



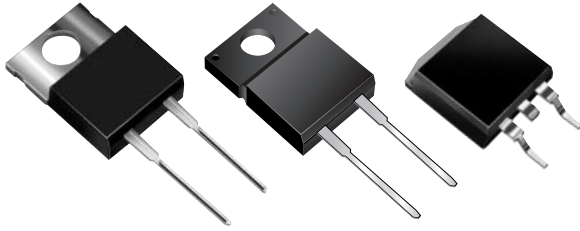
SBL20L15, SBLF20L15, SBLB20L15

New Product

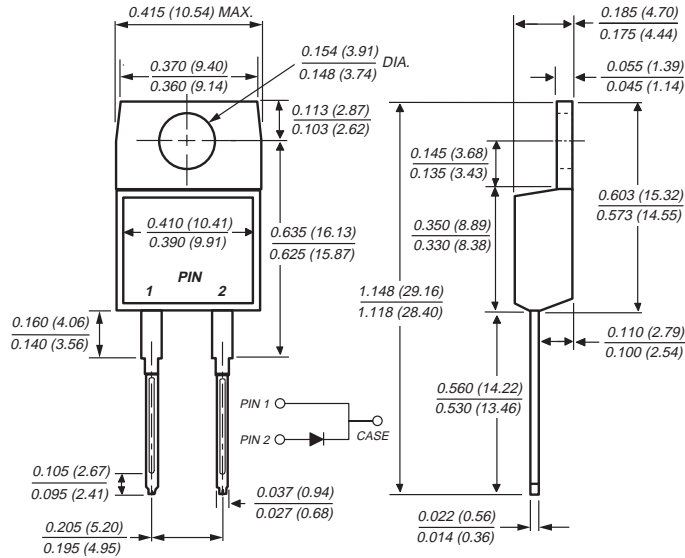
Vishay Semiconductors
formerly General Semiconductor

Low V_F Schottky OR-ing Rectifier

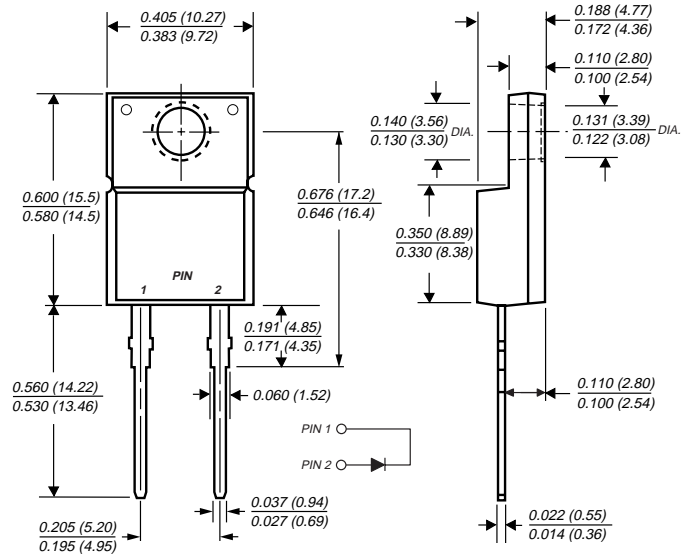
Reverse Voltage 15V
Forward Current 20A



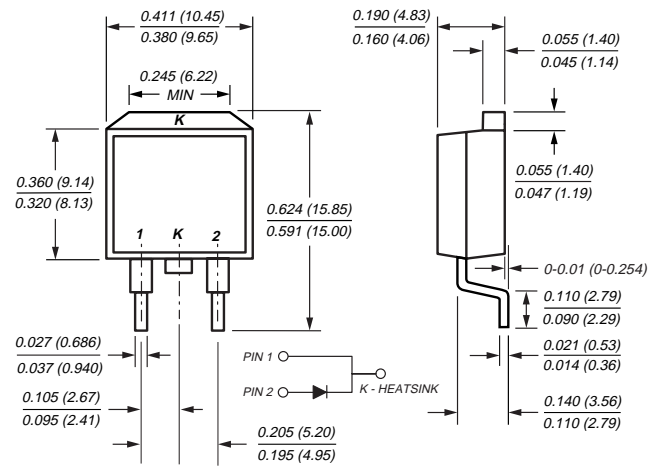
TO-220AC (SBL20L15)



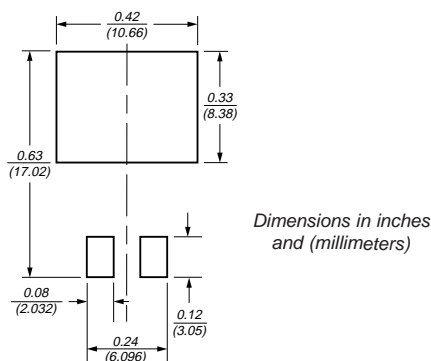
ITO-220AC (SBLF20L25)



TO-263AB (SBLB20L25)



Mounting Pad Layout TO-263AB



Features

- Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- 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
- Optimized for OR-ing applications

Mechanical Data

Case: JEDEC TO-220AC, ITO-220AC & TO-263AB molded plastic body

Terminals: Plated leads, solderable per MIL-STD-750, Method 2026

High temperature soldering guaranteed: 250°C/10 seconds, 0.25" (6.35mm) from case

