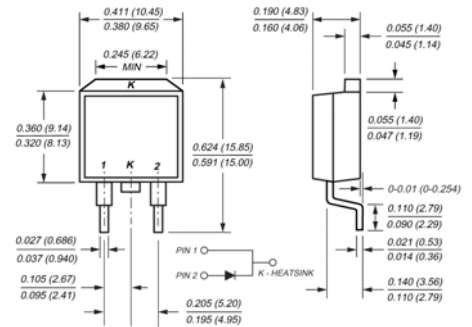
Mounting Pad Layout TO-263AB



ITO-220AB



TO-263AB(D²PAK)



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

($T_c = 25^\circ\text{C}$ unless otherwise noted)

| Parameter | Symbol | SBL2030CT | SBL2040CT | Unit |
|--|--|---|-----------|--------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 30 | 40 | Volts |
| Working peak reverse voltage | V_{RWM} | 30 | 40 | Volts |
| Maximum DC blocking voltage | V_{DC} | 30 | 40 | Volts |
| Maximum average forward rectified current at $T_c=105^\circ\text{C}$ | Total device Per leg $I_{F(AV)}$ | 20 10 | | Amps |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg | I_{FSM} | 250 | | Amps |
| Peak repetitive reverse current per leg at $t_p = 2.0\mu\text{s}$, 1KHz | I_{RRM} | 1.0 | | Amp |
| Maximum instantaneous forward voltage per leg at 10A (Note 4) | V_F | 0.60 | | Volt |
| Maximum instantaneous reverse current at rated DC blocking voltage per leg (Note 4) | I_R | $T_c=25^\circ\text{C}$ 50 $T_c=100^\circ\text{C}$ | | mA |
| Typical thermal resistance from junction to case per leg | $R_{\theta JC}$ | SBL 2.0 / SBLF 4.0 / SBLB 2.0 | | $^\circ\text{C/W}$ |
| RMS Isolation voltage (SBLF type only) from terminals to heatsink with $t = 1.0$ second, $RH \leq 30\%$ | V_{ISOL} | 4500 (Note 1) 3500 (Note 2) 1500 (Note 3) | | Volts |
| Operating junction temperature range | T_J | -55 to +150 | | $^\circ\text{C}$ |
| Storage temperature range | T_{STG} | -55 to +150 | | $^\circ\text{C}$ |

- Notes:**
1. Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset
 2. Clip mounting (on case), where leads do overlap heatsink
 3. Screw mounting with 4-40 screw, where washer diameter is < 4.9 mm (0.19")
 4. Pulse test: 300us pulse width, 1% duty cycle

RATINGS AND CHARACTERISTIC CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

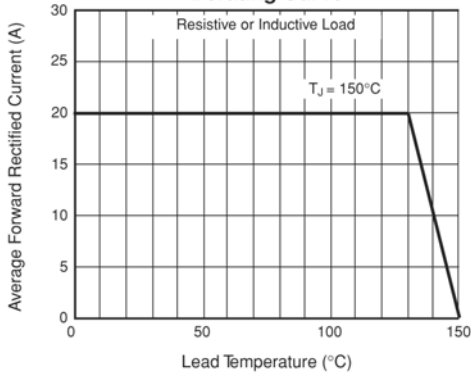


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg

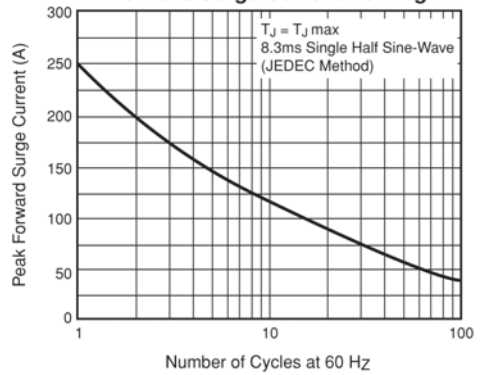


Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg

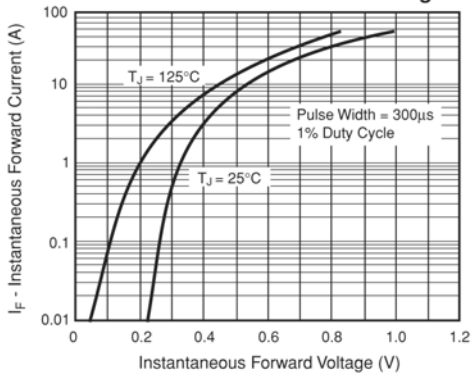


Fig. 4 – Typical Reverse Characteristics Per Leg

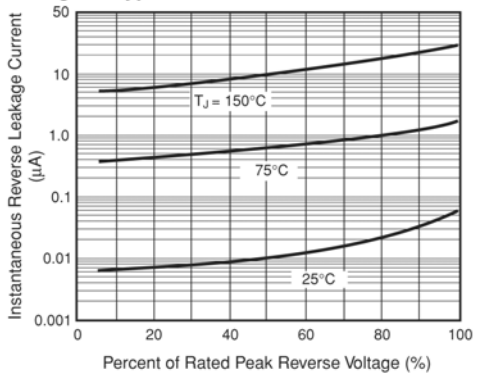


Fig. 5 – Typical Junction Capacitance Per Leg

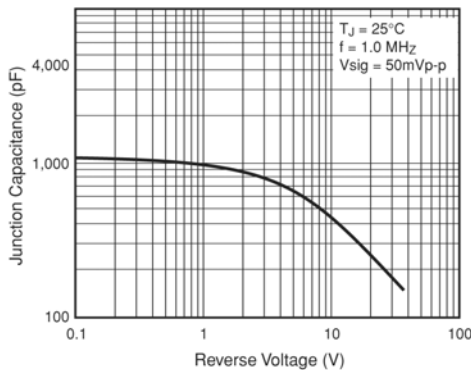


Fig. 6 – Typical Transient Thermal Impedance Per Leg

