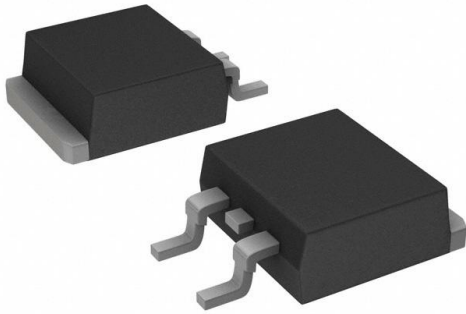


MBRB10100-E3/8W Datasheet

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DiGi Electronics Part Number	MBRB10100-E3/8W-DG
Manufacturer	Vishay General Semiconductor - Diodes Division
Manufacturer Product Number	MBRB10100-E3/8W
Description	DIODE SCHOTTKY 100V 10A TO263AB
Detailed Description	Diode 100 V 10A Surface Mount TO-263AB (D2PAK)

This model MBRB10100-E3/8W is available at DiGi Electronics.

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Purchase and inquiry

Manufacturer Product Number:

MBRB10100-E3/8W

Series:

TMBS®

Technology:

Schottky

Current - Average Rectified (Io):

10A

Speed:

Fast Recovery =< 500ns, > 200mA (Io)

Capacitance @ Vr, F:

-

Package / Case:

TO-263-3, D2PAK (2 Leads + Tab), TO-263AB

Operating Temperature - Junction:

-65°C ~ 150°C

Manufacturer:

Vishay General Semiconductor - Diodes Division

Product Status:

Active

Voltage - DC Reverse (Vr) (Max):

100 V

Voltage - Forward (Vf) (Max) @ If:

800 mV @ 10 A

Current - Reverse Leakage @ Vr:

100 µA @ 100 V

Mounting Type:

Surface Mount

Supplier Device Package:

TO-263AB (D2PAK)

Base Product Number:

MBRB10100

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.10.0080

Moisture Sensitivity Level (MSL):

1 (Unlimited)

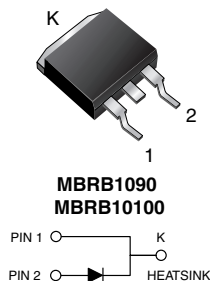
ECCN:

EAR99



High-Voltage TMBS[®] (Trench MOS Barrier Schottky) Rectifier

D²PAK (TO-263AB)



MBRB1090
MBRB10100

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

LINKS TO ADDITIONAL RESOURCES



3D Models

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

Polarity: As marked

M3 suffix meets JESD 201 class 1A whisker test

PRIMARY CHARACTERISTICS	
I _{F(AV)}	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	Single

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)				
PARAMETER	SYMBOL	MBRB1090	MBRB10100	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)}	10		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	150		A
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 ⁽¹⁾	I _F = 10 A	T _C = 25 °C	V _F	0.80	V
	I _F = 10 A	T _C = 125 °C		0.65	
	I _F = 20 A	T _C = 125 °C		0.75	
Maximum reverse current per at working peak reverse voltage ⁽²⁾	T _J = 25 °C		I _R	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



MBRB1090-M3, MBRB10100-M3

Vishay General Semiconductor

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	MBRB	UNIT
Typical thermal resistance	$R_{\theta JA}$	60	$^\circ\text{C/W}$
	$R_{\theta JC}$	2.0	

ORDERING INFORMATION (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
D ² PAK (TO-263AB)	MBRB10100-M3/4W	1.384	4W	50/tube	Tube
D ² PAK (TO-263AB)	MBRB10100-M3/8W	1.384	8W	800/reel	Tape and reel

