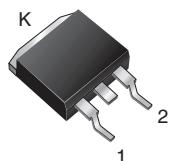
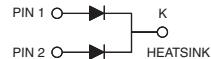


Dual Common-Cathode High-Voltage Schottky Rectifier

D²PAK (TO-263AB)

**MBRB2090CT
MBRB20100CT**

[click logo to get started](#)
DESIGN SUPPORT TOOLS

FEATURES

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


**RoHS
COMPLIANT
HALOGEN
FREE**
TYPICAL APPLICATIONS

For use in high frequency rectifier of switching mode power supplies, freewheeling diodes, DC/DC converters, or polarity protection application.

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

PRIMARY CHARACTERISTICS	
I _{F(AV)}	2 x 10 A
V _{RRM}	90 V, 100 V
I _{FSM}	150 A
V _F	0.65 V
T _J max.	150 °C
Package	D ² PAK (TO-263AB)
Circuit configuration	Common cathode

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)				
PARAMETER	SYMBOL	MBRB2090CT	MBRB20100CT	UNIT
Maximum repetitive peak reverse voltage	V _{RRM}	90	100	V
Working peak reverse voltage	V _{RWM}	90	100	V
Maximum DC blocking voltage	V _{DC}	90	100	V
Maximum average forward rectified current at T _C = 133 °C	I _{F(AV)} total device per diode	20	10	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode		150		
Voltage rate of change (rated V _R)	dV/dt	10 000		V/μs
Operating junction and storage temperature range	T _J , T _{STG}	-65 to +150		°C

ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)				
PARAMETER	TEST CONDITIONS	SYMBOL	MAX.	UNIT
Maximum instantaneous forward voltage per diode ⁽¹⁾	I _F = 10 A	T _C = 25 °C	0.80	V
	I _F = 10 A		0.65	
	I _F = 20 A		0.75	
Maximum reverse current per diode at working peak reverse voltage ⁽²⁾		T _J = 25 °C	100	μA
		T _J = 125 °C	6.0	
				mA

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	MBRB	UNIT
Typical thermal resistance per diode	$R_{\theta JA}$	60	$^\circ\text{C}/\text{W}$
	$R_{\theta JC}$	2.0	

ORDERING INFORMATION (Example)

PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-263AB	MBRB20100CT-M3/4W	1.38	4W	50/tube	Tube
TO-263AB	MBRB20100CT-M3/8W	1.38	8W	800/reel	Tape and reel

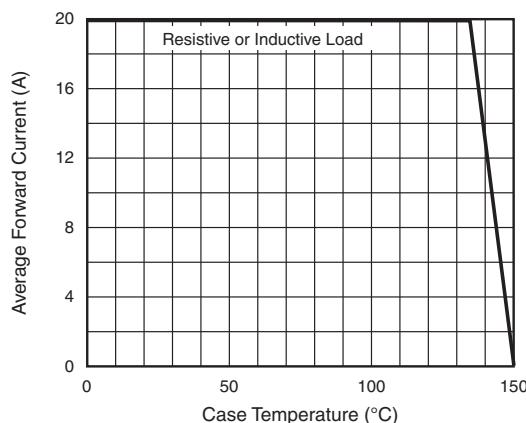
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25^\circ\text{C}$ unless otherwise noted)


