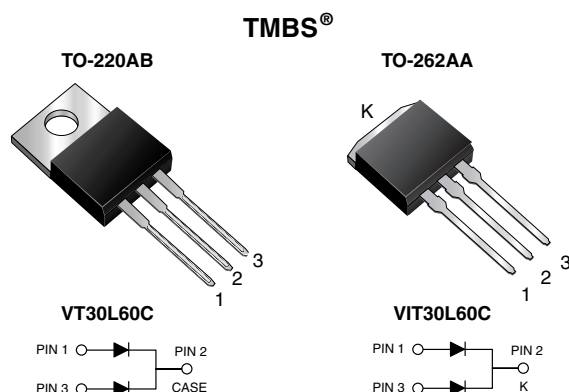




Dual Trench MOS Barrier Schottky Rectifier

Ultra Low $V_F = 0.32\text{ V}$ at $I_F = 5.0\text{ A}$



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



RoHS
COMPLIANT
and in
accordance to WEEE 2002/96/EC

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 $I_F = 15\text{ A}$	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 ($T_A = 25\text{ °C}$ unless otherwise noted)

PARAMETER	SYMBOL	VT30L60C	VIT30L60C	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	60		V
Maximum average forward rectified current (fig. 1)	$I_{F(AV)}$	30		A
		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/ μ s
Operating junction and storage temperature range	T_J, T_{STG}	- 40 to + 150		°C

VT30L60C, VIT30L60C

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

PARAMETER	TEST CONDITIONS	SYMBOL	TYP.	MAX.	UNIT
Instantaneous forward voltage per diode	$I_F = 5.0\text{ A}$	$V_F^{(1)}$	0.43	-	V
	$I_F = 7.5\text{ A}$		0.46	-	
	$I_F = 15\text{ A}$		0.51	0.60	
	$I_F = 5.0\text{ A}$		0.32	-	
	$I_F = 7.5\text{ A}$		0.36	-	
	$I_F = 15\text{ A}$		0.45	0.57	
Reverse current per diode	$V_R = 60\text{ V}$	$I_R^{(2)}$	-	4.0	mA
			27	110	

Notes(1) Pulse test: 300 μs pulse width, 1 % duty cycle(2) Pulse test: Pulse width $\leq 40\text{ ms}$ **THERMAL CHARACTERISTICS** ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	VT30L60C	VIT30L60C	UNIT
Typical thermal resistance	per diode	$R_{\theta JC}$	1.8	$^{\circ}\text{C/W}$
	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

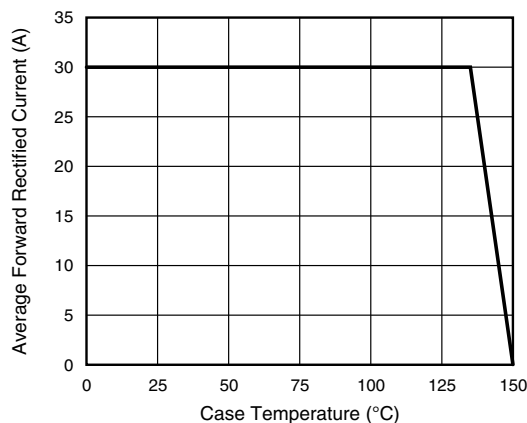
RATINGS AND CHARACTERISTICS CURVES($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Fig. 1 - Maximum Forward Current Derating Curve

