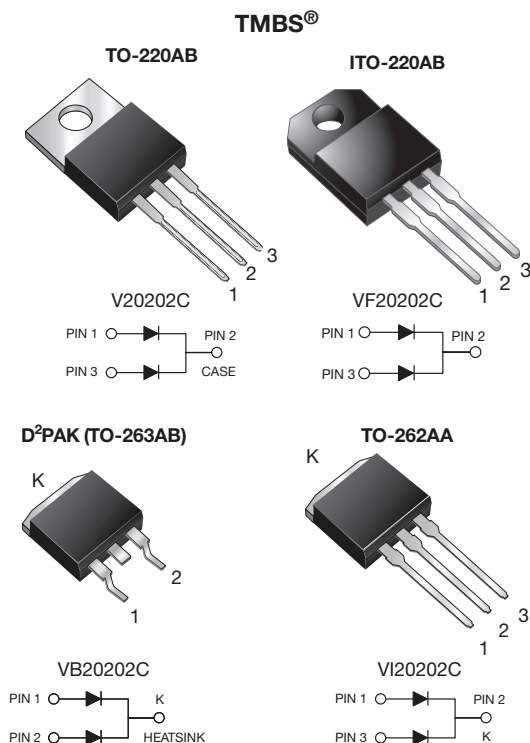


Dual High Voltage Trench MOS Barrier Schottky Rectifier

Ultra Low $V_F = 0.59 \text{ V}$ at $I_F = 5 \text{ A}$



FEATURES

- Trench MOS Schottky technology Gen 2
- Low forward voltage drop, low power losses
- High efficiency operation
- Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C (for D²PAK (TO-263AB) package)
- Solder bath temperature 275 °C maximum, 10 s, per JESD 22-B106 (for TO-220AB, ITO-220-AB, and TO-262AA package)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
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: TO-220AB, ITO-220AB, D²PAK (TO-263AB), and TO-262AA

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 max.



ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)							
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT	
Instantaneous forward voltage per diode ⁽¹⁾	$I_F = 5\text{ A}$	$T_A = 25\text{ }^{\circ}\text{C}$	V_F	0.75	-	V	
	$I_F = 10\text{ A}$			0.81	0.90		
	$I_F = 5\text{ A}$	$T_A = 125\text{ }^{\circ}\text{C}$		0.59	-		
	$I_F = 10\text{ A}$			0.68	0.76		
Reverse current per diode ⁽²⁾	$V_R = 160\text{ V}$	$T_A = 25\text{ }^{\circ}\text{C}$	I_R	0.4	-	μA	
		$T_A = 125\text{ }^{\circ}\text{C}$		0.8	-	mA	
	$V_R = 200\text{ V}$	$T_A = 25\text{ }^{\circ}\text{C}$		-	150	μA	
		$T_A = 125\text{ }^{\circ}\text{C}$		1.6	10	mA	

Notes(1) Pulse test: 300 μs pulse width, 1 % duty cycle(2) Pulse test: Pulse width $\leq 5\text{ ms}$

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)							
PARAMETER		SYMBOL	V20202C	VF20202C	VB20202C	VI20202C	UNIT
Typical thermal resistance	per diode	$R_{\theta JC}$	2.2	4.5	2.2		$^{\circ}\text{C/W}$
	per device	$R_{\theta JC}$	1.3	3.2	1.3		
	per device	$R_{\$					



RATINGS AND CHARACTERISTICS CURVES ($T_A = 25^\circ\text{C}$ unless otherwise noted)

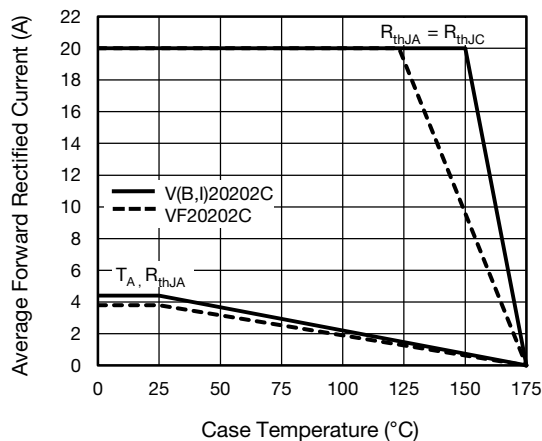


Fig. 1 - Maximum Forward Current Derating Curve ($D = \text{Duty Cycle} = 0.5$)

