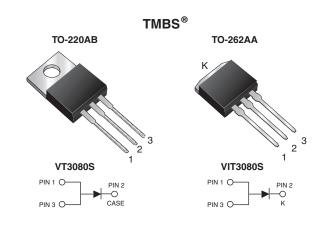


Vishay General Semiconductor

Trench MOS Barrier Schottky Rectifier

Ultra Low $V_F = 0.39 \text{ V}$ at $I_F = 5 \text{ A}$



PRIMARY CHARACTERISTICS					
I _{F(AV)}	30 A				
V _{RRM}	80 V				
I _{FSM}	200 A				
V _F at I _F = 30 A	0.73 V				
T _J max.	150 °C				
Package	TO-220AB, TO-262AA				
Diode variation	Single				

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 www.vishay.com/doc?99912

ROHS COMPLIANT HALOGEN FREE

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	VT3080S	VIT3080S	UNIT	
Maximum repetitive peak reverse voltage	V _{RRM}	80		V	
Maximum average forward rectified current (fig. 1)	I _{F(AV)}	30		Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	200		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 = 15 A			0.61	-		
	I _F = 30 A			0.82	0.95		
	I _F = 5 A	T _A = 125 °C		0.39	-		
	I _F = 15 A			0.57	-		
	I _F = 30 A			0.73	0.82		
Reverse current per diode	V _R = 80 V	T _A = 25 °C	I _R ⁽²⁾	70	1000	μΑ	
	v _R = 60 v	T _A = 125 °C		23	45	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 °C unless otherwise noted)				
PARAMETER	SYMBOL	VT3080S	UNIT	
Typical thermal resistance	$R_{ heta JC}$	1.5		°C/W

ORDERING INFORMATION (Example)						
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE	
TO-220AB	VT3080S-M3/4W	1.88	4W	50/tube	Tube	
TO-262AA	VIT3080S-M3/4W	1.45	4W	50/tube	Tube	

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

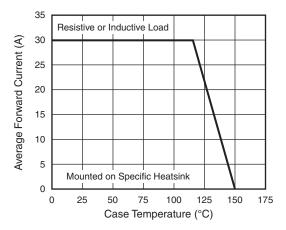
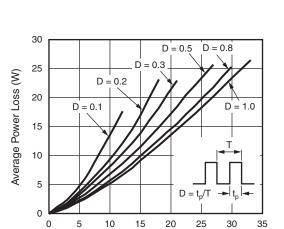


Fig. 1 - Maximum Forward Current Derating Curve



Average Forward Current (A)
Fig. 2 - Forward Power Dissipation Characteristics

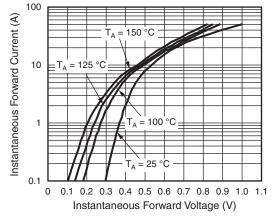


Fig. 3 - Typical Instantaneous Forward Characteristics

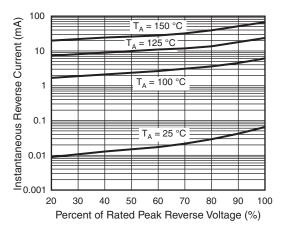


Fig. 4 - Typical Reverse Characteristics

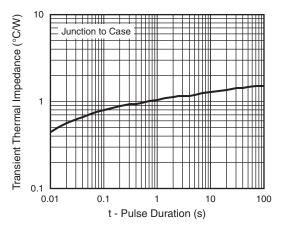


Fig. 5 - Typical Transient Thermal Impedance

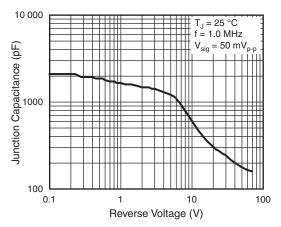
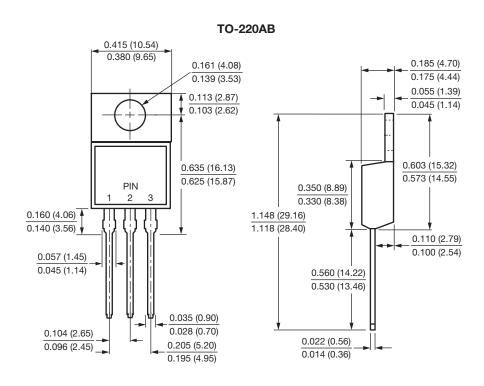


Fig. 6 - Typical Junction Capacitance

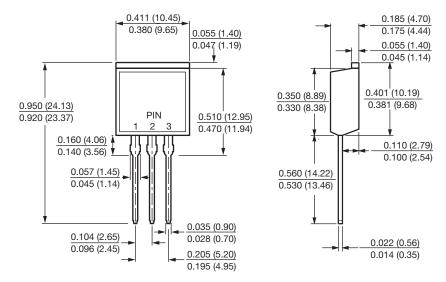


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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



TO-262AA





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