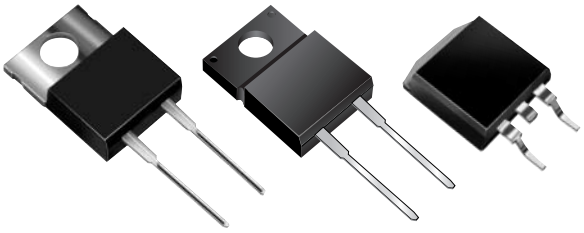
New Product

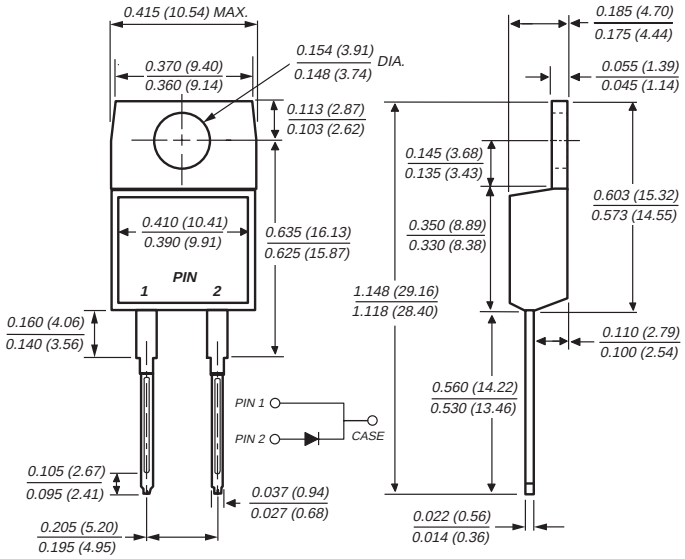
Vishay Semiconductors
formerly General Semiconductor

Low V_F Schottky Barrier Rectifier

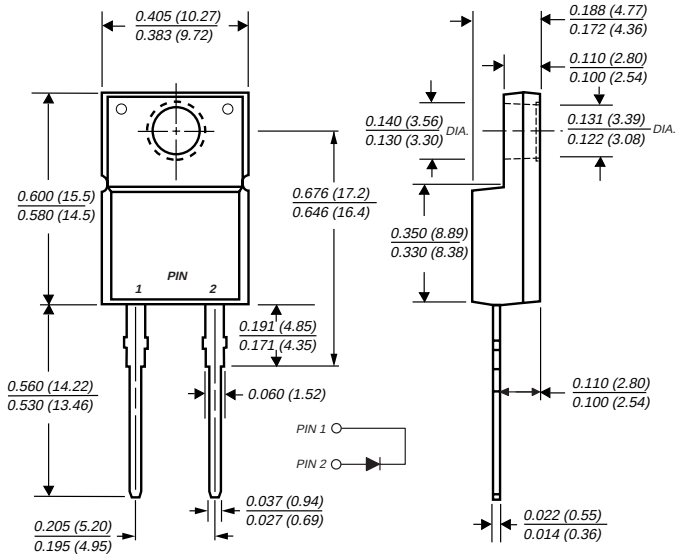
Reverse Voltage 25V
Forward Current 10A



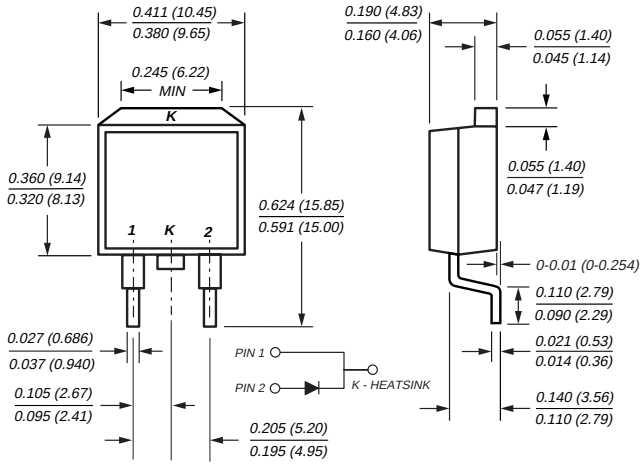
TO-220AC (SBL10L25)



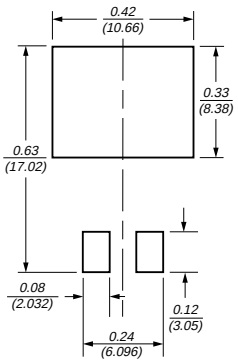
ITO-220AC (SBLF10L25)



TO-263AB (SBLB10L25)



Mounting Pad Layout TO-263AB



Dimensions in inches and (millimeters)

