VFT2080C

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Vishay General Semiconductor

Dual Trench MOS Barrier Schottky Rectifier

Ultra Low $V_F = 0.52$ V at $I_F = 5$ 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
- · Material categorization: for definitions of compliance please see www.vishay.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: 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		20			
(fig. 1) per diode	IF(AV)	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	-		
	$I_F = 10 \text{ A}$			0.60	0.70		
Reverse current per diode	V _R = 80 V	T _A = 25 °C	I _R ⁽²⁾	20	600	μÂ	
		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 ($T_A = 25 \text{ °C}$ unless otherwise noted)				
PARAMETER		SYMBOL	VFT2080C	UNIT
Typical thermal resistance	per diode	R _{θJC}	6.0	°C/W
	per device		5.0	

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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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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