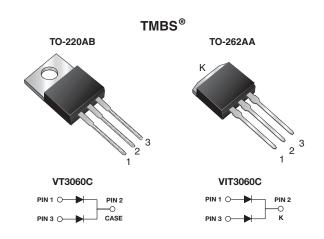


Vishay General Semiconductor

Dual High Voltage Trench MOS Barrier Schottky Rectifier

Ultra Low $V_F = 0.38 \text{ V}$ at $I_F = 5 \text{ A}$



PRIMARY CHARACTERISTICS				
I _{F(AV)}	2 x 15 A			
V_{RRM}	60 V			
I _{FSM}	170 A			
V _F at I _F = 15 A	0.57 V			
T _J max.	150 °C			
Package	TO-220AB, TO-262AA			
Diode variations	Common cathode			

FEATURES

- Trench MOS Schottky technology
- · Low forward voltage drop, low power losses

• High efficiency operation

ROHS COMPLIANT HALOGEN FREE

- Solder bath temperature 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see <u>www.vishav.com/doc?99912</u>

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: TO-220AB and TO-262AA

Molding compound meets UL 94 V-0 flammability rating Base P/N-M3 - halogen-free, RoHS-compliant, and

commercial grade

Terminals: matte tin plated leads, solderable per

J-STD-002 and JESD 22-B102

M3 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	VT3060C VIT3060C		UNIT
Maximum repetitive peak reverse voltage		V_{RRM}	60		V
Maximum average forward rectified current (fig. 1)	per device		30		A
	per diode	I _{F(AV)}	15		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load		I _{FSM}	170		А
Voltage rate of change (rated V _R)		dV/dt	10 000		V/µs
Operating junction and storage temperature range		T _J , T _{STG}	-55 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 A	T _A = 25 °C	- V _F ⁽¹⁾	0.47	-	- V
	I _F = 7.5 A			0.51	-	
	I _F = 15 A			0.60	0.70	
	I _F = 5 A	T _A = 125 °C		0.38	-	
	I _F = 7.5 A			0.44	-	
	I _F = 15 A			0.57	0.65	
Reverse current per diode	V _R = 60 V	T _A = 25 °C	I _R ⁽²⁾	-	1.2	- mA
	V _R = 60 V	T _A = 125 °C		20	45	

Notes

 $^{(1)}\,$ Pulse test: 300 μs pulse width, 1 % duty cycle

(2) Pulse test: Pulse width \leq 40 ms

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	VT3060C	VIT3060C	UNIT	
Typical thermal resistance	per diode	В	2.5		- °C/W
	per device	$R_{\theta JC}$	1.7		

ORDERING INFORMATION (Example)						
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE	
TO-220AB	VT3060C-M3/4W	1.89	4W	50/tube	Tube	
TO-262AA	VIT3060C-M3/4W	1.46	4W	50/tube	Tube	



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RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

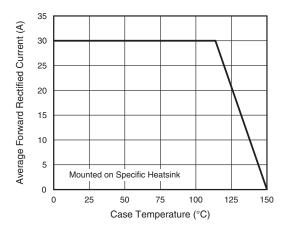


Fig. 1 - Maximum Forward Current Derating Curve

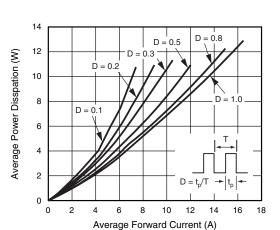


Fig. 2 - Forward Power Dissipation Characteristics

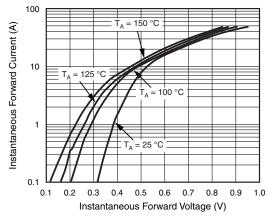


Fig. 3 - Typical Instantaneous Forward Characteristics

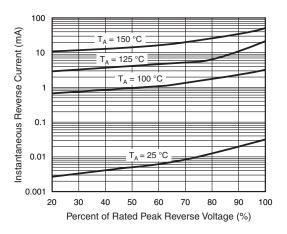


Fig. 4 - Typical Reverse Characteristics

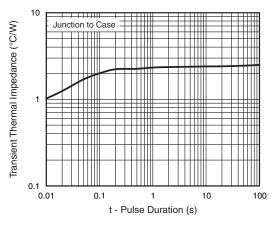


Fig. 5 - Typical Transient Thermal Impedance

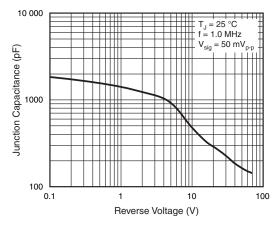


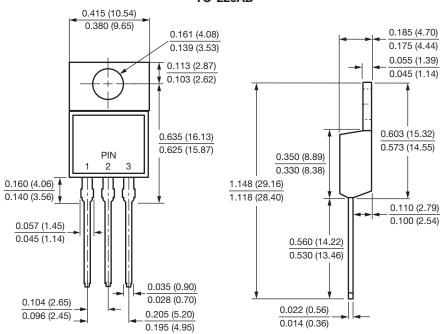
Fig. 6 - Typical Junction Capacitance



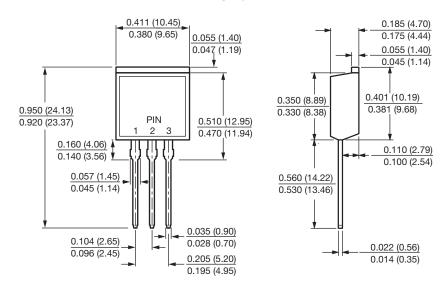
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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-220AB



TO-262AA





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