

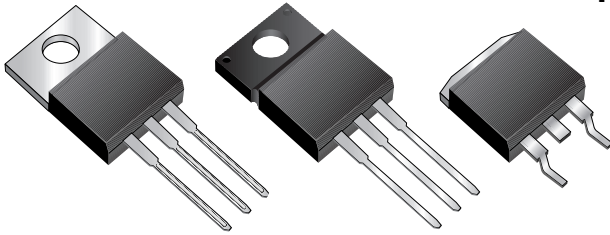


SBL20xxCT, SBLF20xxCT & SBLB20xxCT Series

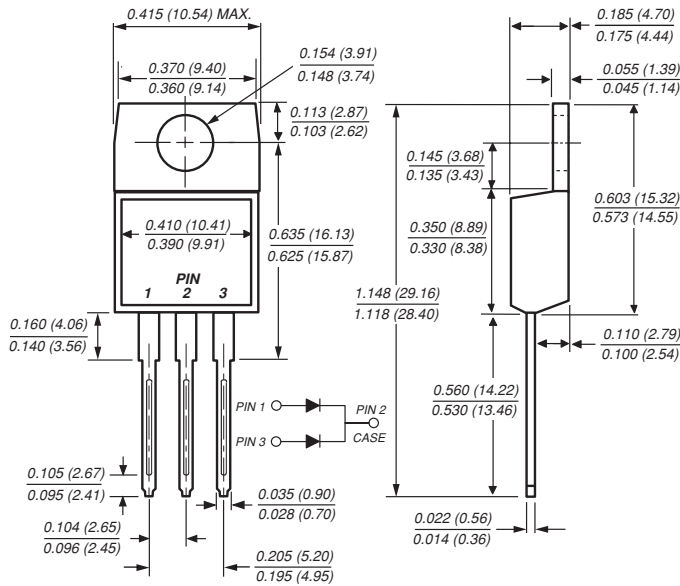
Vishay Semiconductors
formerly General Semiconductor

Dual Low V_F Schottky Rectifier

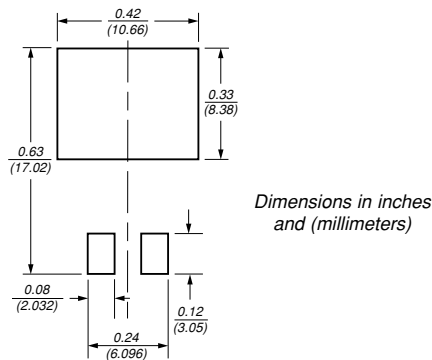
Reverse Voltage 30 and 40V
Forward Current 20A



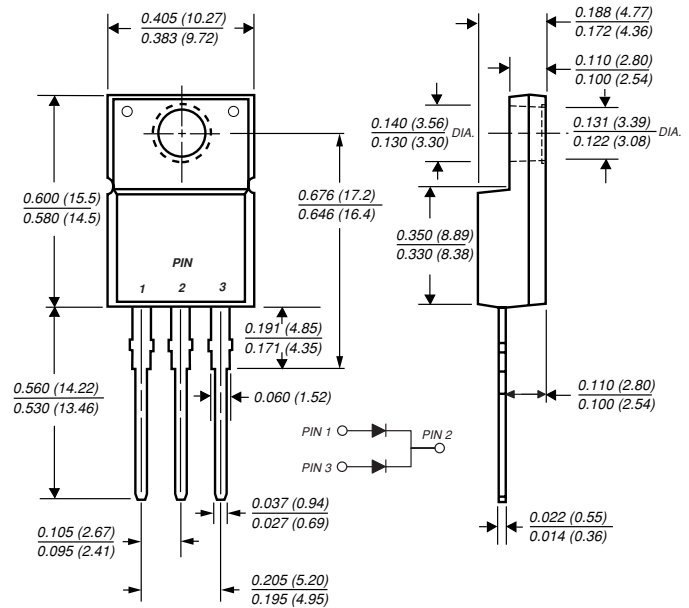
TO-220AB (SBL20xxCT)



