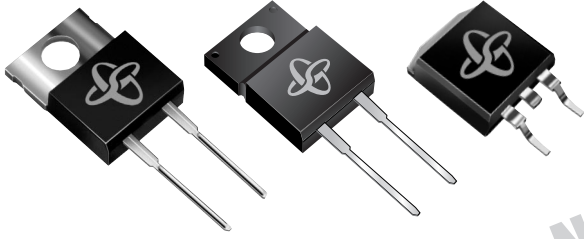


SBL10L25, SBLF10L25 & SBLB10L25

Low V_F Schottky Barrier Rectifier

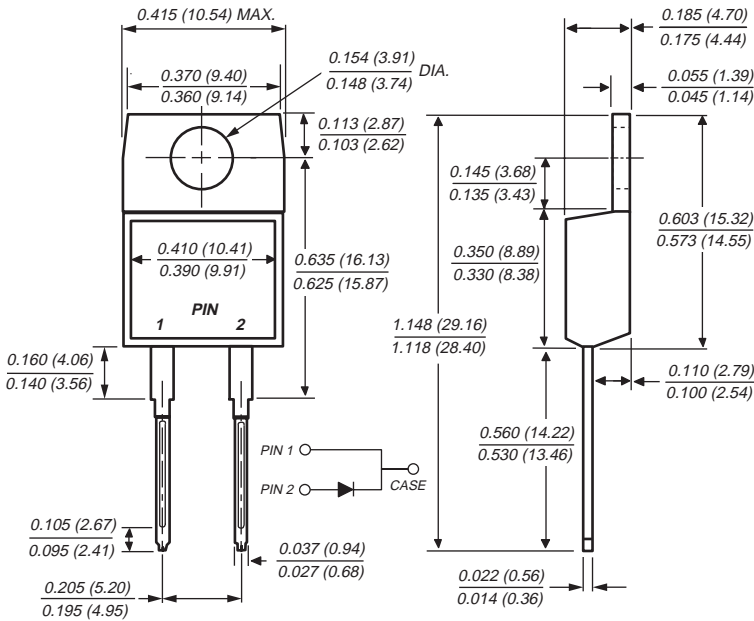
Reverse Voltage 25V

Forward Current 10A

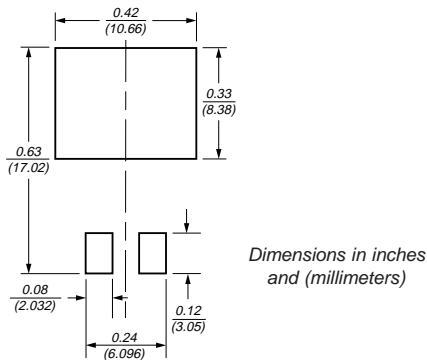


New Product

TO-220AC (SBL10L25)

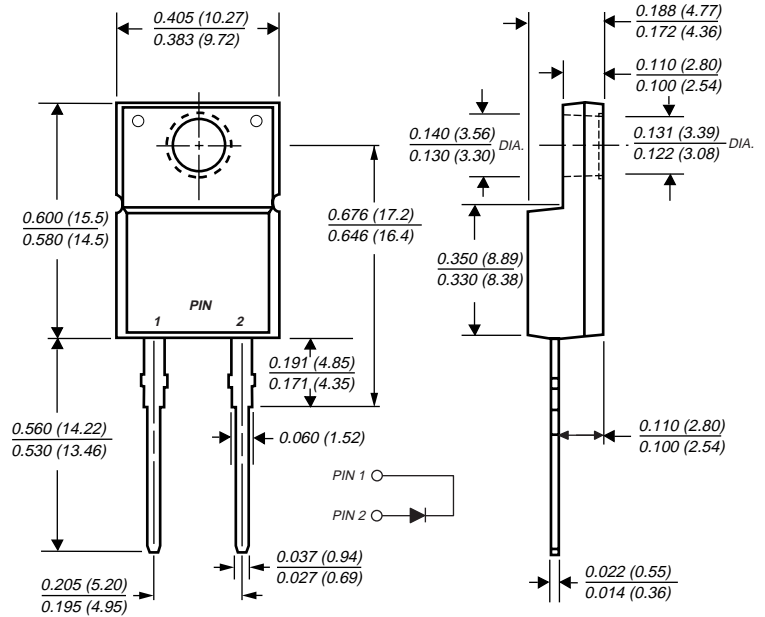


Mounting Pad Layout TO-263AB

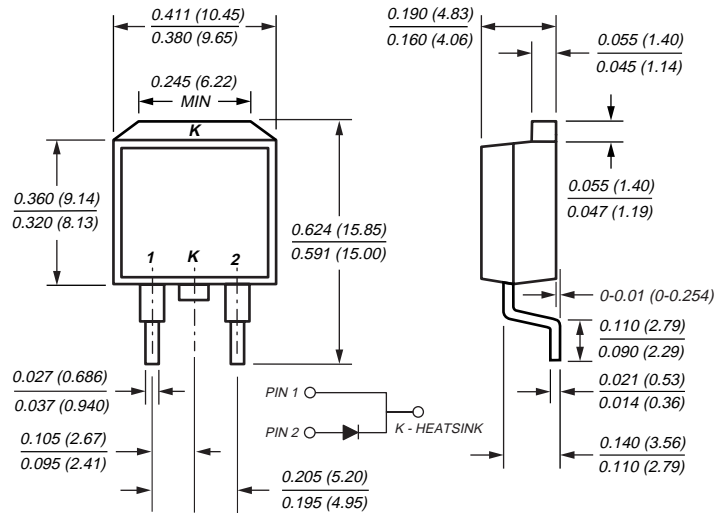


Dimensions in inches and (millimeters)

