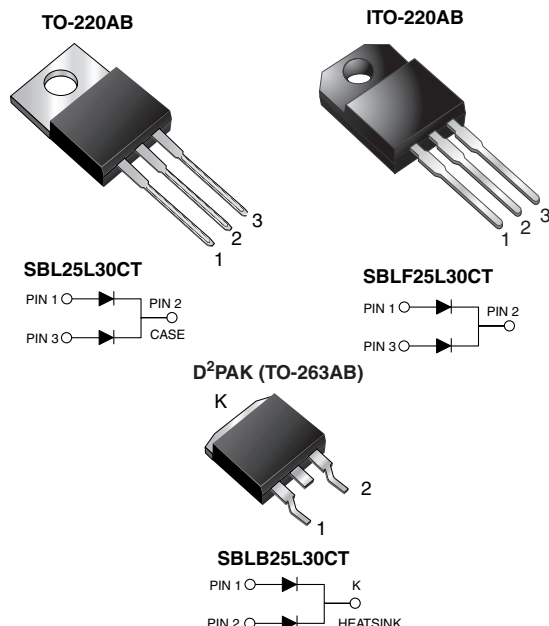


Dual Low V_F Common Cathode Schottky Rectifier



RoHS
COMPLIANT
HALOGEN
FREE
Available

FEATURES

- Power pack
- Low power loss, high efficiency
- Very low forward voltage drop
- High forward surge capability
- High frequency operation
- Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C (for D²PAK (TO-263AB) package)
- Solder bath temperature 275 °C maximum, 10 s, per JESD 22-B106 (for TO-220AB and ITO-220AB package)
- AEC-Q101 qualified available
- Automotive ordering code:
Base P/NHE3 (for ITO-220AB)
Base P/NHM3 (for D²PAK (TO-263AB) package))
- Material categorization: for definitions of compliance please see www.vishay.com/doc?999912

TYPICAL APPLICATIONS

For use in low voltage, high frequency inverters, switching mode power supplies, freewheeling diodes, OR-ing diodes, DC/DC converters, and polarity protection application.

MECHANICAL DATA

Case: TO-220AB, ITO-220AB, D²PAK (TO-263AB)

Molding compound meets UL 94 V-0 flammability rating

Base P/N-E3 - RoHS-compliant, commercial grade

Base P/NHE3_X - RoHS-compliant, AEC-Q101 qualified
("X" denotes revision code, e.g. A, B, ...)

Base P/N-M3 - RoHS-compliant, halogen-free, commercial grade

Base P/NHM3 - RoHS-compliant, halogen-free, AEC-Q101 qualified

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 and M3 suffix meets JESD 201 class 1A whisker test, HE3 and HM3 suffix meets JESD 201 class 2 whisker test

Polarity: as marked

Mounting Torque: 10 in-lbs maximum

LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2 x 12.5 A
V_{RRM}	30 V
I_{FSM}	180 A
V_F	0.39 V
$T_J \text{ max.}$	150 °C
Package	TO-220AB, ITO-220AB, D²PAK (TO-263AB)
Circuit configuration	Common cathode

**MAXIMUM RATINGS** ($T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	SBL25L30CT SBLB25L30CT SBLF25L30CT	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	30	V
Maximum average forward rectified current at $T_C = 95\text{ }^{\circ}\text{C}$	$I_{F(AV)}$	25 12.5	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	180	
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$
Isolation voltage (ITO-220AB only) from terminal to heatsink, $t = 1\text{ min}$	V_{AC}	1500	V

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

PARAMETER	SYMBOL	TEST CONDITIONS	VALUE	UNIT
Maximum instantaneous forward voltage	$V_F^{(1)}$	12.5 A	$T_J = 125\text{ }^{\circ}\text{C}$ $T_J = 25\text{ }^{\circ}\text{C}$	V
			0.39 0.49	
Maximum instantaneous reverse current at DC blocking voltage per diode	$I_R^{(2)}$	Rated V_R	$T_J = 25\text{ }^{\circ}\text{C}$ $T_J = 100\text{ }^{\circ}\text{C}$ $T_J = 125\text{ }^{\circ}\text{C}$	mA
			0.90 50	
			100	

Notes

- (1) Pulse test: 300 μs pulse width, 1 % duty cycle
 (2) Pulse test: pulse width $\leq 40\text{ ms}$

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

PARAMETER	SYMBOL	SBL25L30CT	SBLF25L30CT	SBLB25L30CT	UNIT
Typical thermal resistance from junction to case per diode	$R_{\theta JC}$	1.5	4.0	1.5	$^{\circ}\text{C/W}$

ORDERING INFORMATION

PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AB	SBL25L30CT-E3/45	1.85	45	50/tube	Tube
ITO-220AB	SBLF25L30CT-E3/45	1.99	45	50/tube	Tube
D ² PAK (TO-263AB)	SBLB25L30CT-M3/I	1.35	I	800/reel	Tape and reel
ITO-220AB	SBLF25L30CTHE3_A/P ⁽¹⁾	1.99	P	50/tube	Tube
D ² PAK (TO-263AB)	SBLB25L30CTHM3/I ⁽¹⁾	1.35	I	800/reel	Tape and reel

