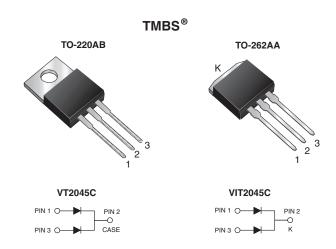


Dual Low-Voltage Trench MOS Barrier Schottky Rectifier

Ultra Low $V_F = 0.33 \text{ V}$ at $I_F = 5.0 \text{ A}$



PRIMARY CHARACTERISTICS					
I _{F(AV)}	2 x 10 A				
V _{RRM}	45 V				
I _{FSM}	160 A				
V _F at I _F = 10 A	0.41 V				
T _J max.	150 °C				
Package	TO-220AB, TO-262AA				
Diode variations	Common cathode				

FEATURES

- Trench MOS Schottky technology
- · Low forward voltage drop, low power losses

h efficiency operation 60

High efficiency operation
Solder dip 275 °C max. 10 s, per JESD 22-B106

 Material categorization: for definitions of compliance please see www.vishav.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: 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 maximum

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)						
PARAMETER		SYMBOL	VT2045C	VIT2045C	UNIT	
Maximum repetitive peak reverse voltage		V_{RRM}	45		V	
Maximum average forward rectified current (fig. 1)	per device	I _{F(AV)}	20		A	
	per diode		10			
Peak forward surge current 8.3 ms single half sine-was superimposed on rated load per diode	I _{FSM}	160		А		
Operating junction and storage temperature range		T _J , T _{STG}	-40 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⁾	0.44	-	V
	I _F = 10 A			0.49	0.58	
	I _F = 5 A	T _A = 125 °C		0.33	-	
	I _F = 10 A			0.41	0.52	
Reverse current per diode	V - 45 V	T _A = 25 °C	I _R ⁽²⁾	=	2000	μΑ
	V _R = 45 V	T _A = 125 °C		10	30	mA

Notes

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

(2) Pulse test: Pulse width ≤ 40 ms

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER		SYMBOL	VT2045C	VIT2045C	UNIT
Typical thermal registance	per diode	D	3.0		°C/W
Typical thermal resistance	per device	$R_{ heta JC}$	2.0		

ORDERING INFORMATION (Example)							
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE		
TO-220AB	VT2045C-M3/4W	1.88	4W	50/tube	Tube		
TO-262AA	VIT2045C-M3/4W	1.45	4W	50/tube	Tube		

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

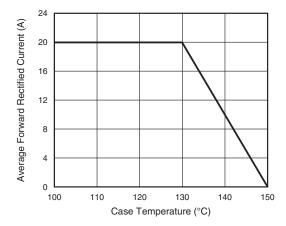
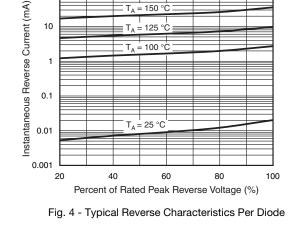


Fig. 1 - Maximum Forward Current Derating Curve



100

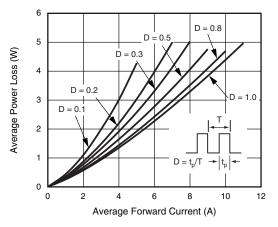


Fig. 2 - Forward Power Loss Characteristics Per Diode

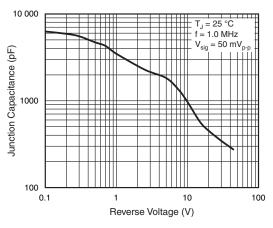


Fig. 5 - Typical Junction Capacitance Per Diode

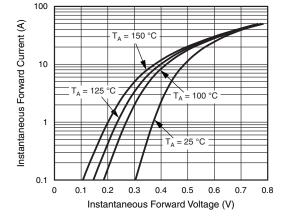


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

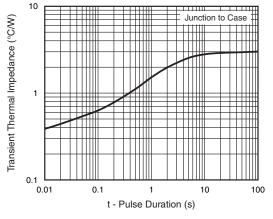
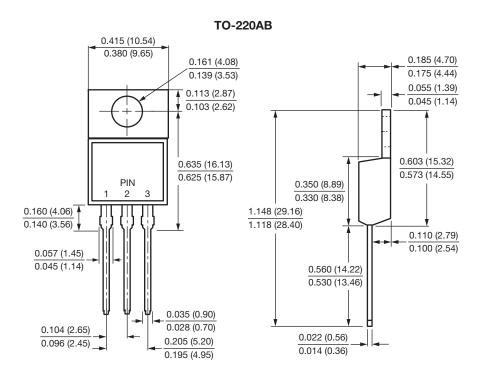


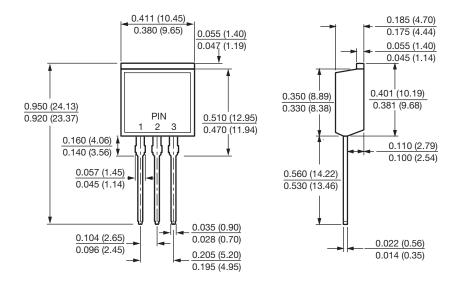
Fig. 6 - Typical Transient Thermal Impedance Per Diode



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



TO-262AA





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