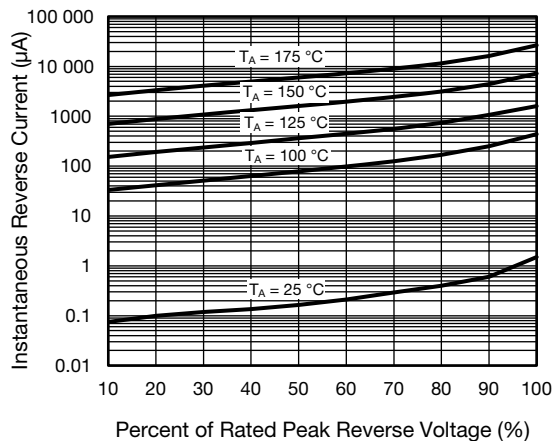


Fig. 4 - Typical Reverse Characteristics Per Diode

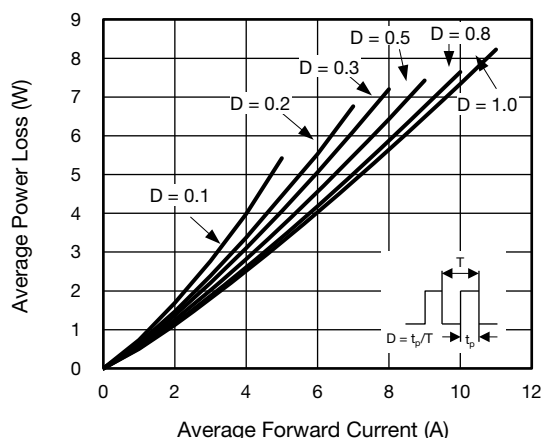


Fig. 2 - Forward Power Loss Characteristics Per Diode

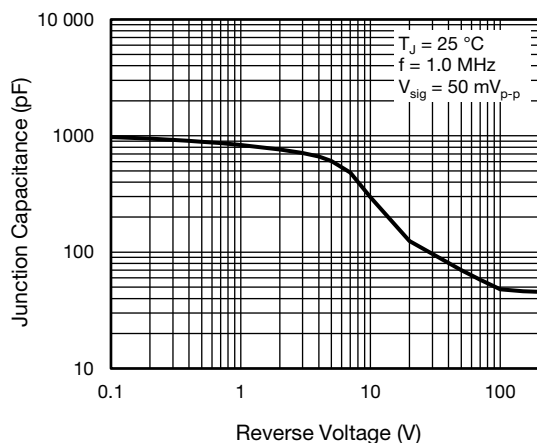


Fig. 5 - Typical Junction Capacitance Per Diode

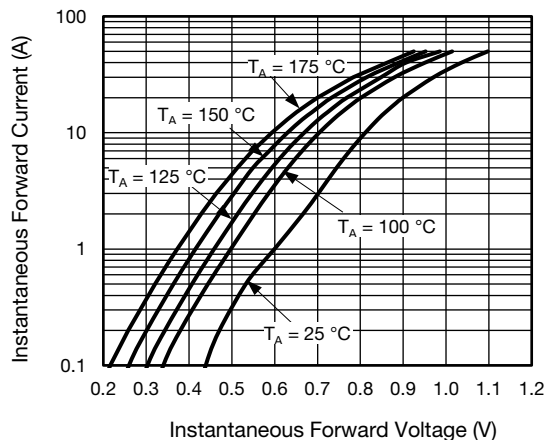


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

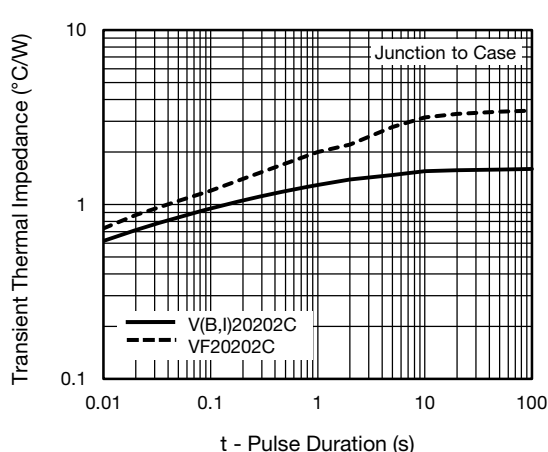
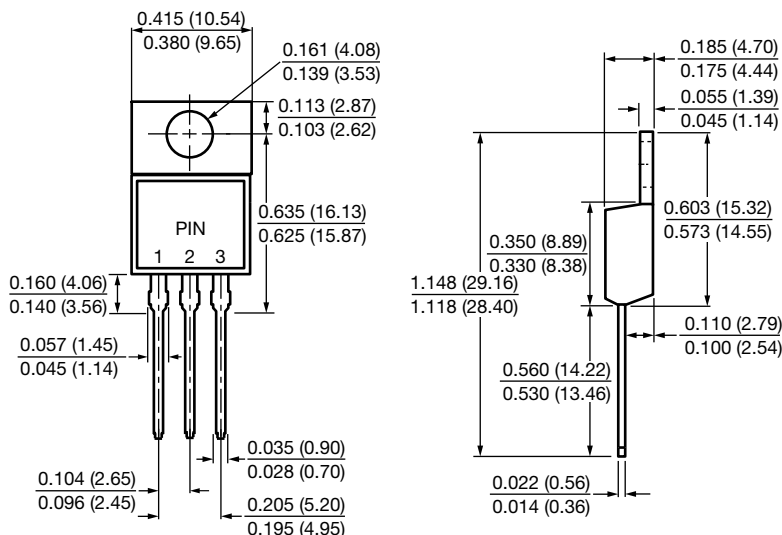


