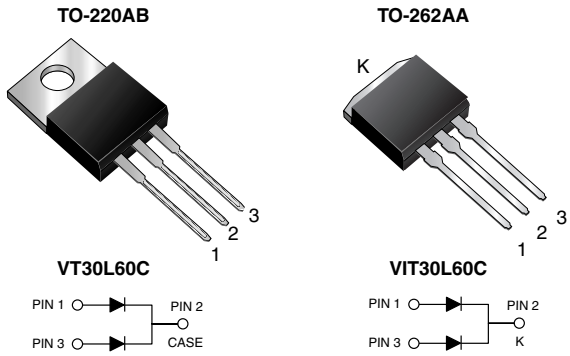
VT30L60C, VIT30L60C

Vishay General Semiconductor

Dual Trench MOS Barrier Schottky Rectifier

Ultra Low V_F = 0.32 V at I_F = 5.0 A

TMBS®



FEATURES

- Trench MOS Schottky technology
- Low forward voltage drop, low power losses
- High efficiency operation
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

Pb e3 RoHS COMPLIANT

TYPICAL APPLICATIONS

For use in high frequency converters, switching power supplies, freewheeling diodes, OR-ing diode, DC/DC converters, and reverse battery protection.

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2 x 15 A
V_{RRM}	60 V
I_{FSM}	200 A
V_F at I_F = 15 A	0.45 V
T_J max.	150 °C

MECHANICAL DATA

Case: TO-220AB and TO-262AA
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS compliant, and commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
E3 suffix meets JESD 201 class 1A whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETER		SYMBOL	VT30L60C	VIT30L60C	UNIT
Maximum repetitive peak reverse voltage		V_{RRM}	60		V
Maximum average forward rectified current (fig. 1)	per device	$I_{F(AV)}$	30		A
	per diode		15		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load		I_{FSM}	200		A
Voltage rate of change (rated V_R)		dV/dt	10 000		V/µs
Operating junction and storage temperature range		T_J, T_{STG}	- 40 to + 150		°C

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ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Instantaneous forward voltage per diode	I_F = 5.0 A	T_A = 25 °C	V_F (1)	0.43	-	V
	I_F = 7.5 A			0.46	-	
	I_F = 15 A			0.51	0.60	
	I_F = 5.0 A	T_A = 125 °C		0.32	-	
	I_F = 7.5 A			0.36	-	
	I_F = 15 A			0.45	0.57	
Reverse current per diode	V_R = 60 V	T_A = 25 °C	I_R (2)	-	4.0	mA
		T_A = 125 °C		27	110	

Notes

(1) Pulse test: 300 µs pulse width, 1 % duty cycle

(2) Pulse test: Pulse width ≤ 40 ms

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)					
PARAMETER		SYMBOL	VT30L60C	VIT30L60C	UNIT
Typical thermal resistance	per diode	$R_{\theta JC}$	1.8		°C/W
	per device		0.8		

ORDERING INFORMATION (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AB	VT30L60C-E3/4W	1.85	4W	50/tube	Tube
TO-262AA	VIT30L60C-E3/4W	1.46	4W	50/tube	Tube

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

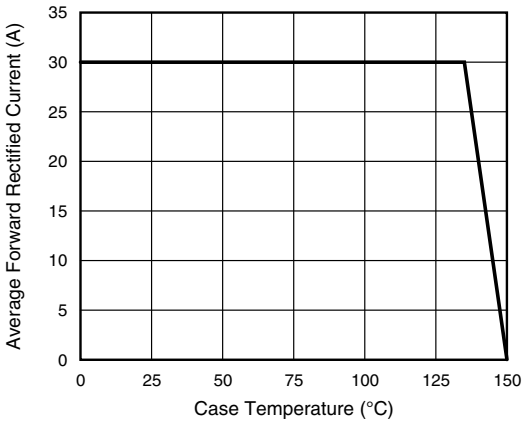

Fig. 1 - Maximum Forward Current Derating Curve

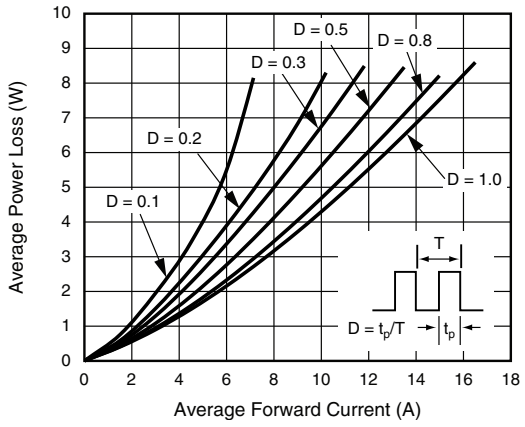

Fig. 2 - Forward Power Dissipation Characteristics Per Diode

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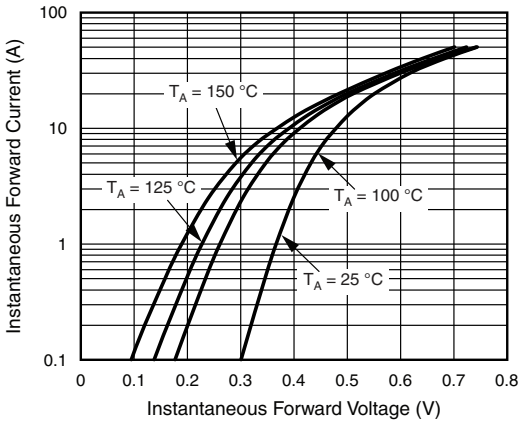

Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

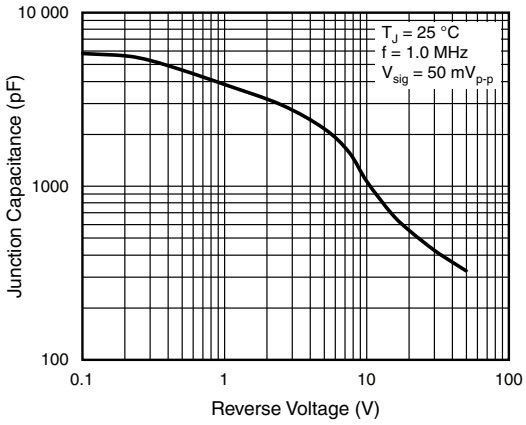

Fig. 5 - Typical Transient Thermal Impedance Per Diode

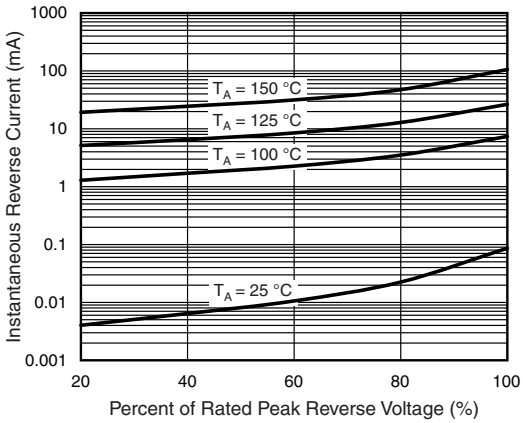

Fig. 4 - Typical Reverse Characteristics Per Diode

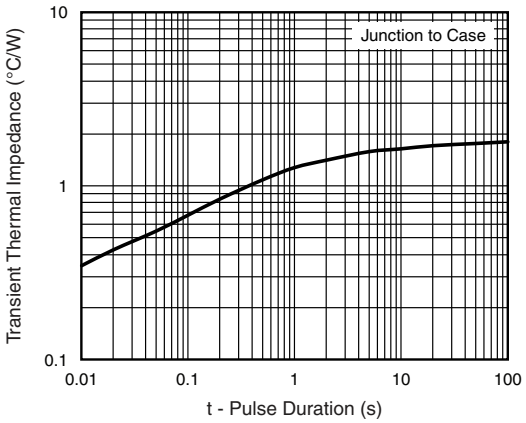

Fig. 6 - Typical Junction Capacitance Per Diode

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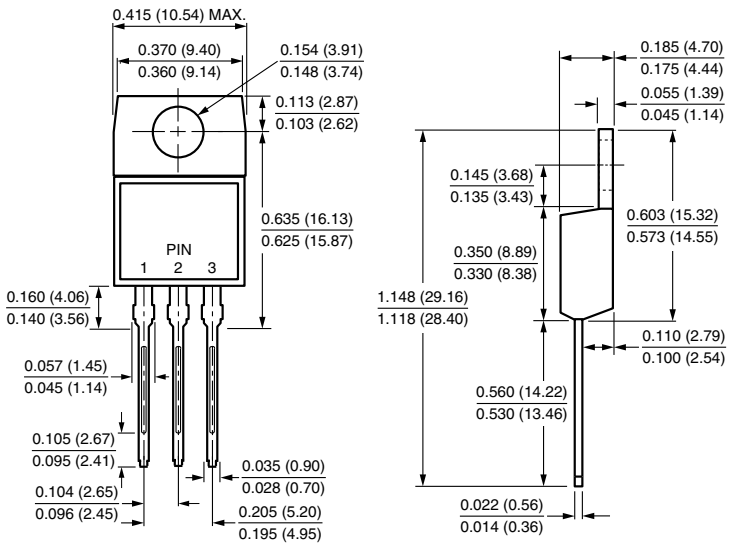
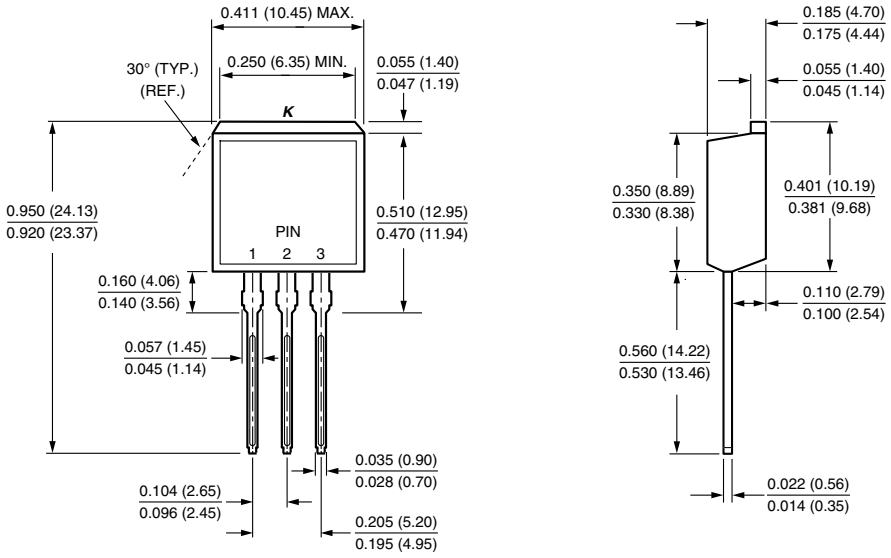
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-220AB



TO-262AA



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