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

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

Parameter	Symbol	SBL10L25	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	25	V
Working peak reverse voltage	V_{RWM}	18	V
Maximum DC blocking voltage	V_{DC}	25	V
Maximum average forward rectified current at T_C = 135°C	$I_{F(AV)}$	10	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	240	A
Peak repetitive reverse current at t_p = 2µs, 1kHz	I_{RRM}	1.0	A
Voltage rate of change (rated V_R)	dv / dt	10,000	V / µs
Operating junction and storage temperature range	T_J, 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 = 10A, T_J = 25°C at I_F = 10A, T_J = 125°C at I_F = 20A, T_J = 25°C at I_F = 20A, T_J = 125°C	V_F	0.46 0.35 0.55 0.48	V
Maximum instantaneous reverse current at DC blocking voltage(4)	T_J = 25°C T_J = 125°C	I_R	0.80 260	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	$R_{\theta JC}$	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 31 81	Anti-static tube pack, 50/tube, 2K/carton 13" tape/reel, 800/reel, 4.8K/carton Anti-static 13" tape/reel, 800/reel, 4.8K/carton

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

Fig. 1 – Forward Current Derating Curve

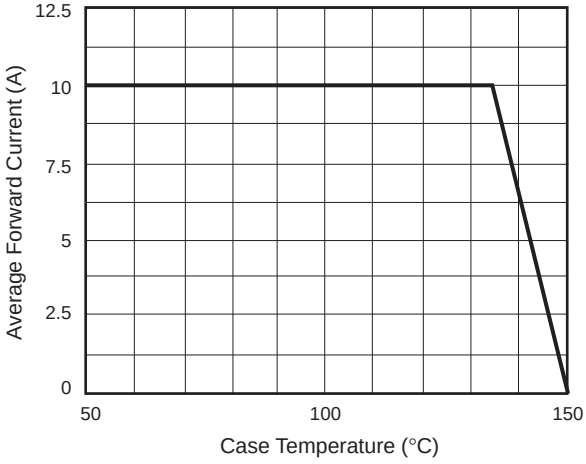


Fig. 2 – Typical Instantaneous Forward Characteristics

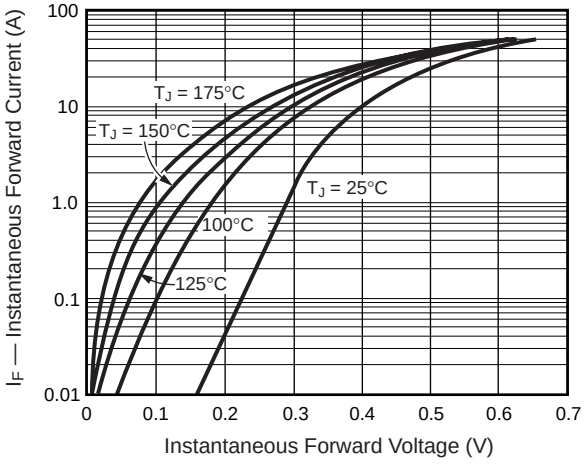


Fig. 3 – Typical Reverse Characteristics

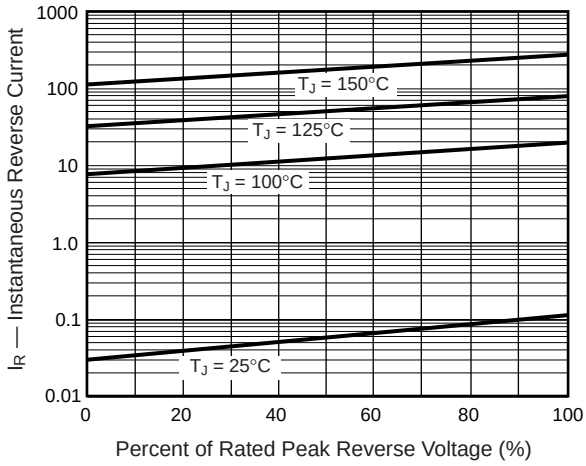


Fig. 4 – Typical Junction Capacitance

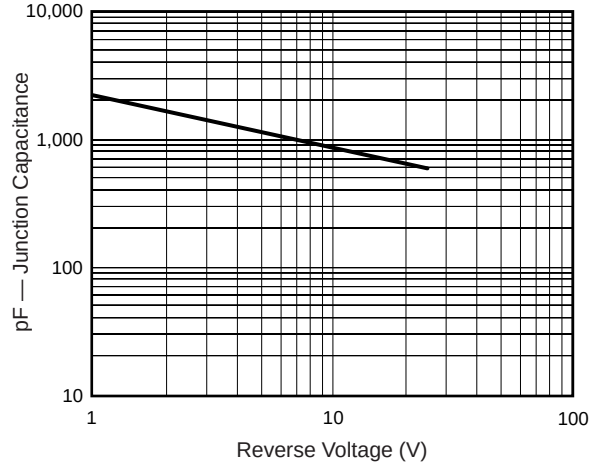


Fig. 5 – Typical Transient Thermal Impedance