



# SBL20xxCT, SBLF20xxCT & SBLB20xxCT Series

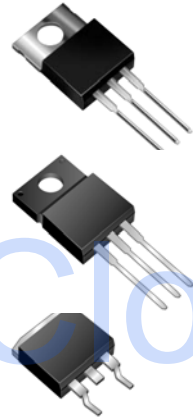
Dual Low  $V_F$  Schottky Barrier Rectifiers  
Reverse Voltage 30 to 40 Volts Forward Current 20.0 Amperes

## Features

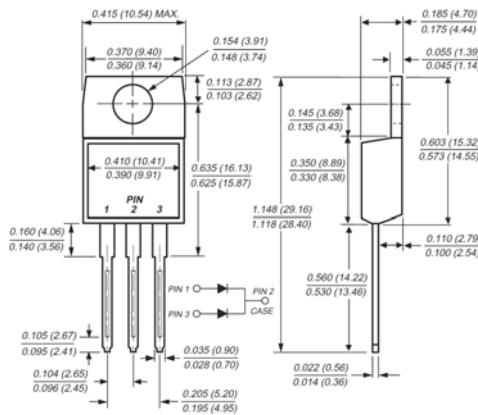
- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Dual rectifier construction, positive center tap
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ Guardring for overvoltage protection
- ◆ For use in low voltage, high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

## Mechanical Data

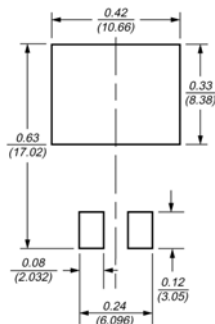
- ◆ Case: JEDEC TO-220AB, ITO-220AB & TO-263AB molded plastic body
- ◆ Terminals: Plated leads, solderable per MIL-STD-750, Method 2026
- ◆ Polarity: As marked
- ◆ Mounting Position: Any
- ◆ Mounting Torque: 10 in-lbs maximum
- ◆ Weight: 0.08 ounce, 2.24 grams



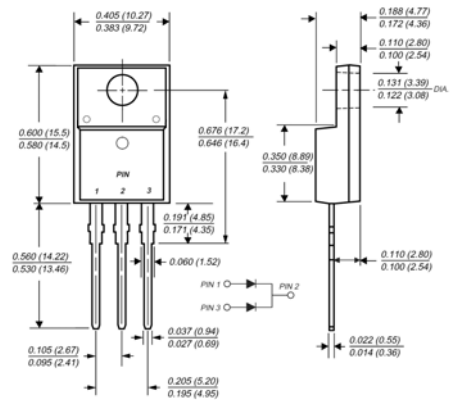
### TO-220AB



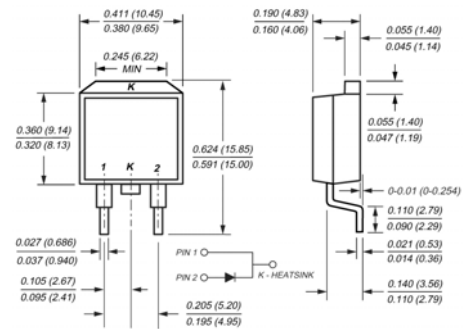
### Mounting Pad Layout TO-263AB



### ITO-220AB



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



Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

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

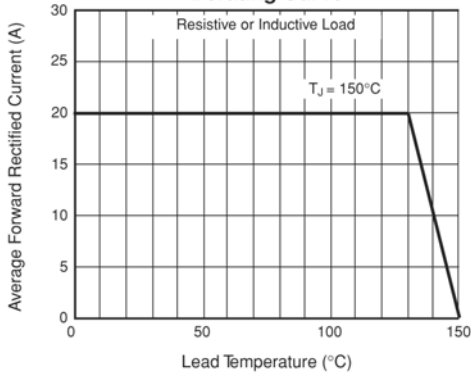
Parameter	Symbol	SBL2030CT	SBL2040CT	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	30	40	Volts
Working peak reverse voltage	$V_{RWM}$	30	40	Volts
Maximum DC blocking voltage	$V_{DC}$	30	40	Volts
Maximum average forward rectified current at $T_c=105^\circ\text{C}$	Total device Per leg $I_{F(AV)}$	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

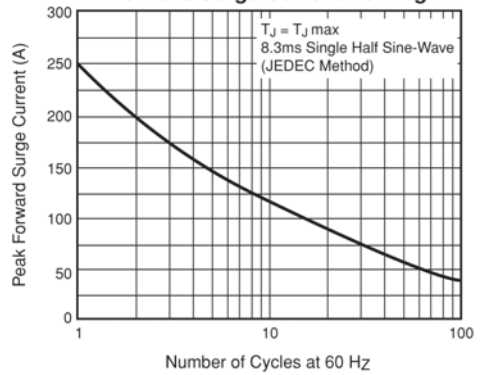
# RATINGS AND CHARACTERISTIC CURVES

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

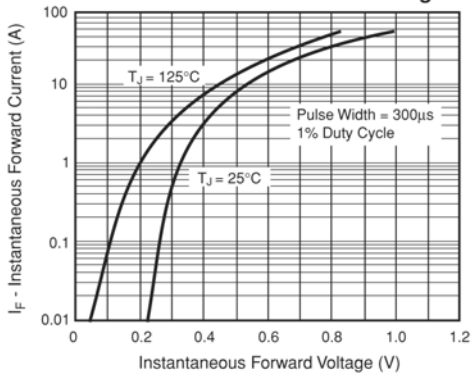
**Fig. 1 – Forward Current Derating Curve**



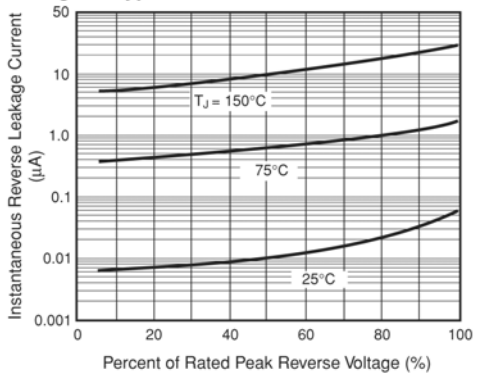
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



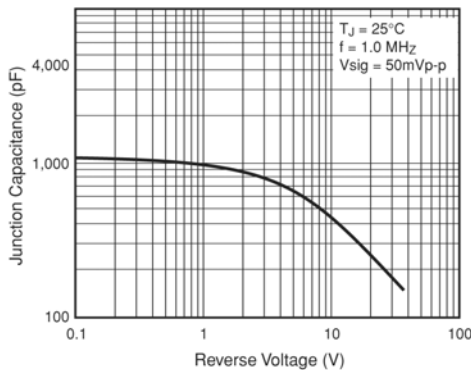
**Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg**



**Fig. 4 – Typical Reverse Characteristics Per Leg**



**Fig. 5 – Typical Junction Capacitance Per Leg**



**Fig. 6 – Typical Transient Thermal Impedance Per Leg**