Note

- ⁽¹⁾ AEC-Q101 qualified, available in ITO-220AB and D²PAK (TO-263AB)



RATINGS AND CHARACTERISTICS CURVES ($T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

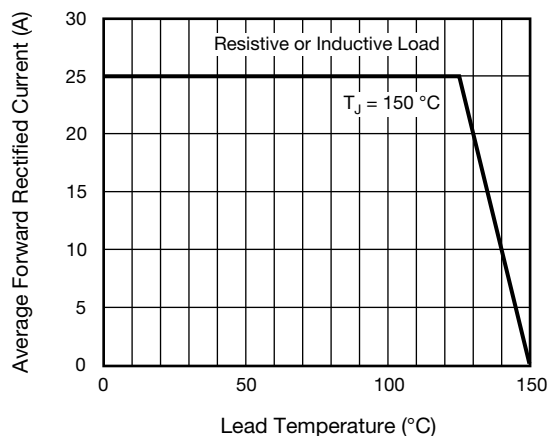


Fig. 1 - Forward Current Derating Curve

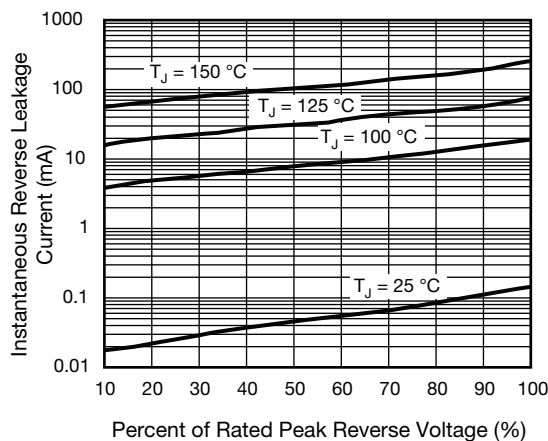


Fig. 4 - Typical Reverse Characteristics Per Diode

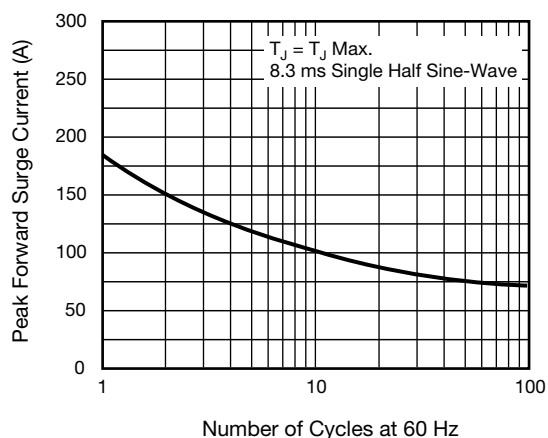


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

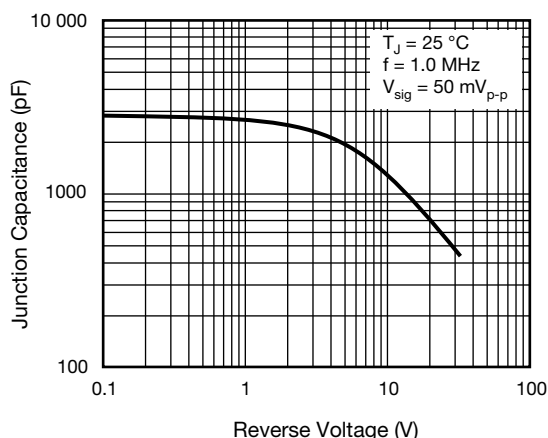


Fig. 5 - Typical Junction Capacitance Per Diode

