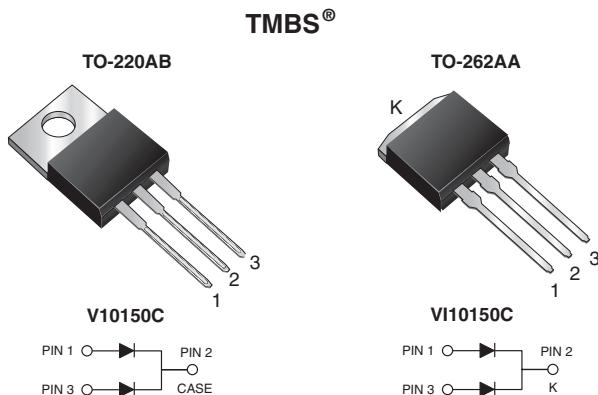


Dual High Voltage Trench MOS Barrier Schottky Rectifier

Ultra Low $V_F = 0.63$ at $I_F = 3$ A


TMBS®

V10150C

VI10150C


FEATURES

- Trench MOS Schottky technology
- Low forward voltage drop, low power losses
- High efficiency operation
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- 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 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.

PRIMARY CHARACTERISTICS	
$I_F(AV)$	2 x 5.0 A
V_{RRM}	150 V
I_{FSM}	60 A
V_F at $I_F = 5$ A	0.69 V
T_J max.	150 °C
Package	TO-220AB, TO-262AA
Diode variation	Common cathode

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)					
PARAMETER	SYMBOL	V10150C	VI10150C	UNIT	
Max. repetitive peak reverse voltage	V_{RRM}		150	V	
Max. average forward rectified current (fig. 1)	$I_F(AV)$	10		A	
		5.0			
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	60		A	
Voltage rate of change (rated V_R)	dV/dt		10 000	V/μs	
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	$I_F = 3$ A	V_F (1)	0.82	-	V		
	$T_A = 25$ °C		0.99	1.41			
	$I_F = 3$ A		0.63	-			
	$T_A = 125$ °C		0.69	0.75			
Reverse current per diode	$V_R = 100$ V	I_R (2)	0.5	-	μA		
	$T_A = 25$ °C		0.5	-			
	$T_A = 125$ °C		-	100			
	$V_R = 150$ V		1.0	10			
$T_A = 25$ °C							
$T_A = 125$ °C							

Notes

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

(2) Pulse test: Pulse width ≤ 40 ms

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

PARAMETER	SYMBOL	V10150C	VI10150C	UNIT
Typical thermal resistance per diode	$R_{\theta\text{JC}}$		4.0	$^\circ\text{C}/\text{W}$

ORDERING INFORMATION (Example)

PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AB	V10150C-M3/4W	1.87	4W	50/tube	Tube
TO-262AA	VI10150C-M3/4W	1.45	4W	50/tube	Tube

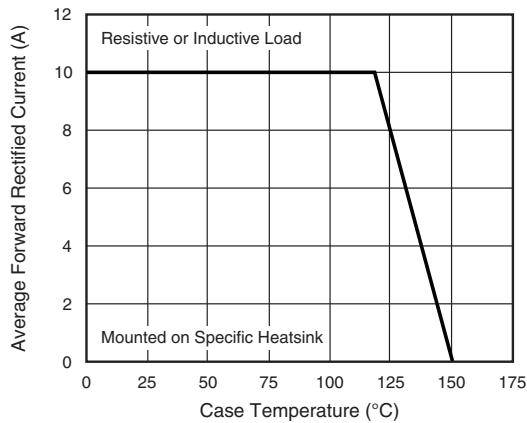
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25^\circ\text{C}$ unless otherwise noted)


