



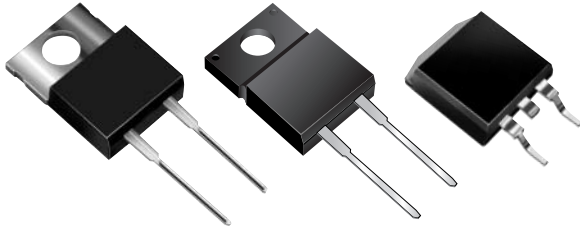
# SBL10L30, SBLF10L30 & SBLB10L30

New Product

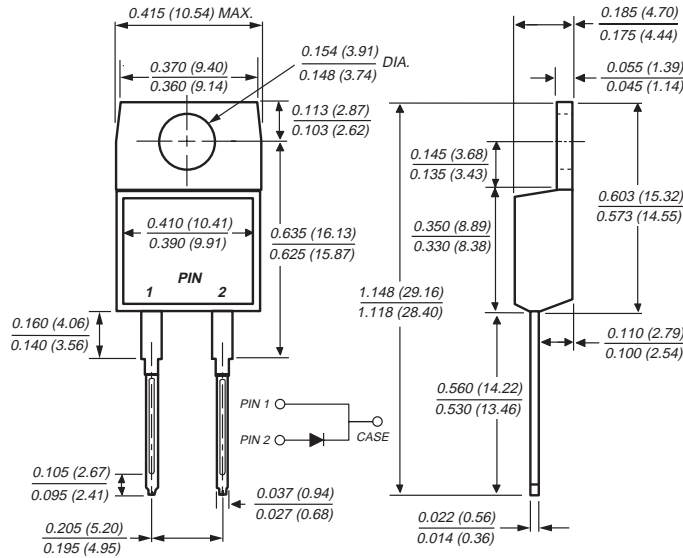
Vishay Semiconductors  
formerly General Semiconductor

## Schottky Barrier Rectifier

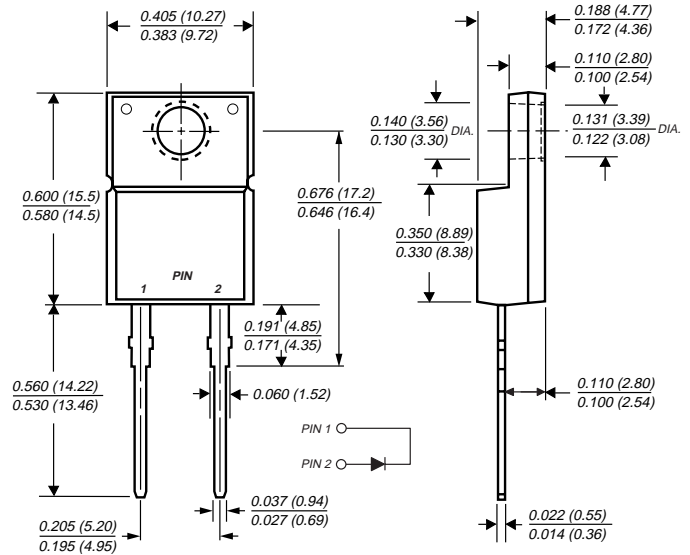
Reverse Voltage 30V  
Forward Current 10A



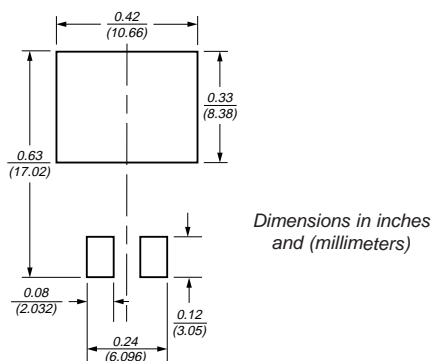
TO-220AC (SBL10L30)



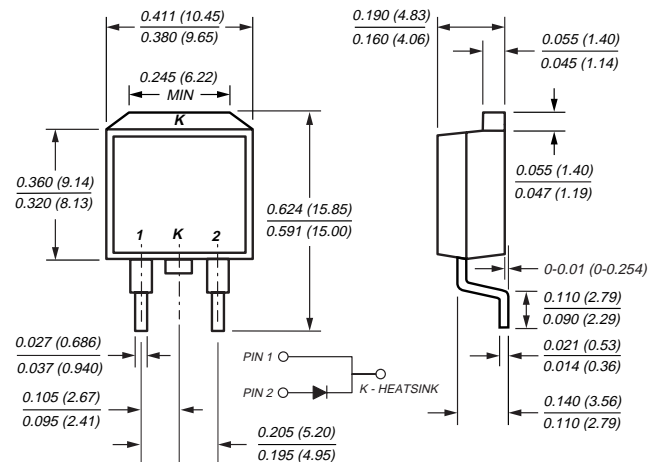
ITO-220AC (SBLF10L30)



Mounting Pad Layout TO-263AB



TO-263AB (SBLB10L30)



## 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

## 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

# SBL10L30, SBLF10L30 & SBLB10L30



Vishay Semiconductors  
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## Maximum Ratings (T<sub>C</sub> = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	30	V
Working peak reverse voltage	V <sub>RWM</sub>	21	V
Maximum DC blocking voltage	V <sub>DC</sub>	30	V
Maximum average forward rectified current at T <sub>C</sub> = 140 °C	I <sub>F(AV)</sub>	10	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	200	A
Peak repetitive reverse current at t <sub>p</sub> = 2μs, 1kHz	I <sub>RRM</sub>	1.0	A
Voltage rate of change (rated V <sub>R</sub> )	dv / dt	10,000	V / μs
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C
RMS Isolation voltage (SBLF type only) from terminals to heatsink with t = 1 second, RH ≤ 30%	V <sub>ISOL</sub>	4500 <sup>(1)</sup> 3500 <sup>(2)</sup> 1500 <sup>(3)</sup>	V