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

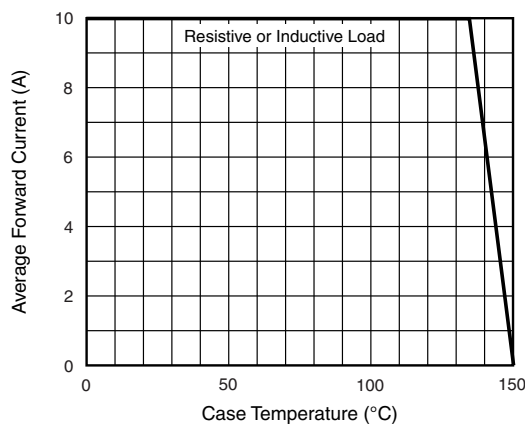


Fig. 1 - Forward Current Derating Curve

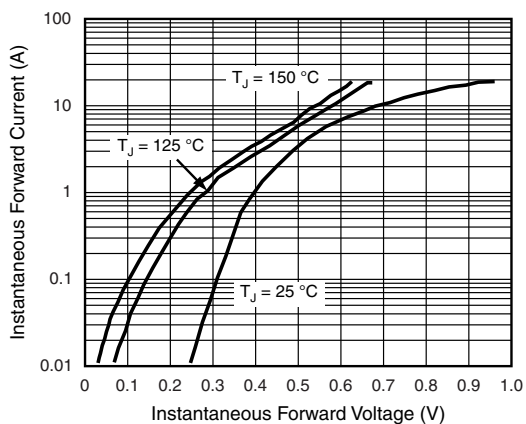


Fig. 3 - Typical Instantaneous Forward Characteristics

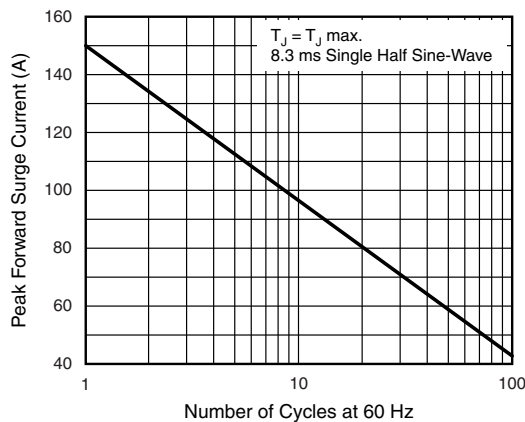


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

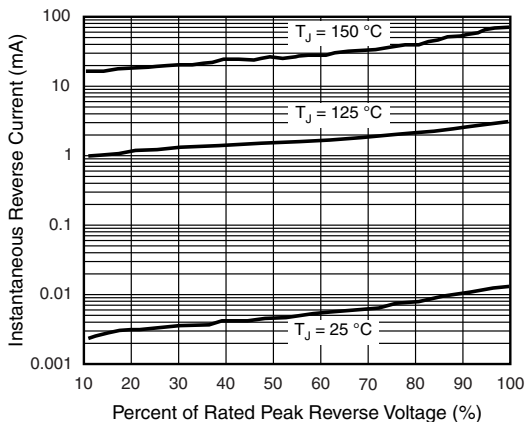


Fig. 4 - Typical Reverse Characteristics



MBRB1090-M3, MBRB10100-M3

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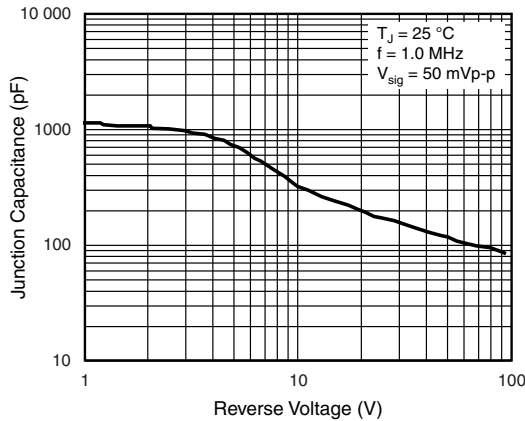


Fig. 5 - Typical Junction Capacitance

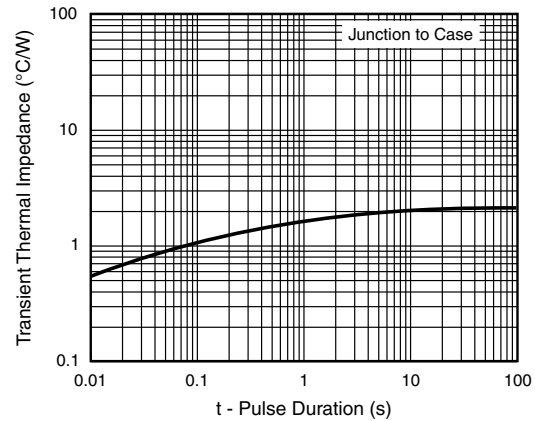
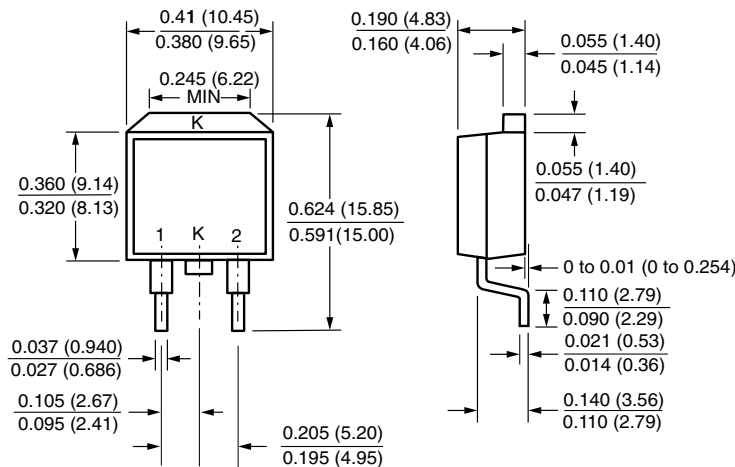


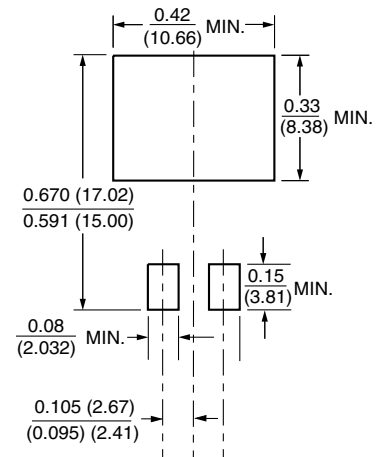
Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

D²PAK (TO-263AB)



Mounting Pad Layout





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