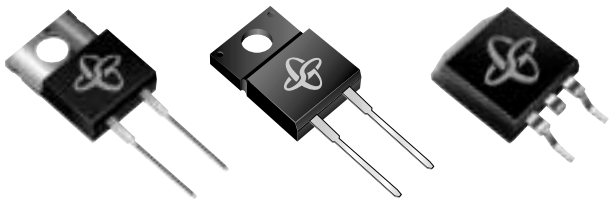
GENERAL SEMICONDUCTOR®

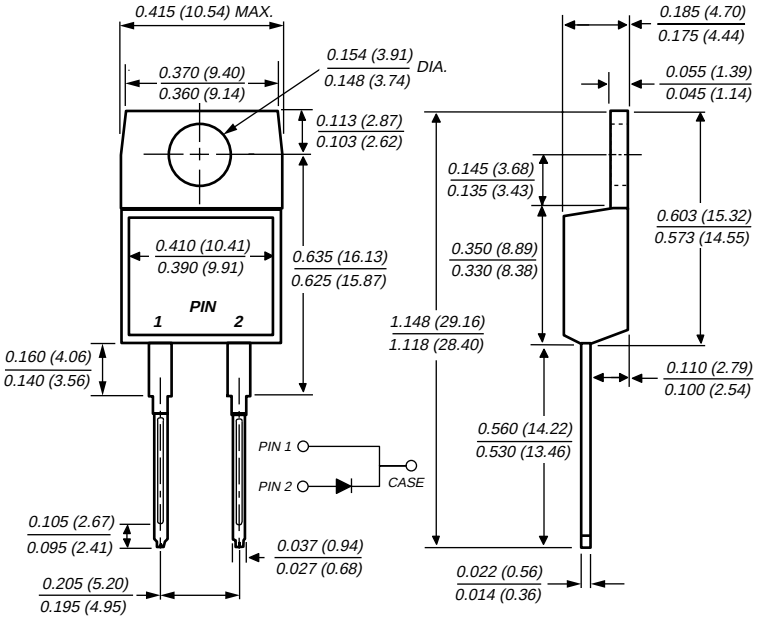
SBL10xx, SBLF10xx & SBLB10xx Series

Schottky Barrier Rectifier

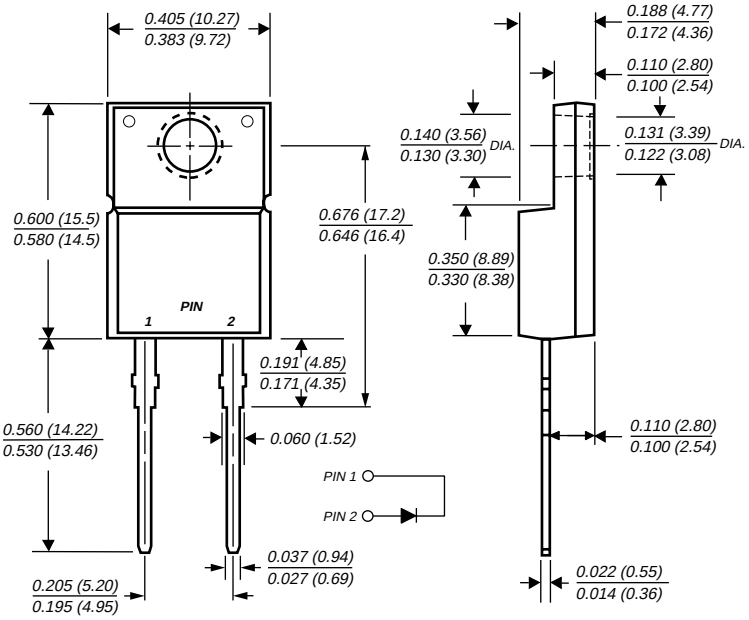
Reverse Voltage 30 and 40V
Forward Current 10A



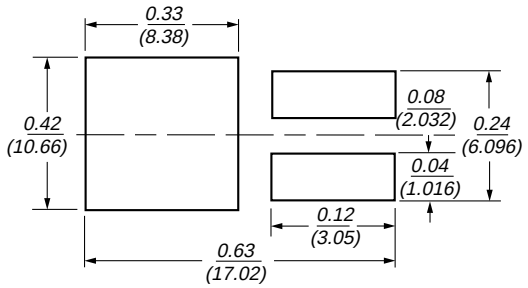
TO-220AC (SBL10xx)



