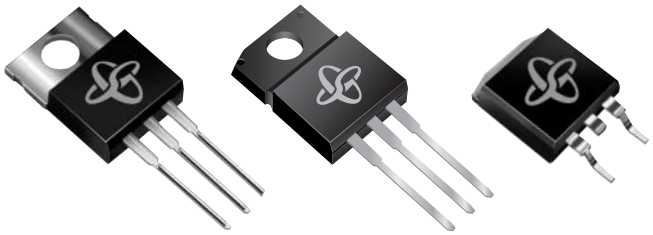
GENERAL SEMICONDUCTOR®

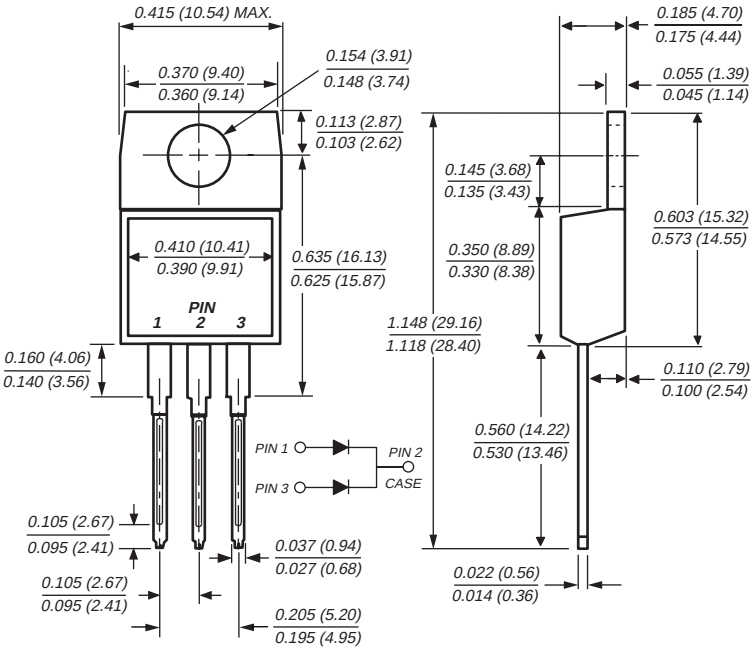
SBL10xxCT, SBLF10xxCT & SBLB10xxCT Series

Dual Schottky Rectifier

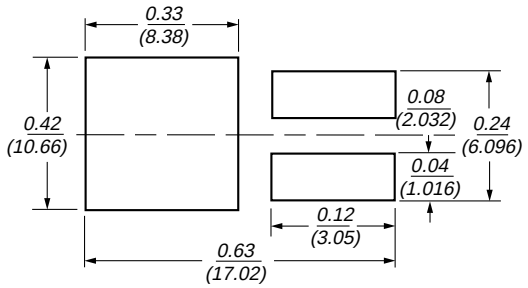
Reverse Voltage 30 and 40 V
Forward Current 10 A



TO-220AB (SBL10xxCT)