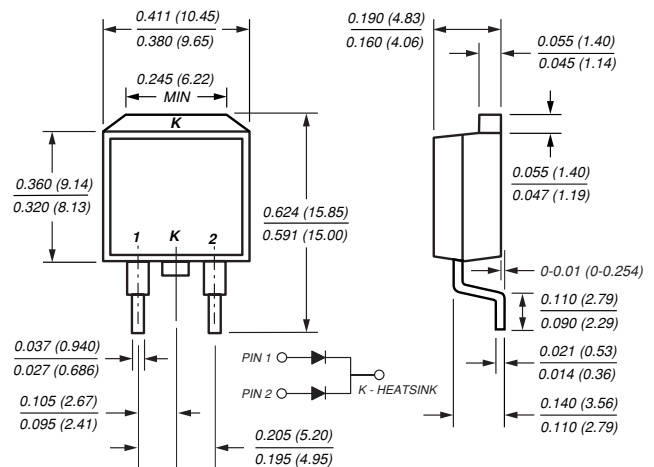
Mounting Pad Layout TO-263AB



ITO-220AB (SBLF20xxCT)



TO-263AB (SBLB20xxCT)



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 oz., 2.24 g

SBL20xxCT, SBLF20xxCT & SBLB20xxCT Series



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

Parameter	Symbol	SBL2030CT	SBL2040CT	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 T _C = 105°C <i>Total device</i> <i>Per leg</i>	I _{F(AV)}	20 10		A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I _{FSM}	175		A
Peak repetitive reverse surge current per leg at t _p = 2.0μs, 1KHz	I _{RRM}	1.0		A
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150		°C
RMS Isolation voltage (SBLF type only) from terminals to heatsink with t = 1.0 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 10 A (Note 4)	V _F	0.60	V
Maximum instantaneous current at rated DC blocking voltage per leg (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 _{θJC}	2.0	4.0	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



