ROHS COMPLIANT

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Dual High-Voltage Trench MOS Barrier Schottky Rectifier

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



LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS					
I _{F(AV)}	2 x 5 A				
V _{RRM}	60 V				
I _{FSM}	100 A				
V _F at I _F = 5.0 A	0.50 V				
T _J max.	150 °C				
Package	D ² PAK (TO-263AB)				
Circuit configurations	Common cathode				

FEATURES

- Trench MOS Schottky technology
- · Low forward voltage drop, low power losses
- High efficiency operation
- Meets MSL level 1, per J-STD-020, LF maximum FREE peak of 245 °C
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

TYPICAL APPLICATIONS

For use in high frequency converters, switching power supplies, freewheeling diodes, OR-ing diode, DC/DC converters, and reverse battery protection.

MECHANICAL DATA

Case: D²PAK (TO-263AB)

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 ($T_A = 25 \text{ °C}$ unless otherwise noted)						
PARAMETER			VBT1060C	UNIT		
Maximum repetitive peak reverse voltage		V _{RRM}	60	V		
Maximum average forward rectified current (fig. 1)	per device		10			
	per diode	IF(AV)	5	А		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode			100			
Operating junction and storage temperature range			-55 to +150	°C		

ELECTRICAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)								
PARAMETER	TEST CO	NDITIONS	SYMBOL	TYP.	MAX.	UNIT		
Instantaneous forward voltage per diode ⁽¹⁾	I _F = 2.5 A	T₄ = 25 °C	V _F	0.49	-	V		
	I _F = 5.0 A	$I_{A} = 25$ C		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 ⁽²⁾	V _R = 60 V	T _A = 25 °C	- I _R	-	700	μA		
		T _A = 125 °C		6.9	25	mA		

Notes

(1) Pulse test: 300 µs pulse width, 1 % duty cycle

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

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For technical questions within your region: <u>DiodesAmericas@vishay.com</u>, <u>DiodesAsia@vishay.com</u>, <u>DiodesEurope@vishay.com</u> THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT <u>www.vishay.com/doc?91000</u>



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THERMAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)						
PARAMETER		SYMBOL	VBT1060C	UNIT		
Typical thermal resistance	per diode	$R_{ extsf{ heta}JC}$	3.5	°C/W		
	per device		2.5			

ORDERING INFORMATION (Example)							
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE		
D ² PAK (TO-263AB)	VTB1060C-M3/4W	1.39	4W	50/tube	Tube		
D ² PAK (TO-263AB)	VTB1060C-M3/8W	1.39	8W	800/reel	Tape and reel		

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

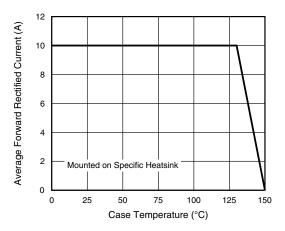


Fig. 1 - Maximum Forward Current Derating Curve

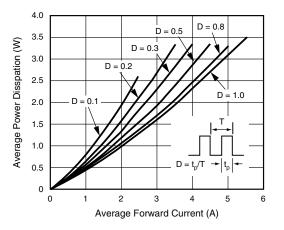


Fig. 2 - Forward Power Dissipation Characteristics Per Diode

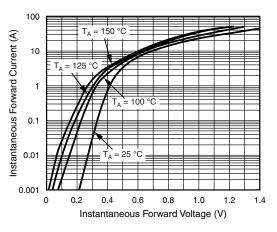


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

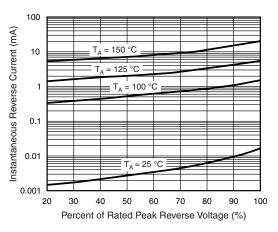
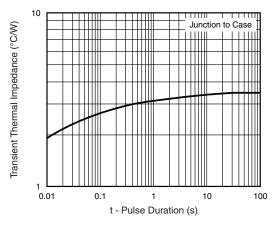


Fig. 4 - Typical Reverse Characteristics Per Diode



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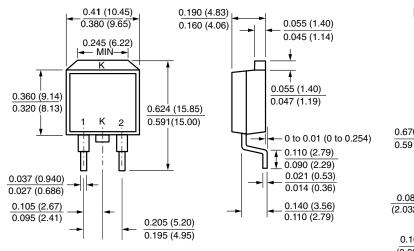


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Fig. 5 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



D²PAK (TO-263AB)

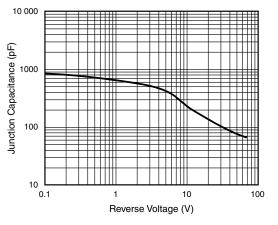
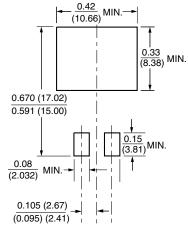


Fig. 6 - Typical Junction Capacitance Per Diode

Mounting Pad Layout





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