Fig. 1 - Forward Current Derating Curve

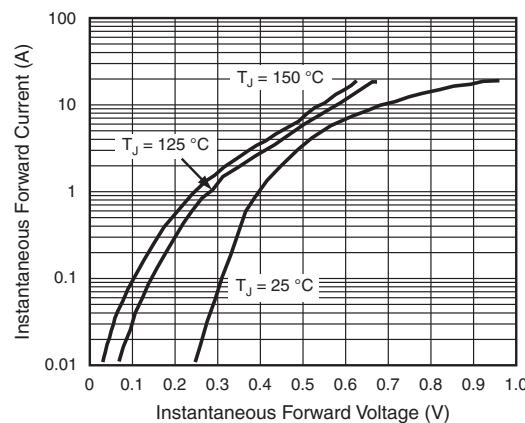


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

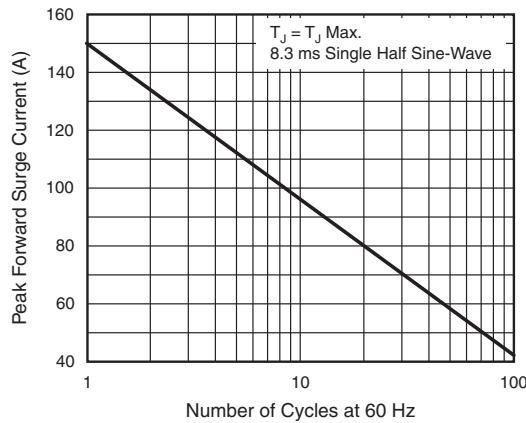


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

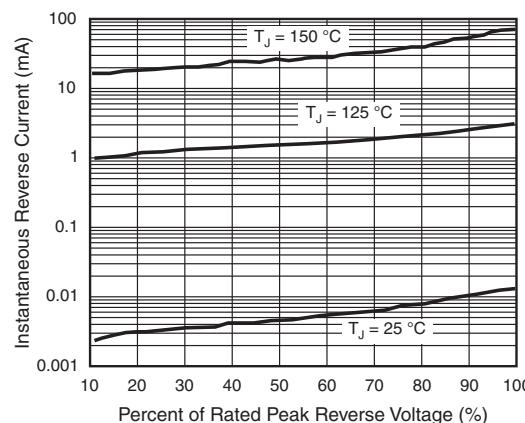


Fig. 4 - Typical Reverse Characteristics Per Diode

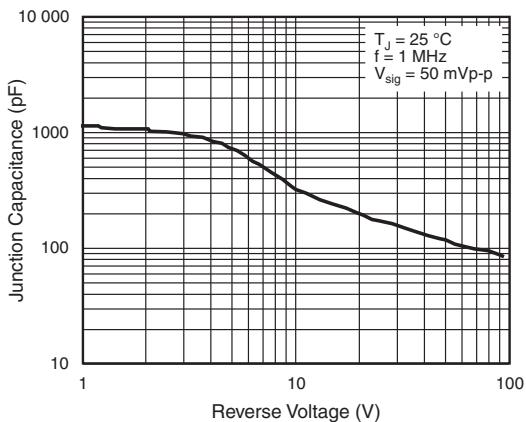


Fig. 5 - Typical Junction Capacitance
Per Diode

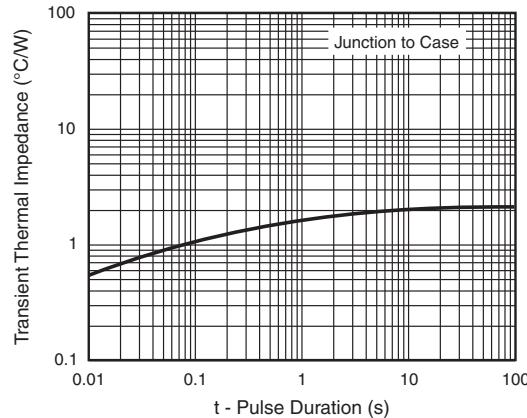
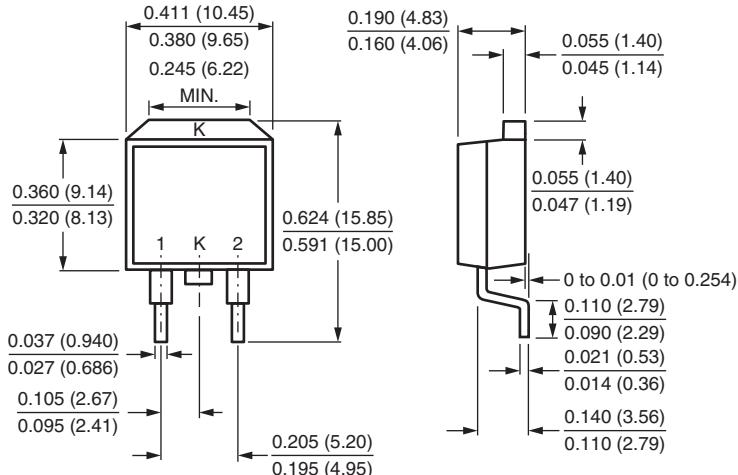


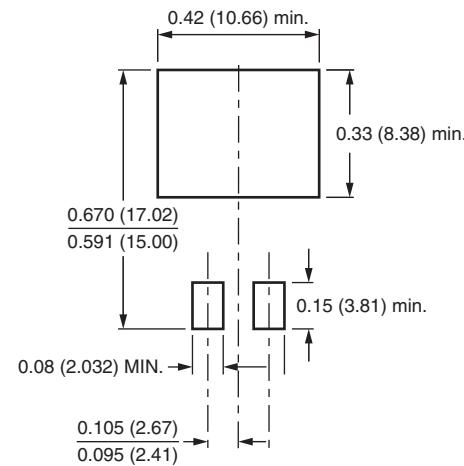
Fig. 6 - Typical Transient Thermal Impedance
Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

D²PAK (TO-263AB)



Mounting Pad Layout



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