ITO-220AC (SBLF10L25)



TO-263AB (SBLB10L25)



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: 0.08oz., 2.24g

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

SBL10L25, SBLF10L25 & SBLB10L25

Low V_F Schottky Barrier Rectifier

Maximum Ratings ($T_C = 25^\circ\text{C}$ 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 $T_C = 135^\circ\text{C}$	$I_{F(AV)}$	10	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I_{FSM}	240	A
Peak repetitive reverse current at $t_p = 2\mu\text{s}$, 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	$^\circ\text{C}$
RMS Isolation voltage (SBLF type only) from terminals to heatsink with $t = 1$ second, $RH \leq 30\%$	V_{ISOL}	4500 ⁽¹⁾ 3500 ⁽²⁾ 1500 ⁽³⁾	V

Electrical Characteristics ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit		
Maximum instantaneous forward voltage ⁽⁴⁾	V_F	at $I_F = 10\text{A}$, $T_J = 25^\circ\text{C}$ at $I_F = 10\text{A}$, $T_J = 125^\circ\text{C}$ at $I_F = 20\text{A}$, $T_J = 25^\circ\text{C}$ at $I_F = 20\text{A}$, $T_J = 125^\circ\text{C}$	0.46 0.35 0.55 0.48	V	
Maximum instantaneous reverse current at DC blocking voltage ⁽⁴⁾		I_R	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	0.80 260	mA

Thermal Characteristics ($T_C = 25^\circ\text{C}$ 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	$^\circ\text{C}/\text{W}$

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: 380 μs 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

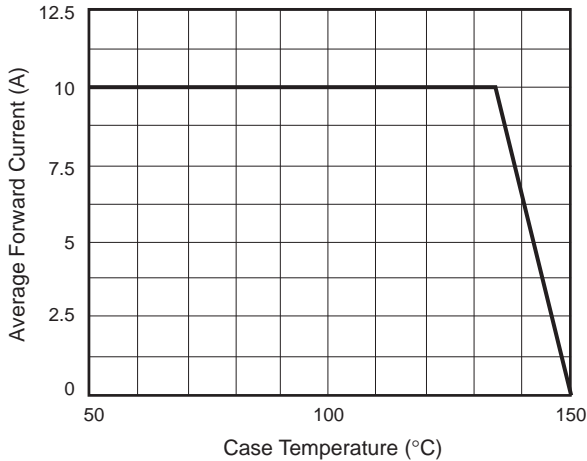


Fig. 2 – Typical Instantaneous Forward Characteristics Per Leg

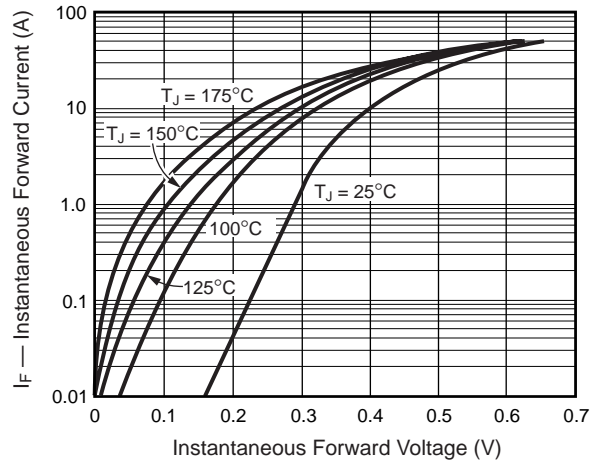


Fig. 3 – Typical Reverse Characteristics Per Leg

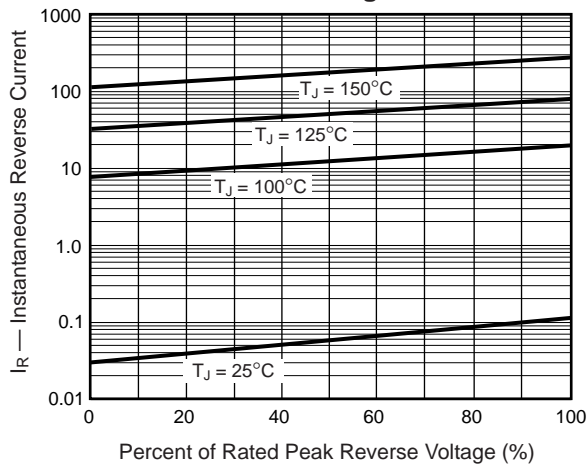


Fig. 4 – Typical Junction Capacitance Per Leg

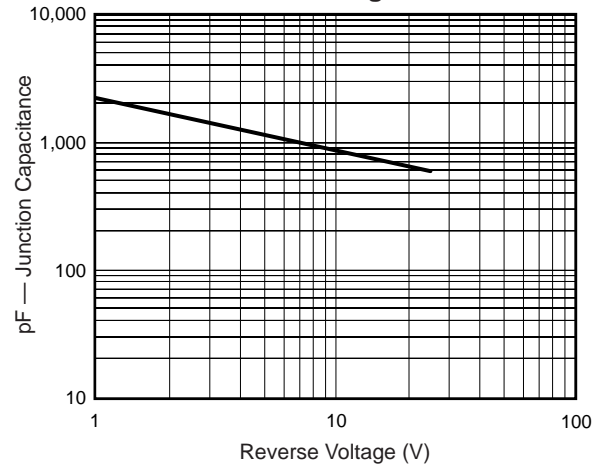


Fig. 5 – Typical Transient Thermal Impedance Per Leg