ITO-220AC (SBLF10xx)

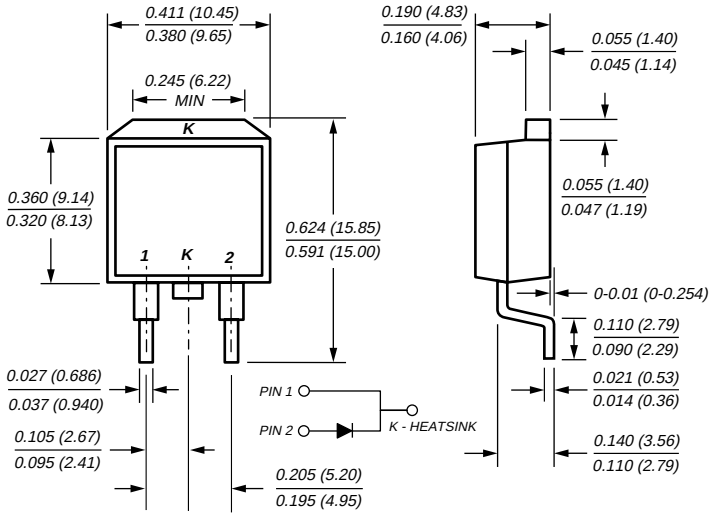


Mounting Pad Layout TO-263AB



Dimensions in inches and (millimeters)

TO-263AB (SBLB10xx)



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

5/8/00

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Schottky Barrier Rectifier

Maximum Ratings (T_C = 25°C unless otherwise noted)

Parameter	Symbol	SBL1030	SBL1040	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	30	40	V
Working peak reverse voltage	V_{RWM}	21	28	V
Maximum DC blocking voltage	V_{DC}	30	40	V
Maximum average forward rectified current at TC = 110 °C	$I_{F(AV)}$	10		A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I_{FSM}	250		A
Operating junction and storage temperature range	T_J, T_{STG}	–40 to +125		°C
RMS Isolation voltage (SBLF type only) from terminals to heatsink with t = 1 second, RH ≤ 30%	V_{ISOL}	4500 (NOTE 1) 3500 (NOTE 2) 1500 (NOTE 3)		V

Electrical Characteristics (T_C = 25°C unless otherwise noted)

Parameter		Symbol	Value	Unit
Maximum instantaneous forward voltage per leg at 10A (Note 4)		V_F	0.60	V
Maximum instantaneous reverse current atDC blocking voltage (Note 4)	T_C = 25°C T_C = 100°C	I_R	1.0 50	mA

Thermal Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	SBL	SBLF	SBLB	Unit
Typical thermal resistance from junction to case per leg	$R_{\Theta JC}$	2.0	5.0	2.0	°C/W

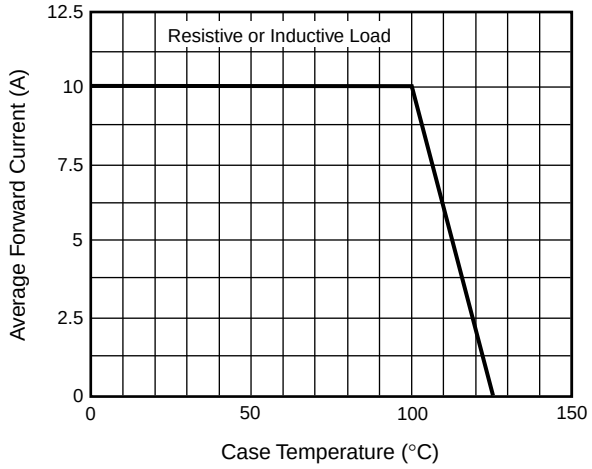
Notes:
(1) Clip mounting (on case), where lead does not overlap heatsink with 0.110” offset
(2) Clip mounting (on case), where leads do overlap heatsink
(3) Screw mounting with 4-40 screw, where washer diameter is ≤ 4.9 mm (0.19”)
(4) Pulse test: 300µs pulse width, 1% duty cycle

