



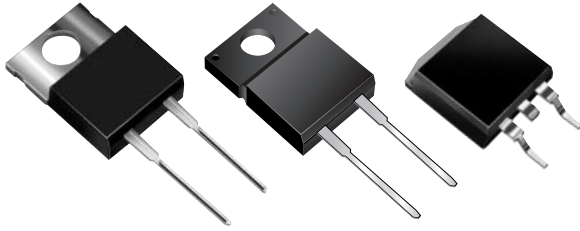
# SBL10L25, SBLF10L25 & SBLB10L25

New Product

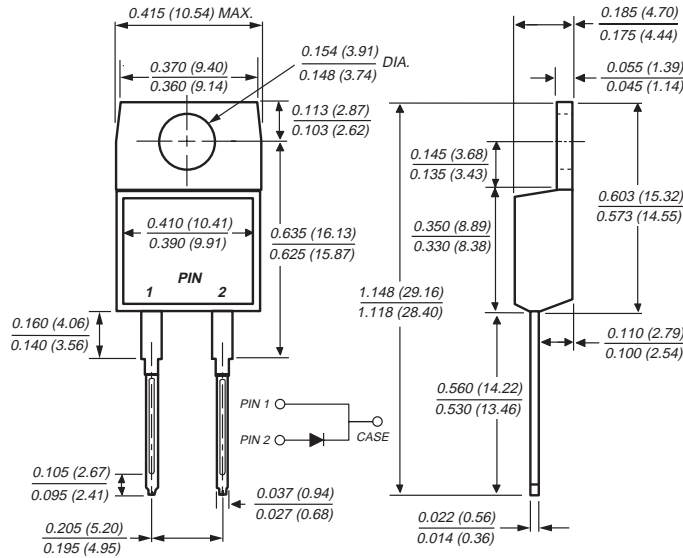
Vishay Semiconductors  
formerly General Semiconductor

## Low $V_F$ Schottky Barrier Rectifier

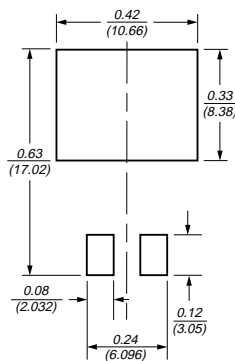
Reverse Voltage 25V  
Forward Current 10A



TO-220AC (SBL10L25)

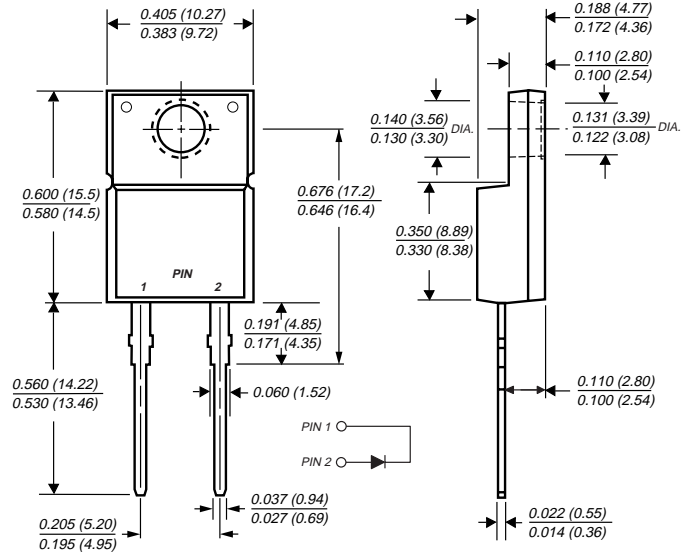


Mounting Pad Layout TO-263AB

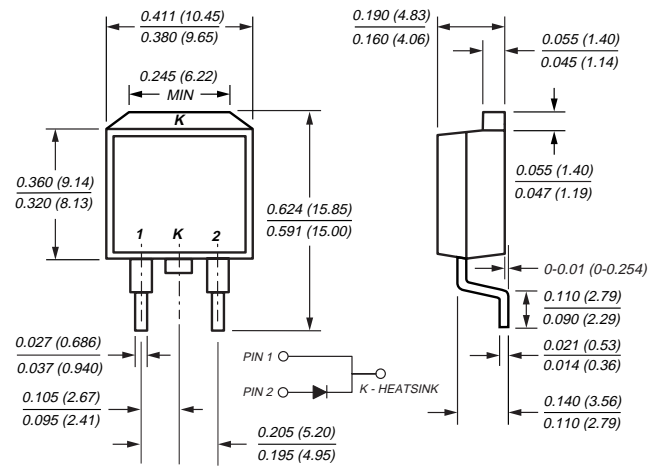


Dimensions in inches and (millimeters)

ITO-220AC (SBLF10L25)



TO-263AB (SBLB10L25)