## Electrical Characteristics (T<sub>C</sub> = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Maximum instantaneous forward voltage <sup>(4)</sup>	V <sub>F</sub>	at I <sub>F</sub> = 10A, T <sub>J</sub> = 25°C 0.52	V
		at I <sub>F</sub> = 10A, T <sub>J</sub> = 125°C 0.43	
Maximum instantaneous reverse current at DC blocking voltage <sup>(4)</sup>	I <sub>R</sub>	T <sub>J</sub> = 25°C 1.0	mA
		T <sub>J</sub> = 125°C 100	

## Thermal Characteristics (T<sub>C</sub> = 25°C unless otherwise noted)

Parameter	Symbol	SBL	SBLF	SBLB	Unit
Typical thermal resistance from junction to case per leg	R <sub>θJC</sub>	4.3	4.8	4.3	°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, 2% duty cycle

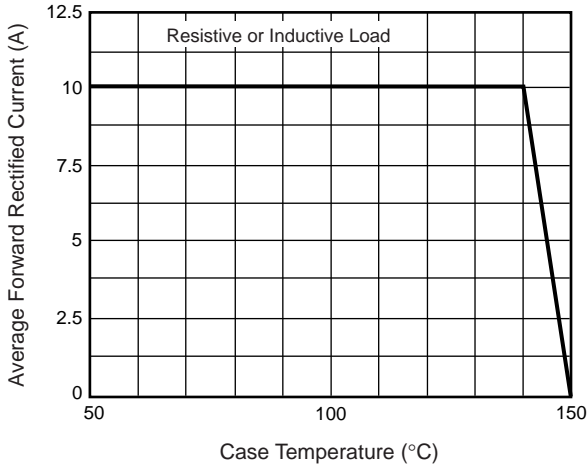
## Ordering Information

Product	Case	Package Code	Package Option
SBL10L30	TO-220AC	45	Anti-Static tube, 50/tube, 2K/carton
SBLF10L30	ITO-220AC	45	Anti-Static tube, 50/tube, 2K/carton
SBLB10L30	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

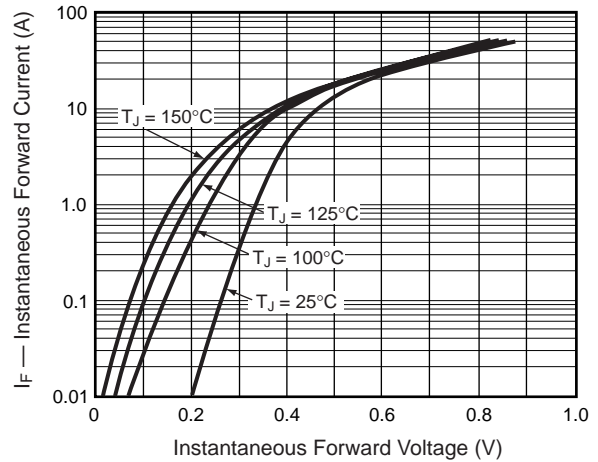


**Ratings and Characteristic Curves** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

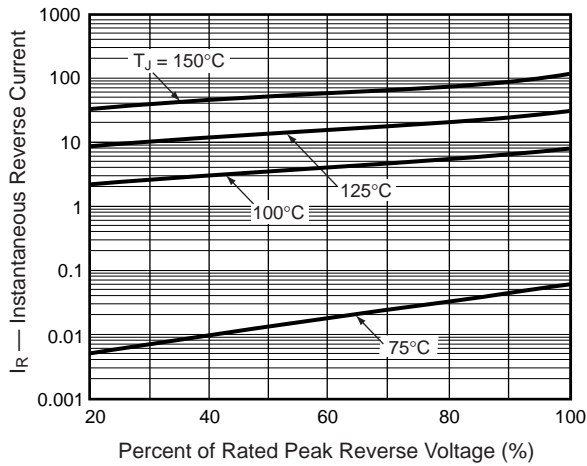
**Fig. 1 - Forward Current Derating Curve**



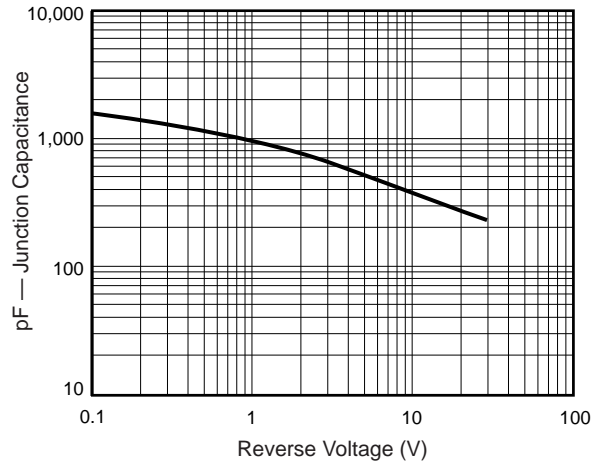
**Fig. 2 - Typical Instantaneous Forward Characteristics**



**Fig. 3 - Typical Reverse Characteristics**



**Fig. 4 - Typical Junction Capacitance**



**Fig. 5 - Typical Thermal Impedance**