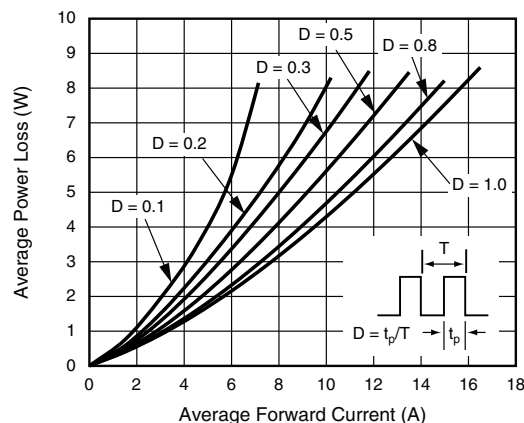


Fig. 2 - Forward Power Dissipation Characteristics Per Diode

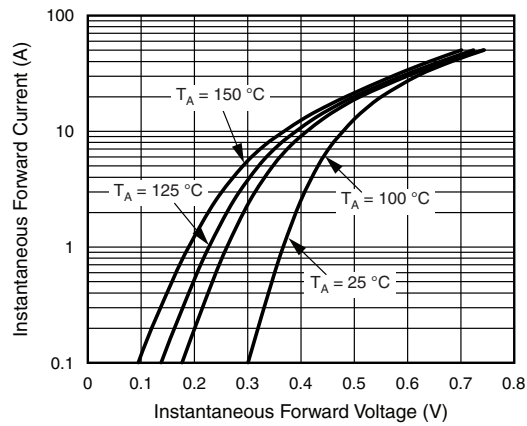


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

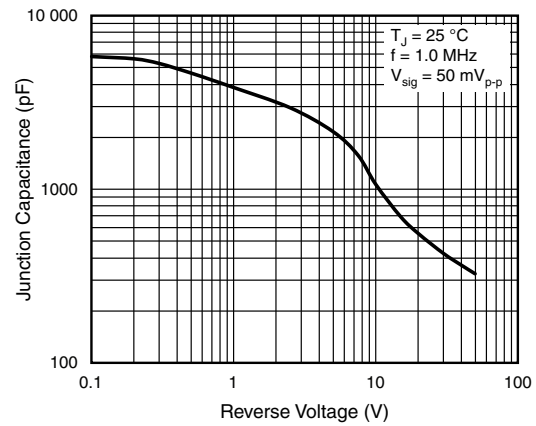


Fig. 5 - Typical Transient Thermal Impedance Per Diode

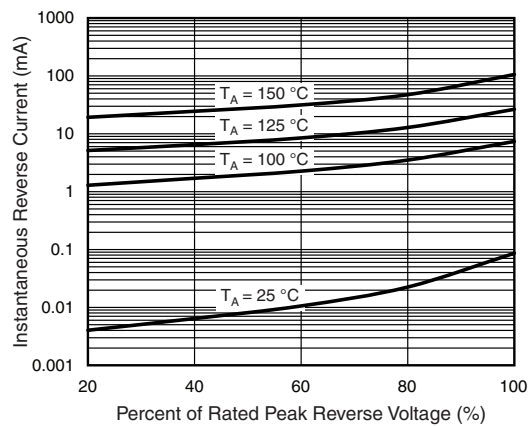


Fig. 4 - Typical Reverse Characteristics Per Diode

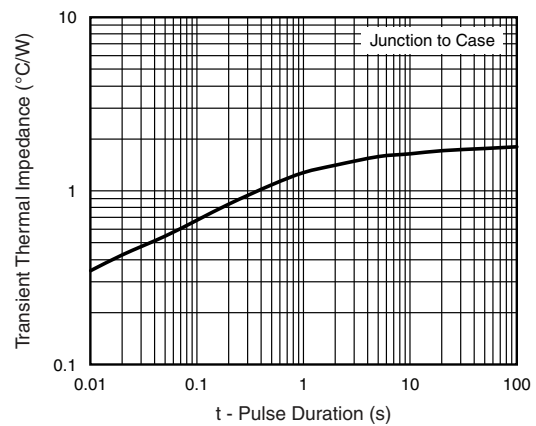
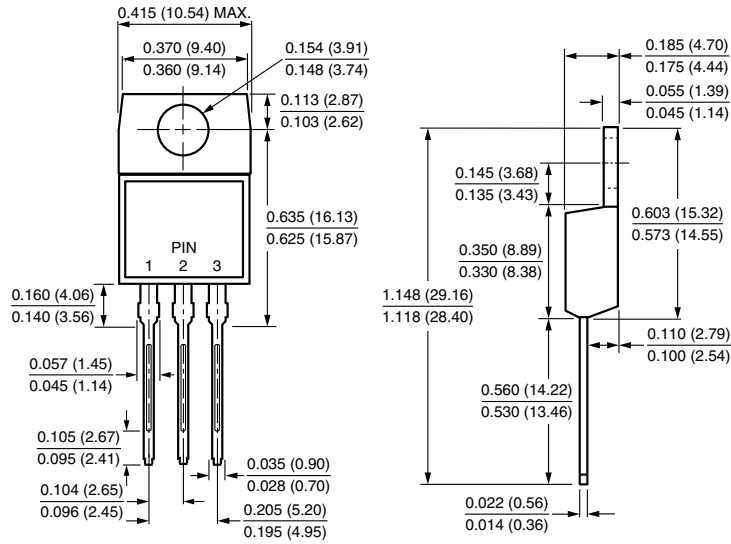
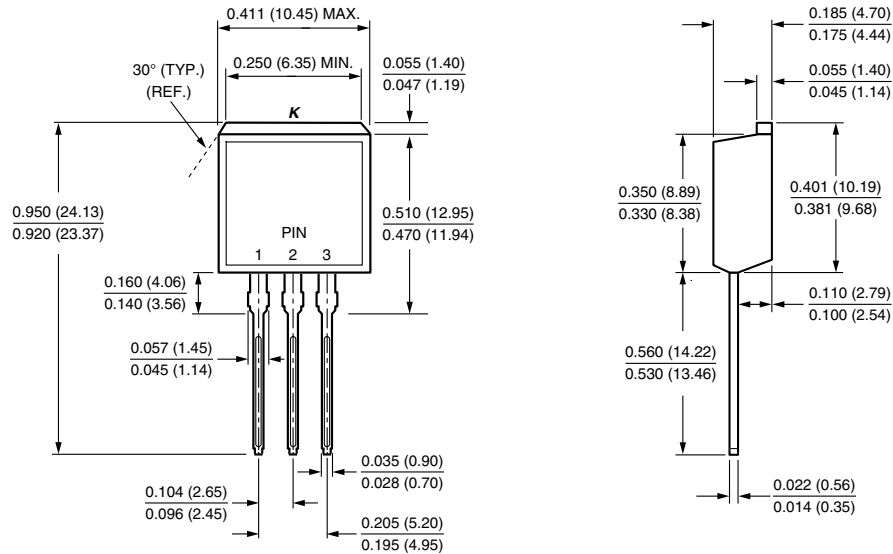


Fig. 6 - Typical Junction Capacitance Per Diode

VT30L60C, VIT30L60C

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**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)**TO-220AB****TO-262AA**



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