Fig. 1 - Maximum Forward Current Derating Curve

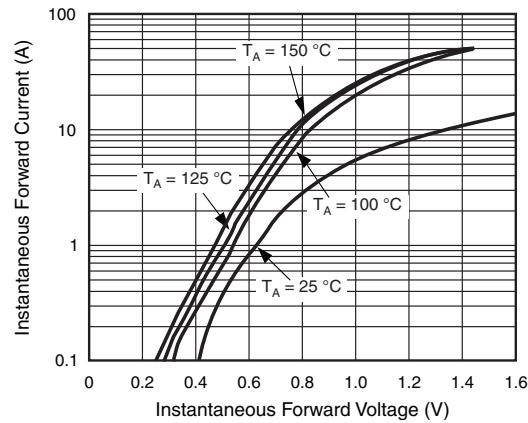


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

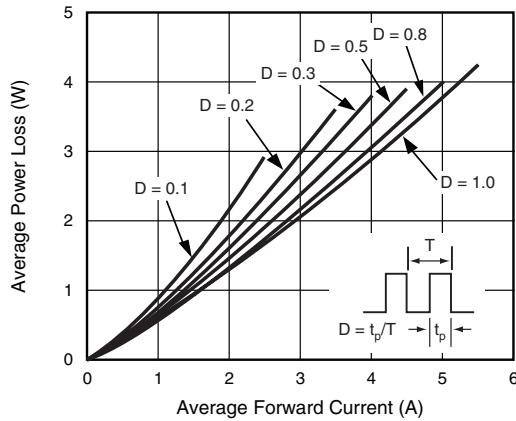


Fig. 2 - Forward Power Loss Characteristics Per Diode

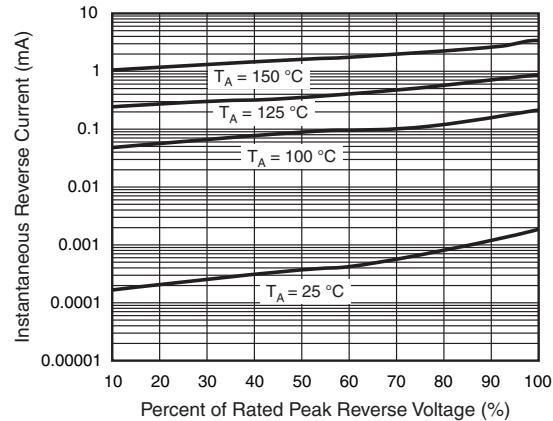


Fig. 4 - Typical Reverse Characteristics Per Diode

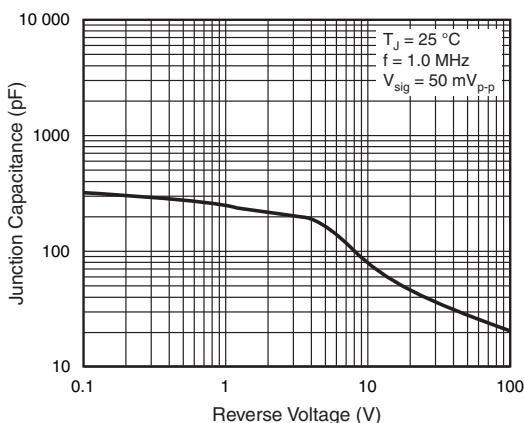


Fig. 5 - Typical Junction Capacitance Per Diode

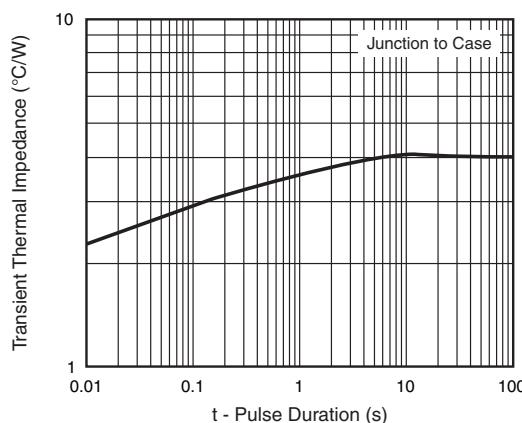
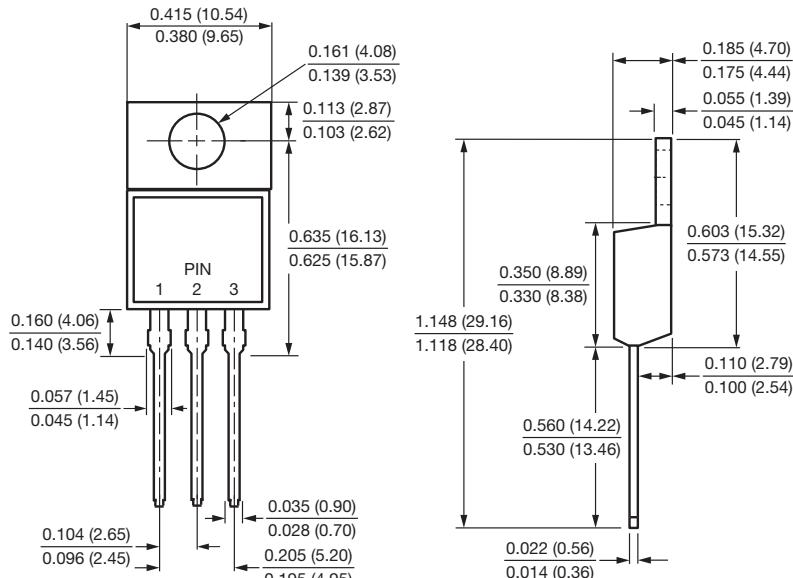


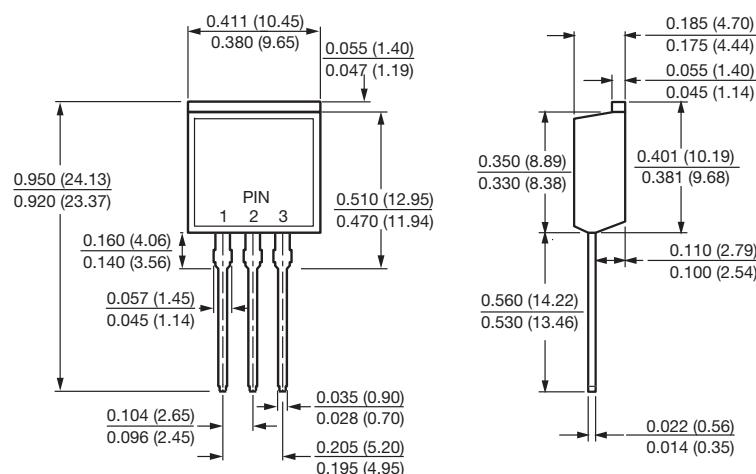
Fig. 6 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-220AB



TO-262AA



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