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Vishay General Semiconductor

Dual Trench MOS Barrier Schottky Rectifier

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





PRIMARY CHARACTERISTICS				
I _{F(AV)}	2 x 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 ITO-220AB				
Circuit configuration	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

please see www.vishav.com/doc?99912

HALOGEN FREE · Material categorization: for definitions of compliance

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: ITO-220AB

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	VFT2080C	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	80	V	
Maximum average forward rectified current per device	I _{F(AV)}	20	^	
(fig. 1) per diode		10	_ A	
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	
Isolation voltage from termal to heatsink t = 1 min	V _{AC}	1500	V	
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		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 \leq 40 ms



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THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER		SYMBOL	VFT2080C	UNIT	
Typical thermal resistance	per diode	$R_{ hetaJC}$	6.0	°C/W	
	per device		5.0	C/VV	

ORDERING INFORMATION (Example)						
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE	
ITO-220AB	VFT2080C-M3/4W	1.73	4W	50/tube	Tube	

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

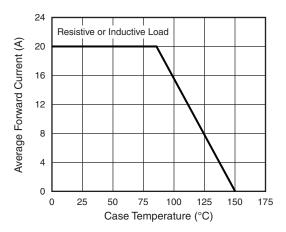


Fig. 1 - Maximum Forward Current Derating Curve

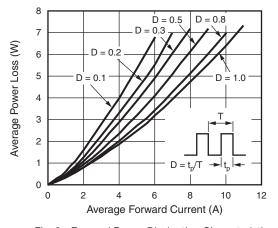


Fig. 2 - Forward Power Dissipation Characteristics

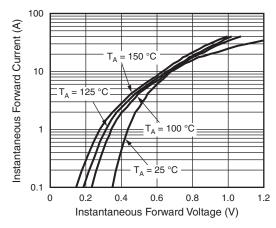


Fig. 3 - Typical Instantaneous Forward Characteristics

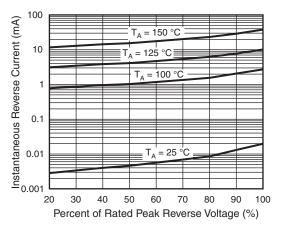


Fig. 4 - Typical Reverse Characteristics



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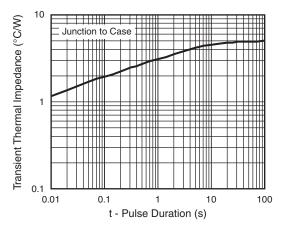


Fig. 5 - Typical Transient Thermal Impedance

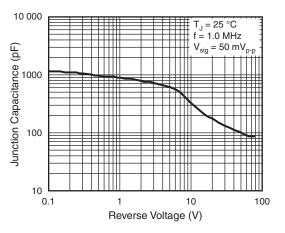
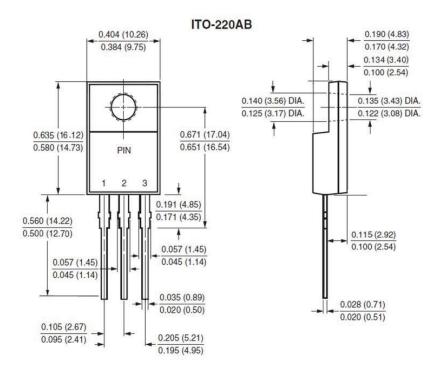


Fig. 6 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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