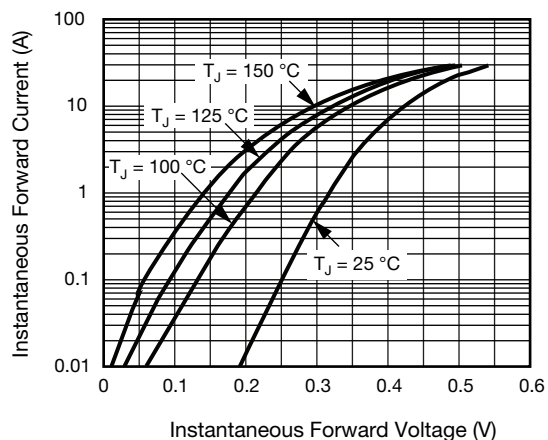


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

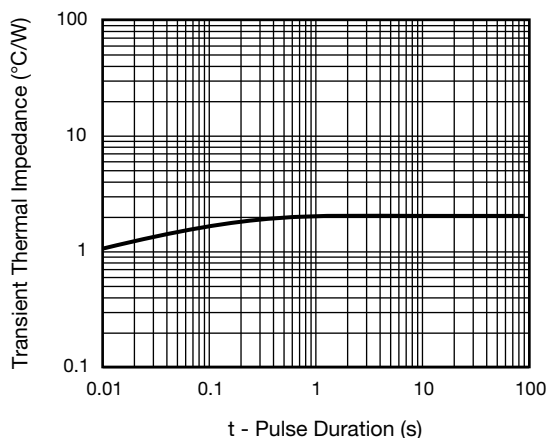
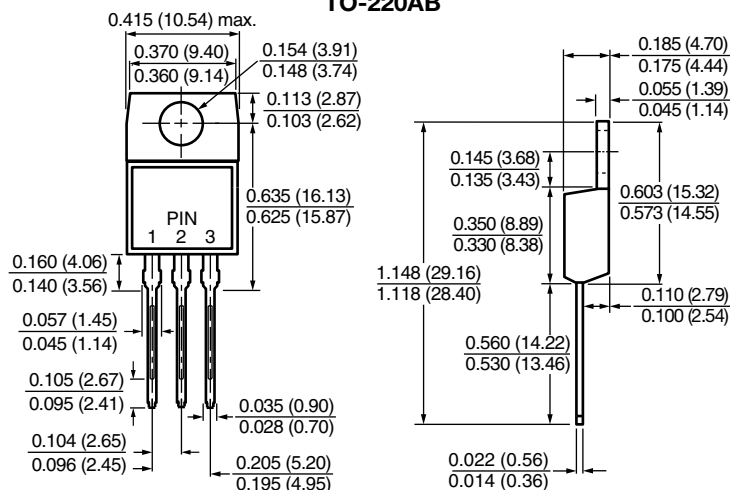


Fig. 6 - Typical Transient Thermal Impedance Per Diode

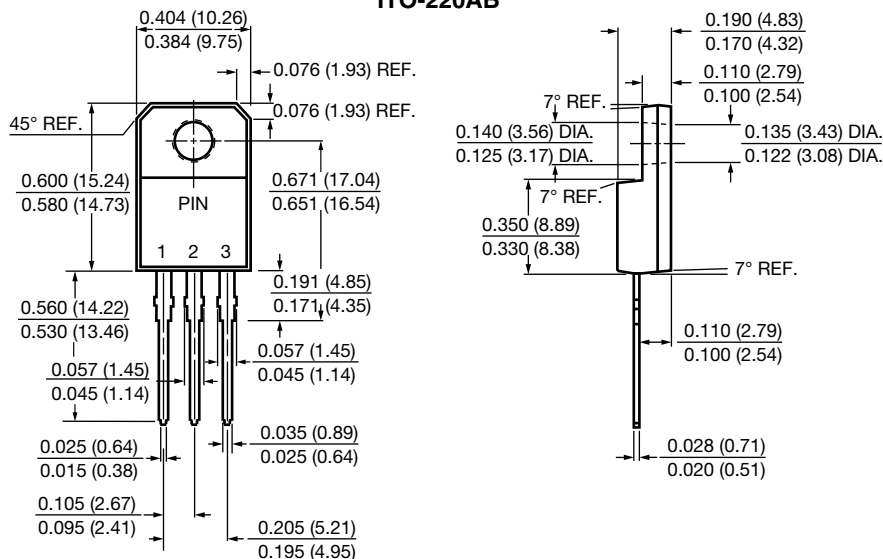


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

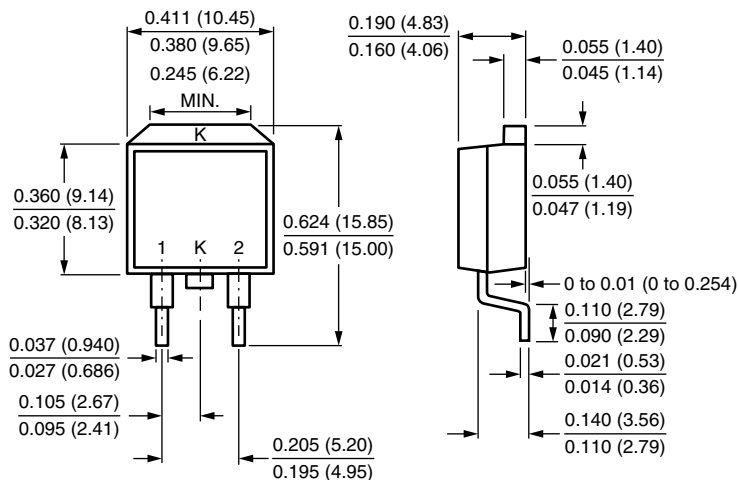
TO-220AB



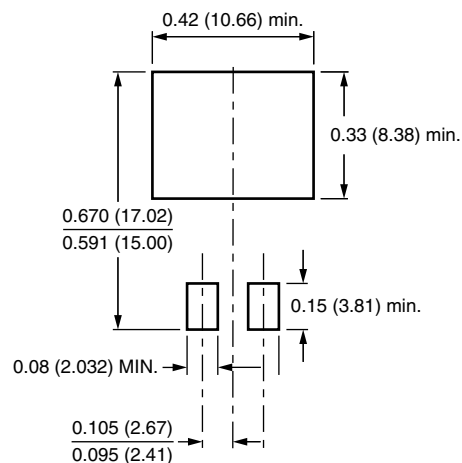
ITO-220AB



D²PAK (TO-263AB)



Mounting Pad Layout





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