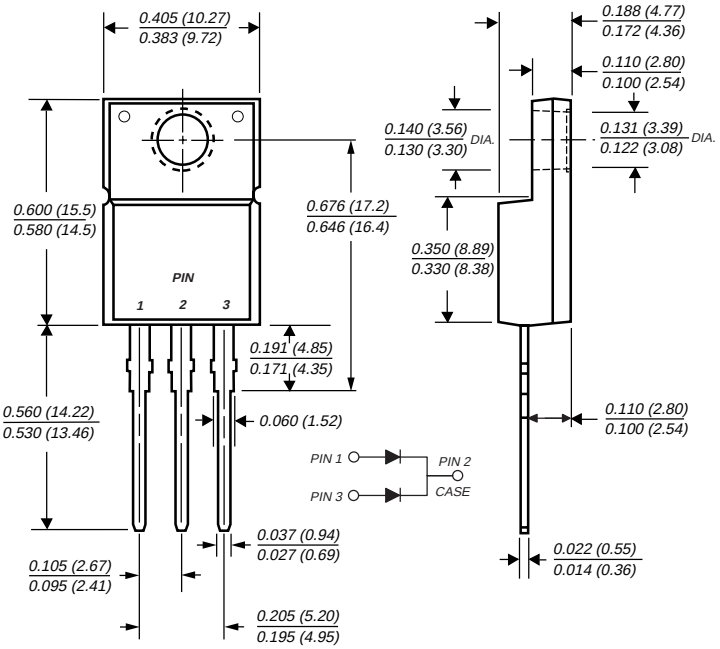


Mounting Pad Layout TO-263AB

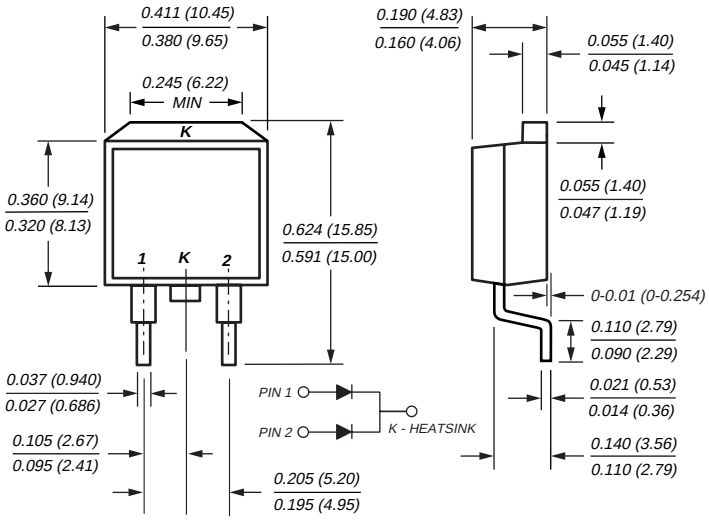


Dimensions in inches and (millimeters)

ITO-220AB (SBLF10xxCT)



TO-263AB (SBLB10xxCT)



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

3/1/00

GENERAL SEMICONDUCTOR®

SBL10xxCT, SBLF10xxCT & SBLB10xxCT Series

Dual Schottky Rectifier

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

Parameter	Symbol	SBL1030CT	SBL1040CT	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 *Total device* / *per leg*	$I_{F(AV)}$	10 5.0		A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I_{FSM}	175		A
Operating junction and storage temperature range	T_J, T_{STG}	–40 to +125		°C
RMS Isolation voltage (SBLF) 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 at 5.0A (NOTE 4)	V_F	0.55	V
Maximum instantaneous reverse current per leg at rated DC blocking voltage (Note 1) T_C = 25°C / T_C = 100°C	I_R	0.5 50	mA

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

Parameter	Symbol	SBL	SBLF	SBLB	Unit
Typical thermal resistance per leg	$R_{\Theta JC}$	3.0	5.0	3.0	°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

