New Product



Vishay General Semiconductor

Dual High-Voltage Trench MOS Barrier Schottky Rectifier

Ultra Low $V_F = 0.39$ V at $I_F = 2.5$ A



PRIMARY CHARACTERISTICS

I_{F(AV)}

 V_{RRM}

I_{FSM}

 V_F at $I_F = 5.0 A$

T_J max.

FEATURES

- Trench MOS Schottky technology
- Low forward voltage drop, low power losses
- High efficiency operation



COMPLIANT

HALOGEN

- Solder bath temperature 275 °C max. 10 s, per FREE JESD 22-B106
 Compliant to RoHS Directive 2002/95/EC and in
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition

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	VFT1060C	UNIT	
Maximum repetitive peak reverse voltage		V _{RRM}	60	V	
Maximum average forward rectified current (fig. 1)	per device	I _{F(AV)}	10	•	
	per diode		5	— 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	

2 x 5.0 A

60 V

100 A

0.50 V

150 °C

VFT1060C



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ELECTRICAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)							
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT	
Instantaneous forward voltage per diode	I _F = 2.5 A	- T _A = 25 °C	V _F ⁽¹⁾	0.49	-	V	
	I _F = 5.0 A			0.58	0.70		
	I _F = 2.5 A	T _A = 125 °C		0.39	-		
	I _F = 5.0 A			0.50	0.60		
Reverse current per diode	V _R = 60 V	T _A = 25 °C	I _R (2)	-	700	μA	
		T _A = 125 °C		6.6	25	mA	

Notes

 $^{(1)}\,$ Pulse test: 300 μs pulse width, 1 % duty cycle

⁽²⁾ Pulse test: Pulse width \leq 40 ms

THERMAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)					
PARAMETER		SYMBOL	VFT1060C	UNIT	
Typical thermal resistance	per diode	$R_{ extsf{ heta}JC}$	6.5	°C/W	
	per device		5.0		

ORDERING INFORMATION (Example)						
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE	
ITO-220AB	VFT1060C-M3/4W	1.75	4W	50/tube	Tube	

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

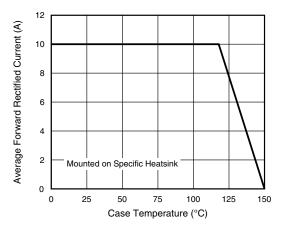


Fig. 1 - Maximum Forward Current Derating Curve

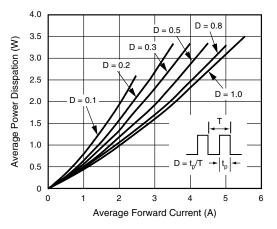


Fig. 2 - Forward Power Dissipation Characteristics



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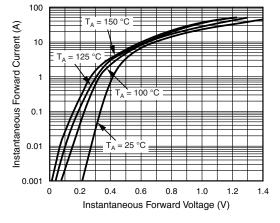


Fig. 3 - Typical Instantaneous Forward Characteristics

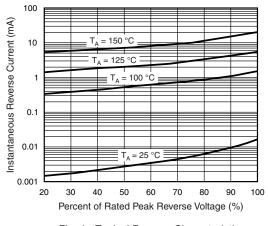
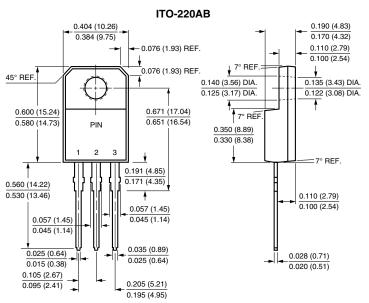


Fig. 4 - Typical Reverse Characteristics





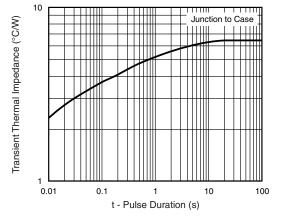


Fig. 5 - Typical Transient Thermal Impedance

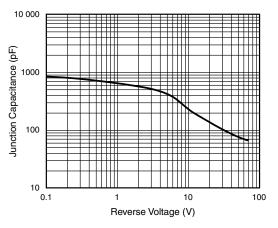


Fig. 6 - Typical Junction Capacitance



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