SBL10xx, SBLF10xx & SBLB10xx Series

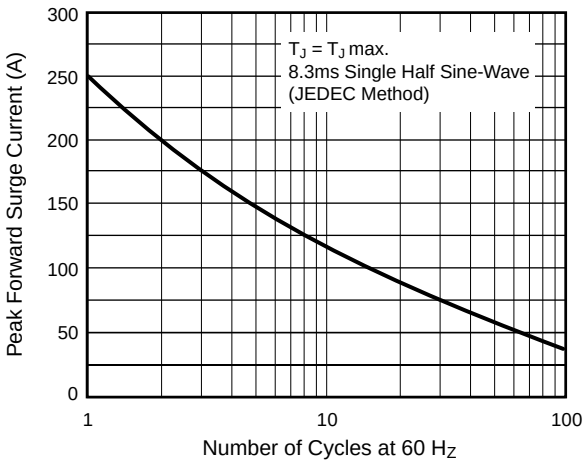
Schottky Barrier Rectifier

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

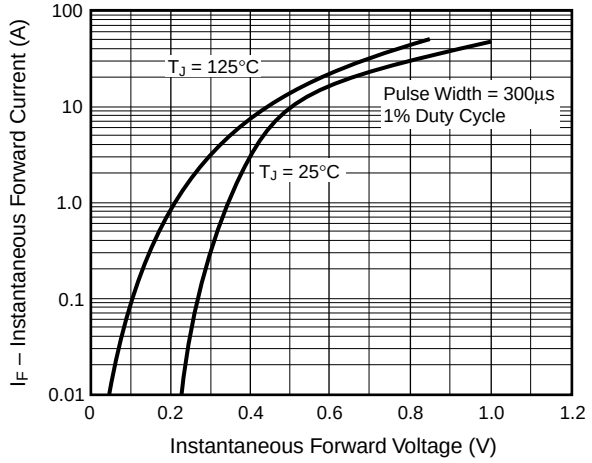
Forward Current Derating Curve



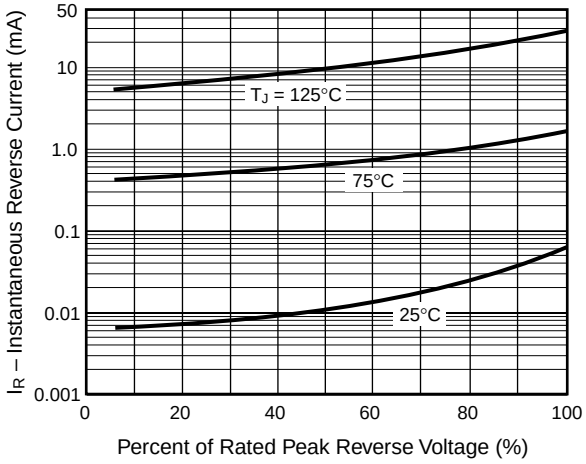
Maximum Non-Repetitive Peak Forward Surge Current Per Leg



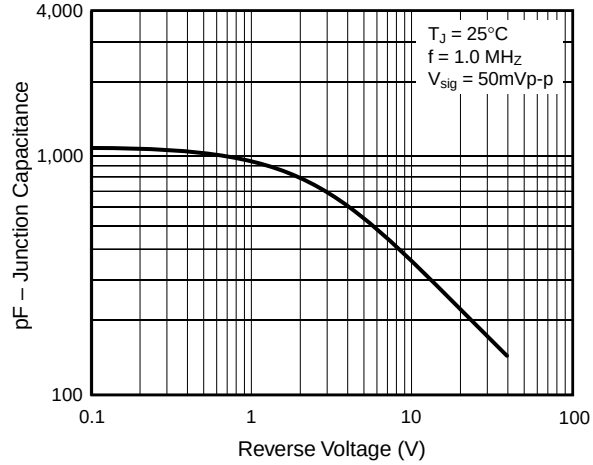
Typical Instantaneous Forward Characteristics Per Leg



Typical Reverse Characteristics Per Leg



Typical Junction Capacitance Per Leg



Typical Transient Thermal Impedance Per Leg