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

FIG. 1 - FORWARD CURRENT DERATING CURVE

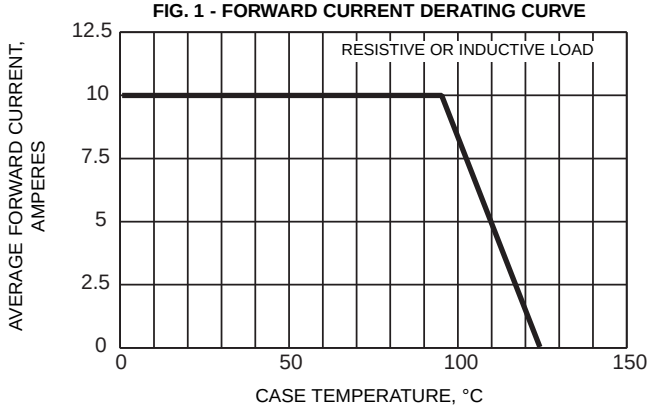


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

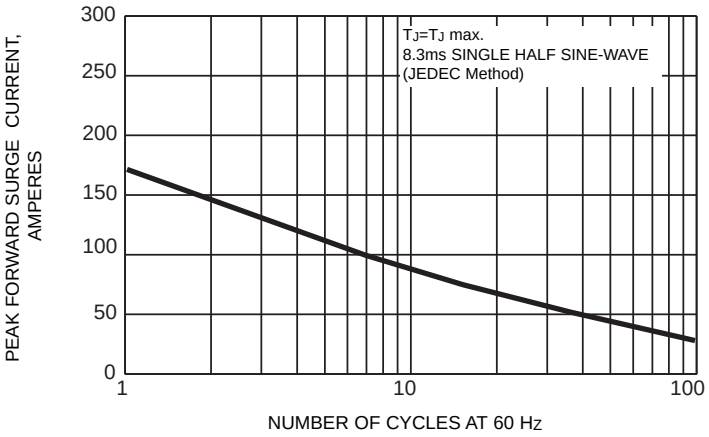


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

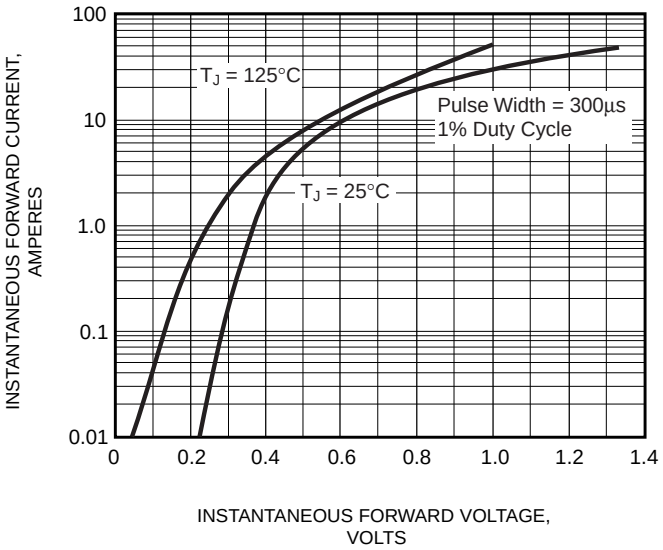


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG

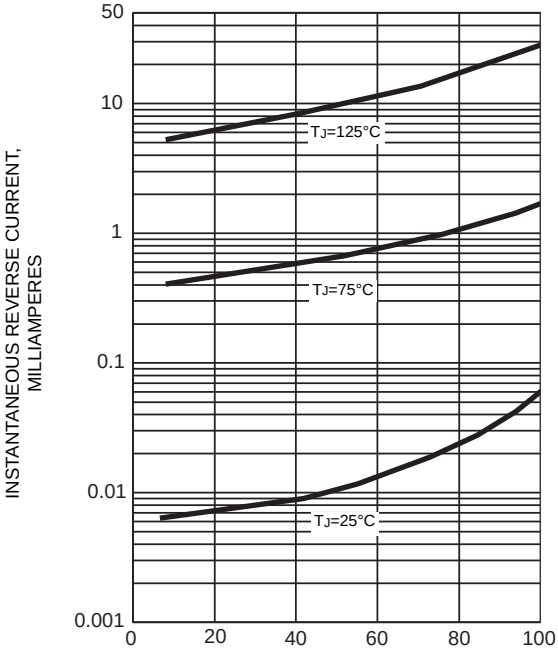


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

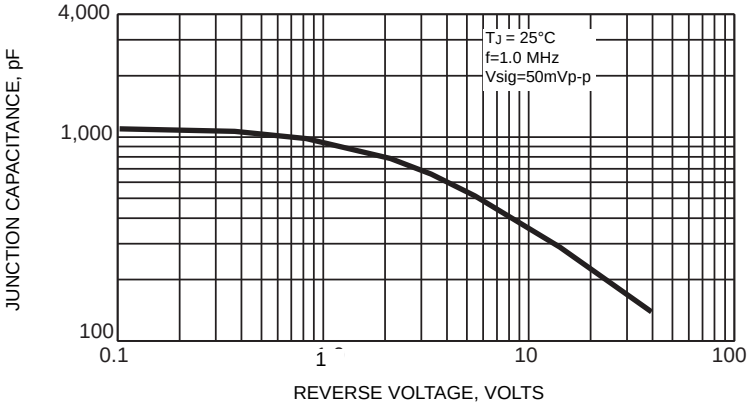


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG