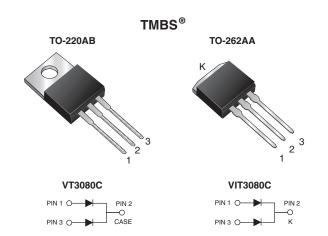
Vishay General Semiconductor

Dual Trench MOS Barrier Schottky Rectifier

Ultra Low $V_F = 0.46$ V at $I_F = 5$ A



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PRIMARY CHARACTERISTICS				
I _{F(AV)}	2 x 15 A			
V _{RRM}	80 V			
I _{FSM}	150 A			
V _F at I _F = 15 A	0.65 V			
T _J max.	150 °C			
Package	TO-220AB, TO-262AA			
Diode variation	Common cathode			

FEATURES

- Trench MOS Schottky technology
- · Low forward voltage drop, low power losses
- High efficiency operation
- Solder bath temperature 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

TYPICAL APPLICATIONS

For use in high frequency DC/DC converters, switching power supplies, freewheeling diodes, OR-ingp diode, and reserve 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 ($T_A = 25 \text{ °C}$ unless otherwise noted)					
PARAMETER		SYMBOL	VT3080C	VIT3080C	UNIT
Maximum repetitive peak reverse voltage		V _{RRM}	80		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}	150		А
Voltage rate of change (rated V _R)		dV/dt	10 000		V/µs
Operating junction and storage temperature rate	nge	T _J , T _{STG}	-55 to	+150	°C



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ELECTRICAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ 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)	0.52	-	V
	I _F = 7.5 A			0.58	-	
	I _F = 15 A			0.75	0.82	
	I _F = 5 A	T _A = 125 °C		0.46	-	
	I _F = 7.5 A			0.52	-	
	I _F = 15 A			0.65	0.70	
Reverse current per diode	\/ <u>90 \/</u>	T _A = 25 °C	I _R ⁽²⁾	30	700	μA
	$V_R = 80 V$ T_A	T _A = 125 °C		20	35	mA

Notes

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

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

THERMAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)					
PARAMETER		SYMBOL	VT3080C	VIT3080C	UNIT
Typical thermal resistance	per diode	- R _{θJC}	2.5		°C/W
	per device		2.0		

ORDERING INFORMATION (Example)						
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE	
TO-220AB	VT3080C-M3/4W	1.89	4W	50/tube	Tube	
TO-262AA	VIT3080C-M3/4W	1.46	4W	50/tube	Tube	



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

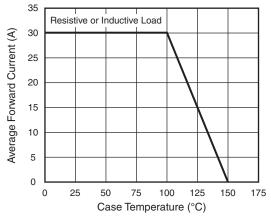


Fig. 1 - Maximum Forward Current Derating Curve

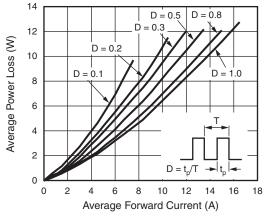


Fig. 2 - Forward Power Dissipation Characteristics

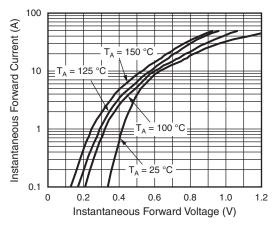


Fig. 3 - Typical Instantaneous Forward Characteristics

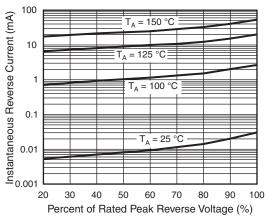


Fig. 4 - Typical Reverse Characteristics

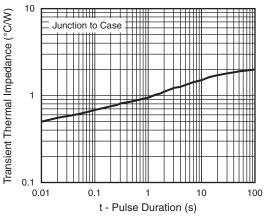


Fig. 5 - Typical Transient Thermal Impedance

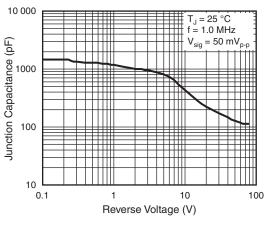


Fig. 6 - Typical Junction Capacitance

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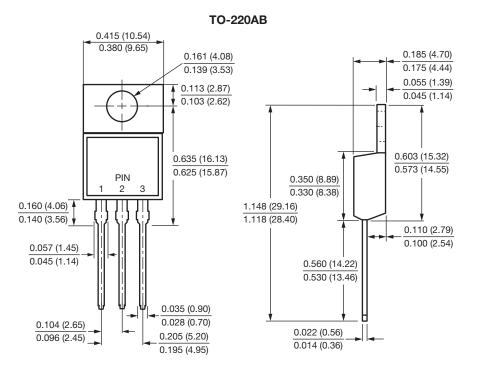
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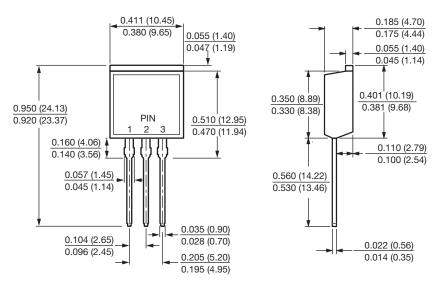




PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



TO-262AA





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