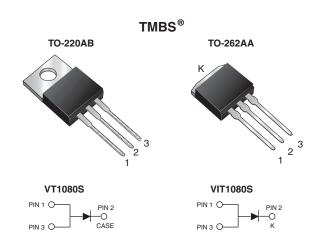


Trench MOS Barrier Schottky Rectifier

Ultra Low $V_F = 0.52 \text{ V}$ at $I_F = 5 \text{ A}$



PRIMARY CHARACTERISTICS					
I _{F(AV)}	10 A				
V _{RRM}	80 V				
I _{FSM}	100 A				
V _F at I _F = 10 A	0.60 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 COMPLIANT HALOGEN FREE

 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

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	VT1080S VIT1080S		UNIT	
Maximum repetitive peak reverse voltage	V _{RRM}	80		V	
Maximum average forward rectified current (fig. 1)	I _{F(AV)}	10		А	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	100		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⁾	0.57	-	V	
	I _F = 10 A			0.67	0.81		
	I _F = 5 A	T _A = 125 °C		0.52	=		
	I _F = 10 A			0.60	0.70		
Reverse current per diode	V _R = 80 V	T _A = 25 °C	I _R ⁽²⁾	20	600	μΑ	
		T _A = 125 °C		10	20	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	VT1080S VIT1080S		UNIT	
Typical thermal resistance	$R_{\theta JC}$	2.2		°C/W	

ORDERING INFORMATION (Example)						
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE	
TO-220AB	VT1080S-M3/4W	1.88	4W	50/tube	Tube	
TO-262AA	VIT1080S-M3/4W	1.43	4W	50/tube	Tube	

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

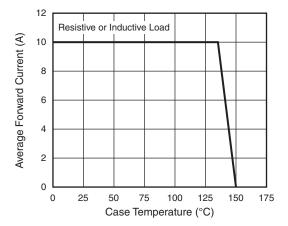


Fig. 1 - Maximum Forward Current Derating Curve

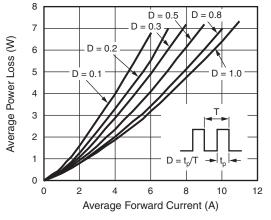


Fig. 2 - Forward Power Dissipation Characteristics

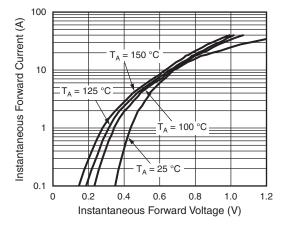


Fig. 3 - Typical Instantaneous Forward Characteristics

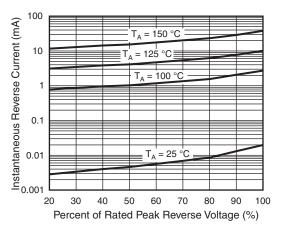


Fig. 4 - Typical Reverse Characteristics

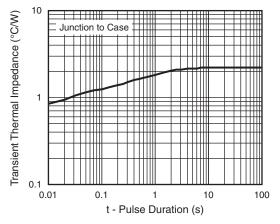


Fig. 5 - Typical Transient Thermal Impedance

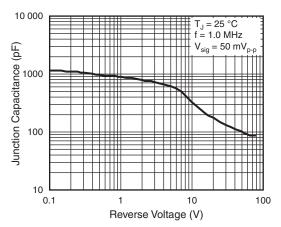
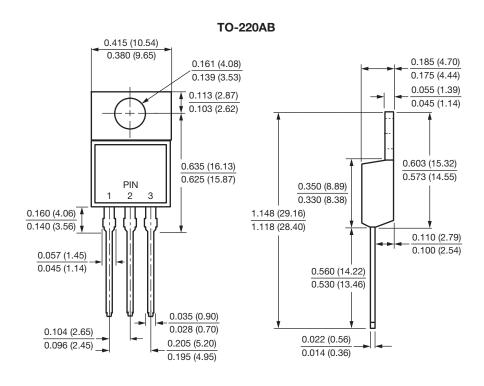
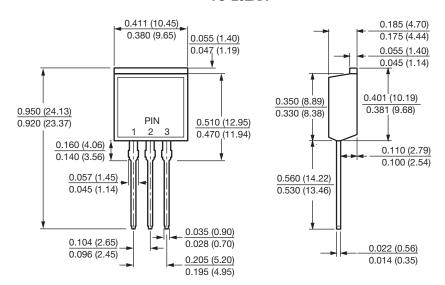


Fig. 6 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



TO-262AA





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