

Vishay General Semiconductor

Dual High-Voltage Trench MOS Barrier Schottky Rectifier

Ultra Low $V_F = 0.40 \text{ V}$ at $I_F = 5 \text{ A}$



PRIMARY CHARACTERISTICS				
I _{F(AV)}	2 x 15 A			
V_{RRM}	60 V			
I _{FSM}	150 A			
V _F at I _F = 15 A	0.61 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

· Material categorization: for definitions of compliance please see www.vishav.com/doc?99912

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: 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	VFT3060G	UNIT
Maximum repetitive peak reverse voltage		V _{RRM}	60	
Maximum average forward rectified current (fig. 1)	per device	I _{F(AV)}	30	Δ.
	per diode		15	A
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
Isolation voltage from terminal to heatsink t = 1 min		V _{AC}	1500	V
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 = 5.0 A	T _A = 25 °C	V _F ⁽¹⁾	0.49	=	. V	
	I _F = 7.5 A			0.53	-		
	I _F = 15 A			0.65	0.73		
	I _F = 5.0 A	T _A = 125 °C		0.40	-		
	I _F = 7.5 A			0.46	-		
	I _F = 15 A			0.61	0.69		
Reverse current per diode	V - 60 V	T _A = 25 °C	I _R ⁽²⁾	-	850	μΑ	
	$V_R = 60 \text{ V}$	T _A = 125 °C		14	40	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	VFT3060G	UNIT	
Typical thermal resistance	per diode	$R_{ heta JC}$	6.2	°C/W	
	per device		5.0] 0///	

ORDERING INFORMATION (Example)							
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE		
ITO-220AB	VFT3060G-M3/4W	1.76	4W	50/tube	Tube		

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

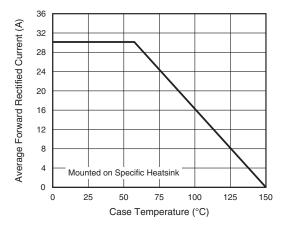


Fig. 1 - Maximum Forward Current Derating Curve

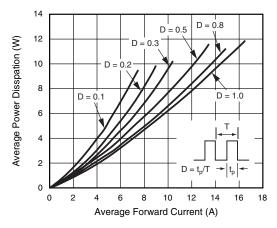


Fig. 2 - Forward Power Dissipation Characteristics



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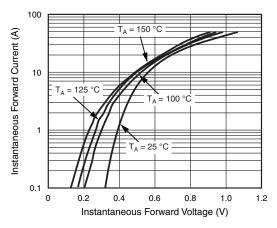


Fig. 3 - Typical Instantaneous Forward Characteristics

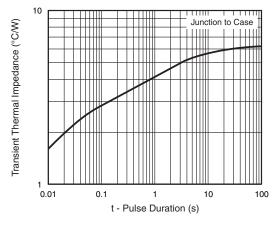


Fig. 5 - Typical Transient Thermal Impedance

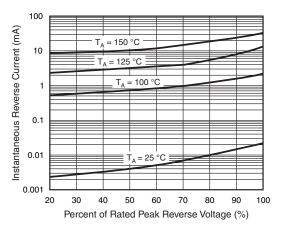


Fig. 4 - Typical Reverse Characteristics

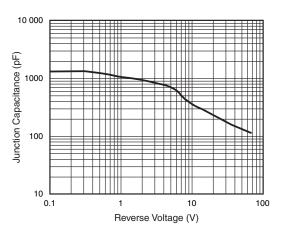
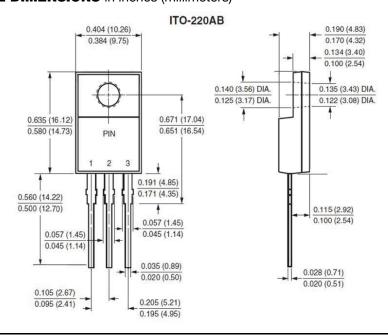


Fig. 6 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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