## 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, at terminals

**Polarity:** As marked

**Mounting Position:** Any

**Mounting Torque:** 10 in-lbs maximum

**Weight:** 0.08 oz., 2.24 g

# SBL10L25, SBLF10L25 & SBLB10L25



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

Parameter	Symbol	SBL10L25	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	25	V
Working peak reverse voltage	V <sub>RWM</sub>	18	V
Maximum DC blocking voltage	V <sub>DC</sub>	25	V
Maximum average forward rectified current at T <sub>C</sub> = 135°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>	240	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	0.46
		at I <sub>F</sub> = 10A, T <sub>J</sub> = 125°C	0.35
		at I <sub>F</sub> = 20A, T <sub>J</sub> = 25°C	0.55
		at I <sub>F</sub> = 20A, T <sub>J</sub> = 125°C	0.48
Maximum instantaneous reverse current at DC blocking voltage <sup>(4)</sup>	I <sub>R</sub>	T <sub>J</sub> = 25°C	0.80
		T <sub>J</sub> = 125°C	260

## 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>	1.5	4.0	1.5	°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: 380μs pulse width, 2% duty cycle

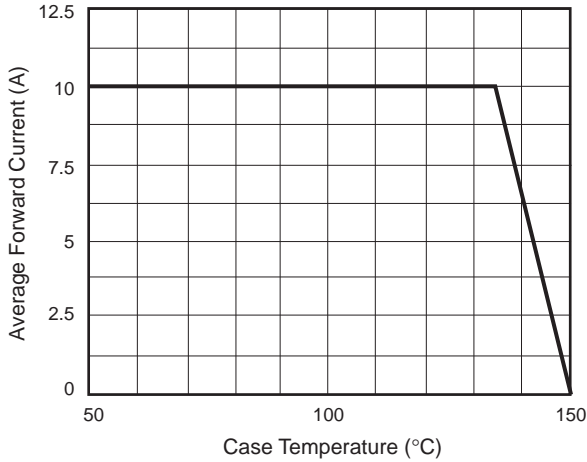
## Ordering Information

Part Number	Case	Package Code	Package Option
SBL10L25	TO-220AC	45	Anti-static tube pack, 50/tube, 2K/carton
SBLF10L25	ITO-220AC	45	Anti-static tube pack, 50/tube, 2K/carton
SBLB10L25	TO-263AB	45	Anti-static tube pack, 50/tube, 2K/carton
		31	13" tape/reel, 800/reel, 4.8K/carton
		81	Anti-static 13" tape/reel, 800/reel, 4.8K/carton

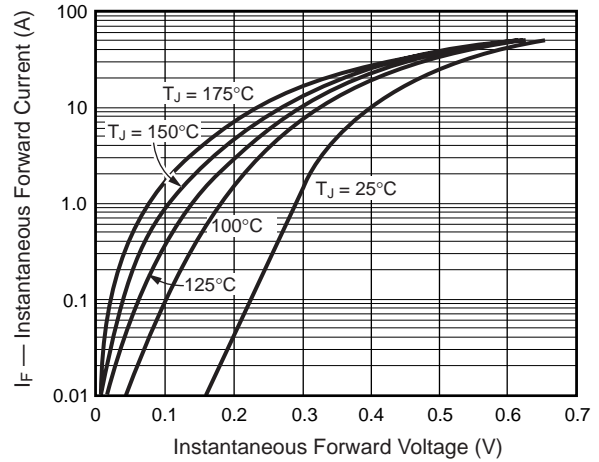


**Ratings and Characteristic Curves** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

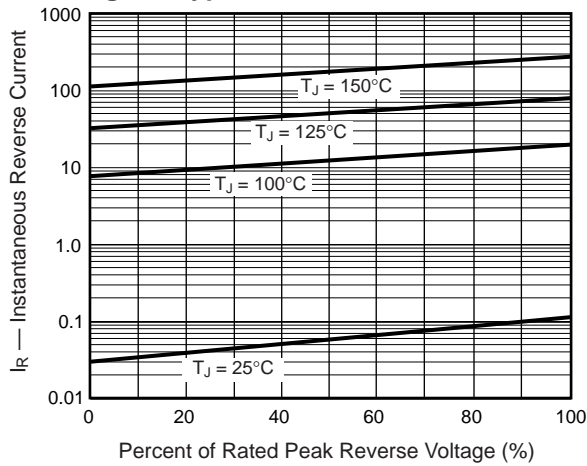
**Fig. 1 – Forward Current Derating Curve**



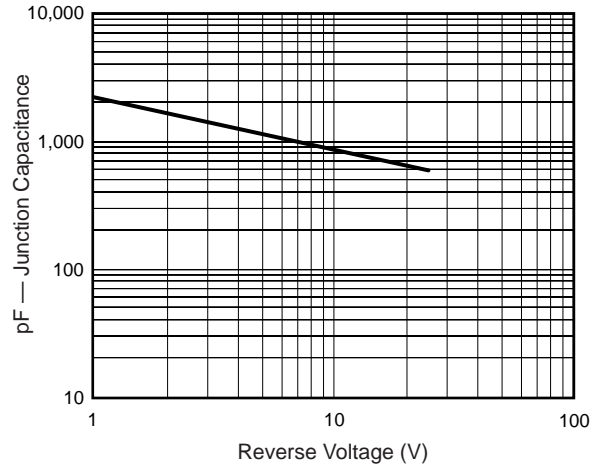
**Fig. 2 – Typical Instantaneous Forward Characteristics**



**Fig. 3 – Typical Reverse Characteristics**



**Fig. 4 – Typical Junction Capacitance**



**Fig. 5 – Typical Transient Thermal Impedance**