Polarity: As marked

Mounting Position: Any

Mounting Torque: 10 in-lbs maximum

Weight: 0.08 oz., 2.24 g

SBL20L15, SBLF20L15, SBLB20L15



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

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	15	V
Working peak reverse voltage	V _{RWM}	15	V
Maximum DC blocking voltage	V _{DC}	15	V
Maximum average forward rectified current at T _C = 115°C	I _{F(AV)}	20	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	340	A
Peak repetitive reverse current at t _p = 2μs, 1KHz	I _{RRM}	2.0	A
Voltage rate of change (rated V _R)	dv/dt	10,000	V/μs
Maximum Operating Junction temperature	T _J	125	°C
Storage temperature range	T _{STG}	-65 to +150	°C
RMS Isolation voltage (SBLF type only) from terminals to heatsink with t = 1 second, RH ≤ 30%	V _{ISOL}	4500 ⁽¹⁾ 3500 ⁽²⁾ 1500 ⁽³⁾	V

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

Parameter	Symbol	Value	Unit
Maximum instantaneous forward voltage ⁽⁴⁾ at I _F = 19A, T _J = 25°C at I _F = 19A, T _J = 125°C at I _F = 40A, T _J = 25°C at I _F = 40A, T _J = 125°C	V _F	0.41 0.33 0.52 0.50	V
Maximum reverse current at working peak reverse voltage ⁽⁴⁾	I _R	6.0 500	mA mA

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

Parameter	Symbol	SBL	SBLF	SBLB	Unit
Typical thermal resistance, junction to case	R _{θJC}	1.6	4.0	1.6	°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

Ordering Information

Product	Case	Package Code	Package Option
SBL20L15	TO-220AC	45	Anti-static tube, 50/tube, 2K/carton
SBLF20L15	ITO-220AC	45	Anti-static tube, 50/tube, 2K/carton
SBLB20L15	TO-263AB	31	13" reel, 800/reel, 4.8K/carton
		45	Anti-static tube, 50/tube, 2K/carton
		81	Anti-static 13" reel, 800/reel, 4.8K/carton

Ratings and Characteristic Curves

Fig. 1 – Forward Current Derating Curve

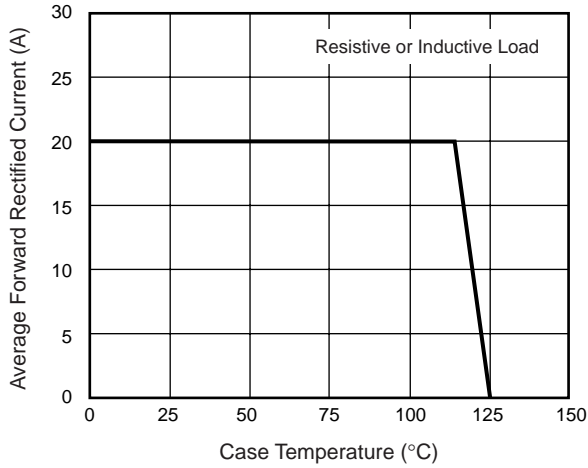


Fig. 2 - Typical Instantaneous Forward Characteristics

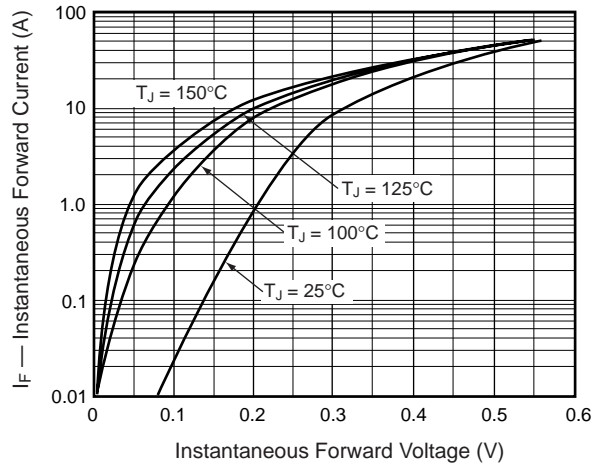


Fig. 3 - Typical Reverse Characteristics

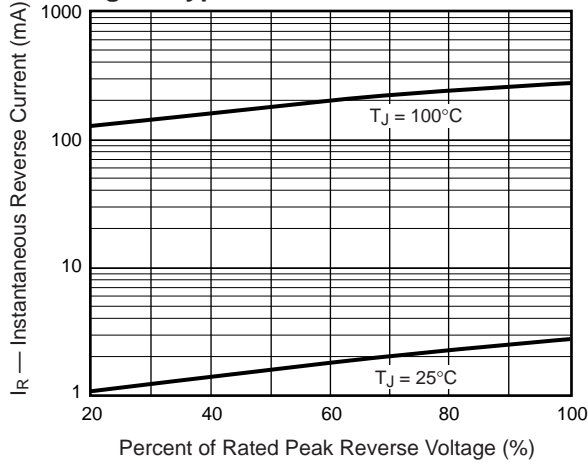


Fig. 4 - Typical Junction Capacitance

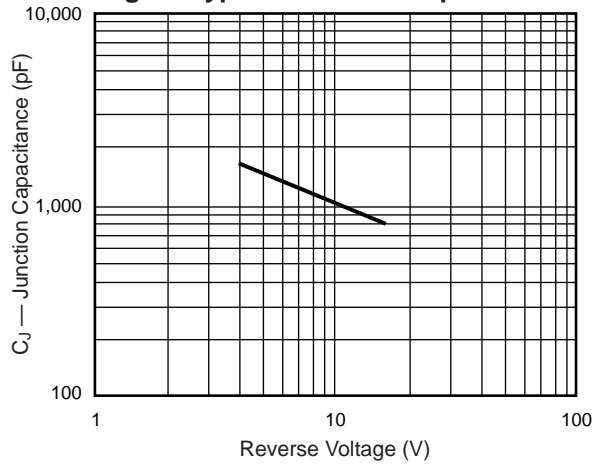


Fig. 5 - Typical Transient Thermal Impedance