Fig. 6 - Typical Transient Thermal Impedance Per Device

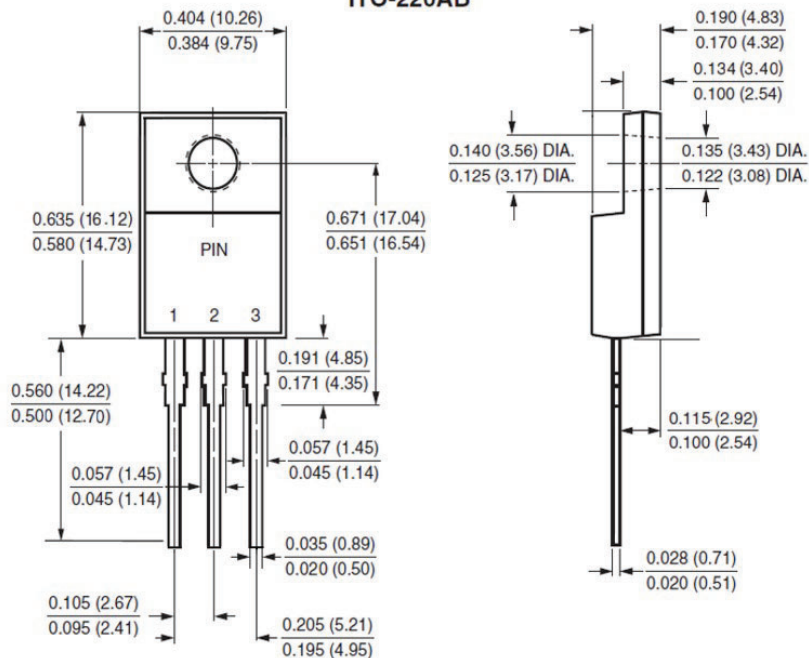


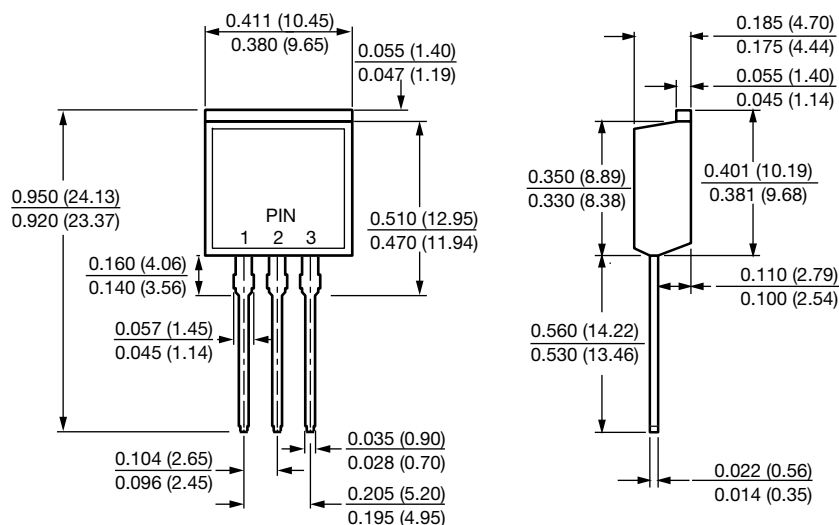
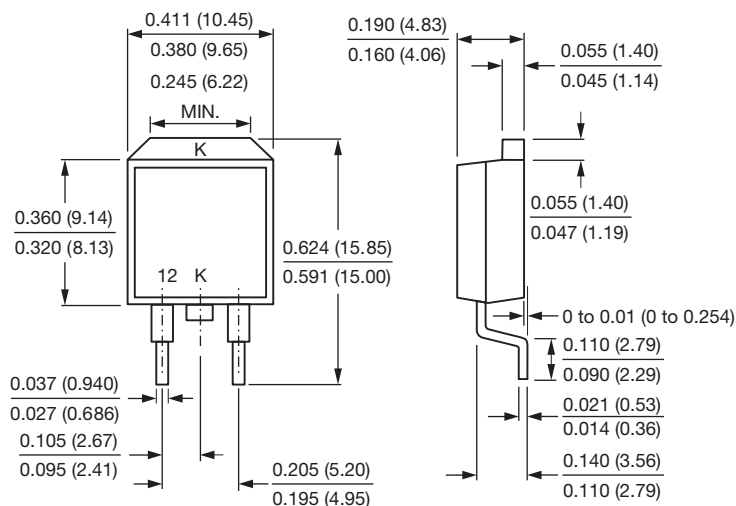
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-220AB



ITO-220AB



TO-262AA

D²PAK (TO-263AB)




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