



# SBL10xx, SBLF10xx & SBLB10xx Series

Schottky Barrier Rectifiers

Reverse Voltage 30 to 40 Volts      Forward Current 10.0 Amperes

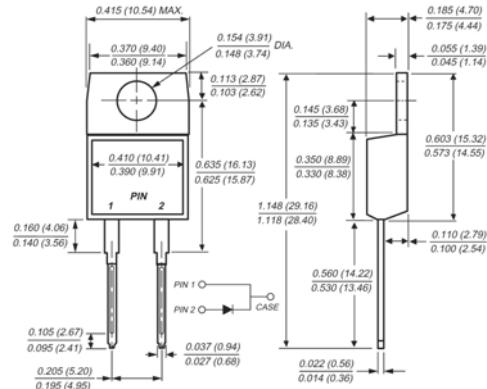
## Features

- ◆ 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

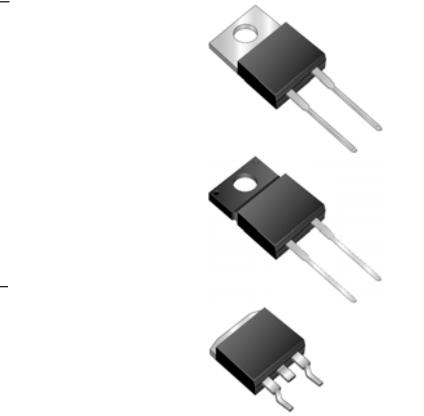
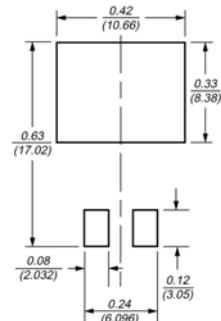
## Mechanical Data

- ◆ Case: JEDEC TO-220AC, ITO-220AC & 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

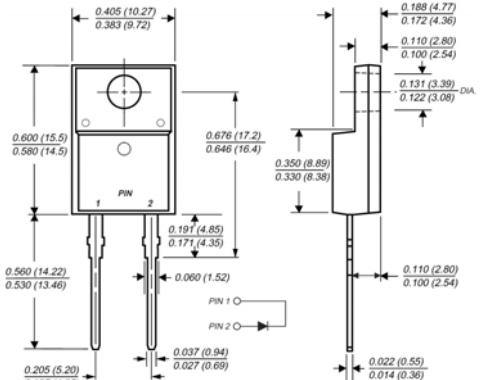
### TO-220AC



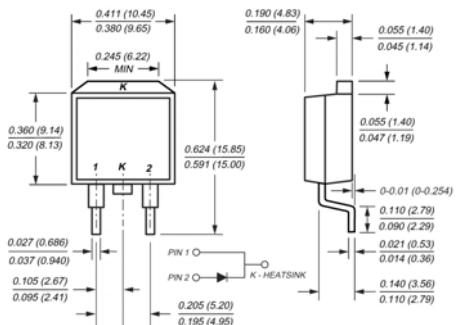
### Mounting Pad Layout TO-263AB



ITO-220AC



TO-263AB(D<sup>2</sup>PAK)



Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

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

| Parameter   | Symbol          | SBL1030   | SBL1040 | 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 (See Fig. 1)  | $I_{F(AV)}$     | 10  |         | Amps                      |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)                        | $I_{FSM}$       | 250   |         | Amps                      |
| Maximum instantaneous forward voltage at 10A (Note 4)   | $V_F$           | 0.60  |         | Volts                     |
| Maximum instantaneous reverse current at DC blocking voltage (Note 4) $T_c=25^\circ\text{C}$<br>$T_c=100^\circ\text{C}$ | $I_R$           | 1.0<br>50.0                                     |         | mA                        |
| Typical thermal resistance from junction to case  | $R_{\theta JC}$ | SBL 2.0 / SBLF 5.0 / SBLB 2.0                   |         | $^\circ\text{C}/\text{W}$ |
| RMS Isolation voltage (SBLF type only) from terminals to heatsink with $t = 1.0$ second, $\text{RH} \leq 30\%$          | $V_{ISOL}$      | 4500 (Note 1)<br>3500 (Note 2)<br>1500 (Note 3) |         | Volts                     |
| Operating junction temperature range  | $T_J$           | -55 to +125                                     |         | $^\circ\text{C}$          |
| 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: 300μs pulse width, 1% duty cycle

## RATINGS AND CHARACTERISTIC CURVES

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

