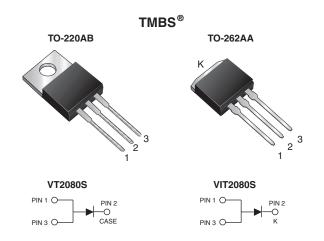


Trench MOS Barrier Schottky Rectifier

Ultra Low $V_F = 0.46 \text{ V}$ at $I_F = 5 \text{ A}$



PRIMARY CHARACTERISTICS				
I _{F(AV)}	20 A			
V _{RRM}	80 V			
I _{FSM}	150 A			
V _F at I _F = 20 A	0.70 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.vishav.com/doc?99912



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	VT2080S VIT2080S		UNIT	
Maximum repetitive peak reverse voltage	V _{RRM}	80		V	
Maximum average forward rectified current (fig. 1)	I _{F(AV)}	20		Α	
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 range	T _J , T _{STG}	-55 to +150		°C	



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⁾	0.52	-	. V	
	I _F = 10 A			0.61	-		
	I _F = 20 A			0.80	0.92		
	I _F = 5 A	T _A = 125 °C		0.46	-		
	I _F = 10 A			0.54	-		
	I _F = 20 A			0.70	0.78		
Reverse current per diode	V - 90 V	T _A = 25 °C	I _R ⁽²⁾	30	700	μΑ	
	$V_{R} = 80 \text{ V}$ $T_{A} = 128$	T _A = 125 °C	'R (-/	20	35	mA	

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	VT2080S VIT2080S		UNIT
Typical thermal resistance	$R_{\theta JC}$	1.8		°C/W

ORDERING INFORMATION (Example)						
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE	
TO-220AB	VT2080S-M3/4W	1.88	4W	50/tube	Tube	
TO-262AA	VIT2080S-M3/4W	1.45	4W	50/tube	Tube	

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

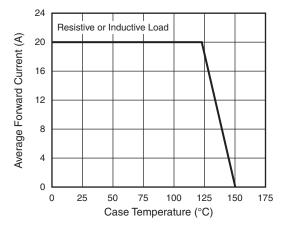
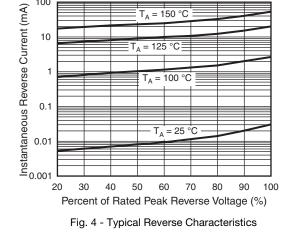


Fig. 1 - Maximum Forward Current Derating Curve



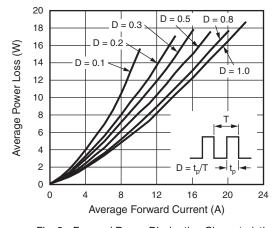


Fig. 2 - Forward Power Dissipation Characteristics

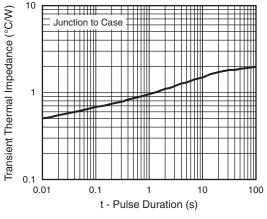


Fig. 5 - Typical Transient Thermal Impedance

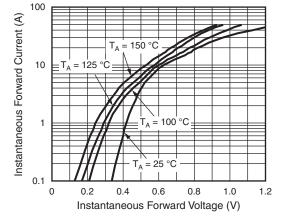


Fig. 3 - Typical Instantaneous Forward Characteristics

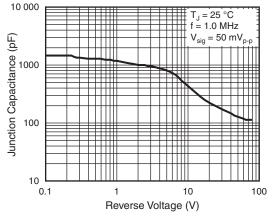
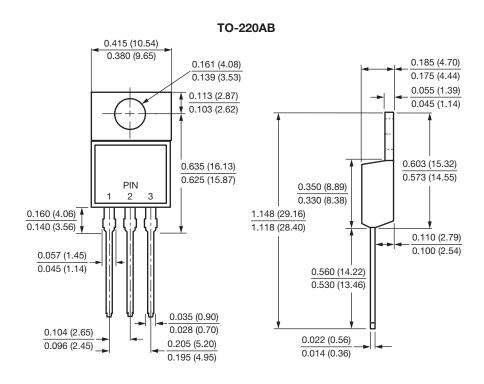
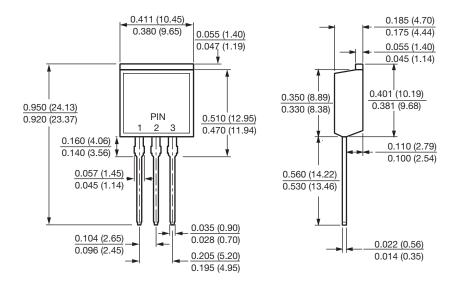


Fig. 6 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



TO-262AA





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