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

Fig. 1 – Forward Current Derating Curve

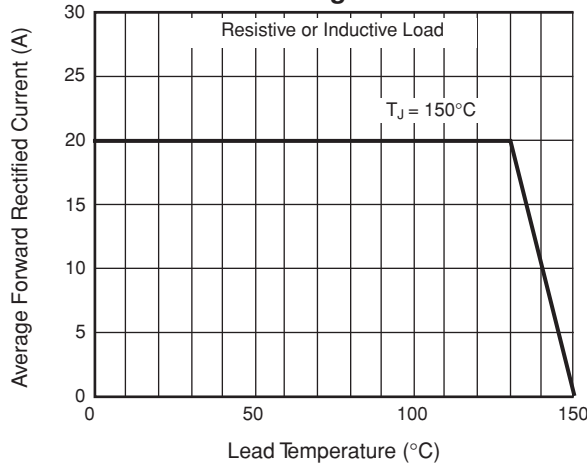


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg

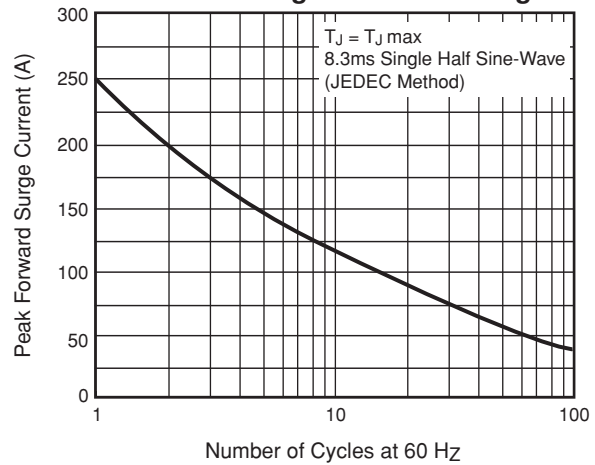


Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg

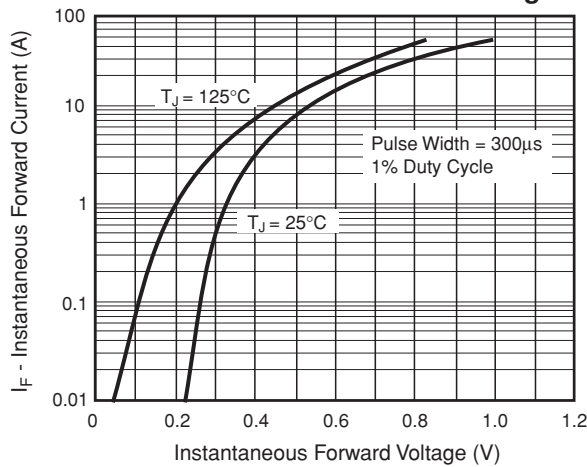


Fig. 4 – Typical Reverse Characteristics Per Leg

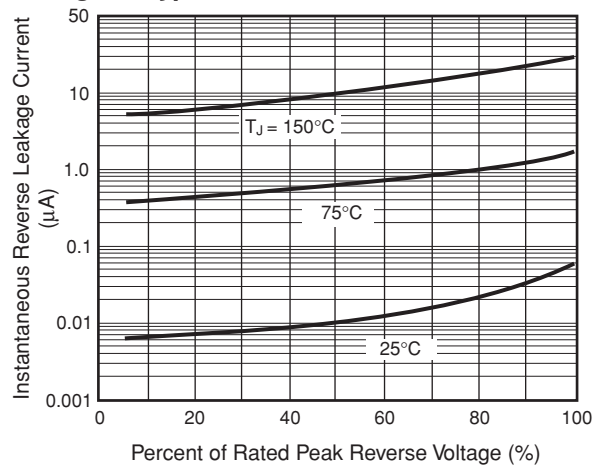


Fig. 5 – Typical Junction Capacitance Per Leg

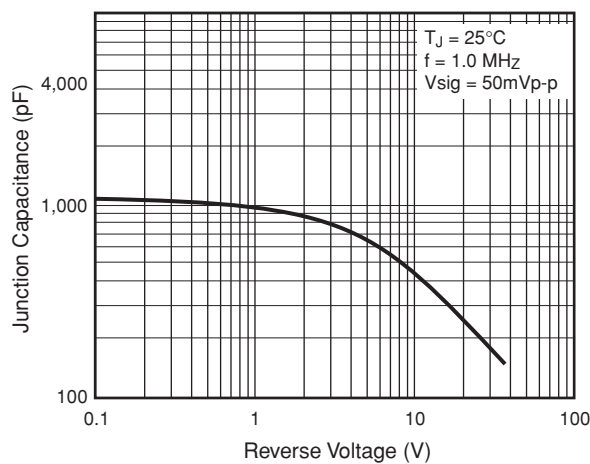
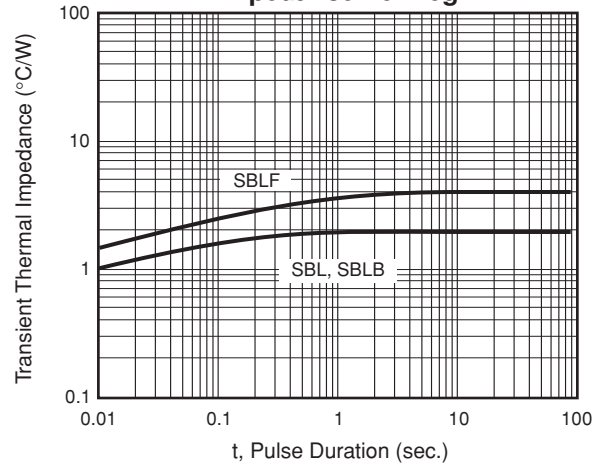


Fig. 6 – Typical Transient Thermal Impedance Per Leg





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