## VFT3060G

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Vishay General Semiconductor

## **Dual High-Voltage Trench MOS Barrier Schottky Rectifier**

Ultra Low  $V_F = 0.40$  V at  $I_F = 5$  A

# TMBS® ITO-220AB

VFT3060G

PIN 3 O

PRIMARY CHARACTERISTICS			
I <sub>F(AV)</sub>	2 x 15 A		
V <sub>RRM</sub>	60 V		
I <sub>FSM</sub>	150 A		
V <sub>F</sub> at I <sub>F</sub> = 15 A	0.61 V		
T <sub>J</sub> 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 <u>www.vishay.com/doc?99912</u>

#### **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

<b>MAXIMUM RATINGS</b> ( $T_A = 25$ °C unless otherwise noted)					
PARAMETER	SYMBOL	VFT3060G	UNIT		
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	60	V		
Maximum average forward rectified current per device		30	•		
(fig. 1) per diode	IF(AV)	15	— A		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	150	А		
Voltage rate of change (rated V <sub>R</sub> )	dV/dt	10 000	V/µs		
Isolation voltage from terminal to heatsink t = 1 min	V <sub>AC</sub>	1500	V		
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C		

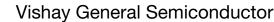


COMPLIANT

HALOGEN

FREE





<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25 \text{ °C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Instantaneous forward voltage per diode	I <sub>F</sub> = 5.0 A	T <sub>A</sub> = 25 °C	V <sub>F</sub> (1)	0.49	-	V
	I <sub>F</sub> = 7.5 A			0.53	-	
	I <sub>F</sub> = 15 A			0.65	0.73	
	I <sub>F</sub> = 5.0 A	T <sub>A</sub> = 125 °C		0.40	-	
	I <sub>F</sub> = 7.5 A			0.46	-	
	I <sub>F</sub> = 15 A			0.61	0.69	
Reverse current per diode	V <sub>B</sub> = 60 V	T <sub>A</sub> = 25 °C	I <sub>R</sub> (2)	-	850	μA
	$v_{\rm R} = 60 V$ $T_{\rm A}$	T <sub>A</sub> = 125 °C		14	40	mA

#### Notes

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

<sup>(2)</sup> Pulse test: Pulse width  $\leq$  40 ms

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25 \text{ °C}$ unless otherwise noted)				
PARAMETER		SYMBOL	VFT3060G	UNIT
Typical thermal resistance	per diode	$R_{ extsf{ heta}JC}$	6.2	°C/W
	per device		5.0	0/10

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<sub>A</sub> = 25 °C unless otherwise noted)

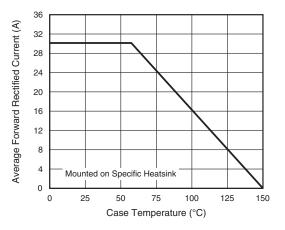


Fig. 1 - Maximum Forward Current Derating Curve

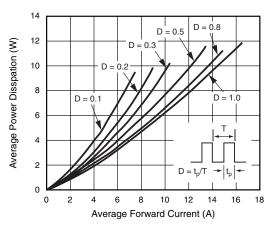
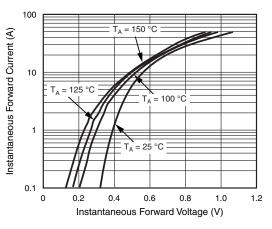


Fig. 2 - Forward Power Dissipation Characteristics

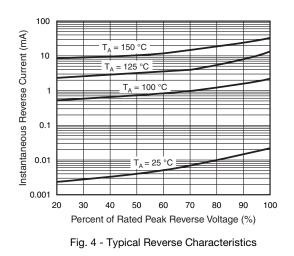
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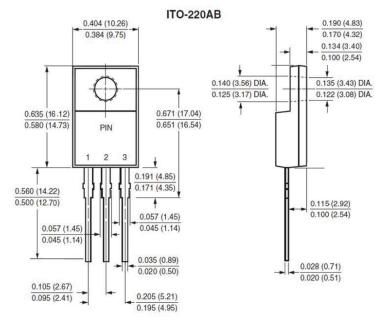
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Fig. 3 - Typical Instantaneous Forward Characteristics







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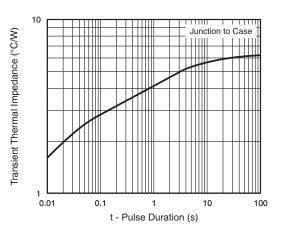


Fig. 5 - Typical Transient Thermal Impedance

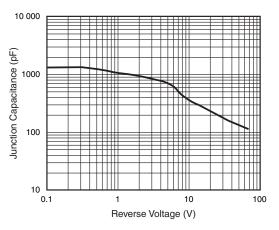


Fig. 6 - Typical Junction Capacitance



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