ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number:	MB30H90CTHE3_A/I
Manufacturer:	Vishay General Semiconductor - Diodes Division
Package:	Tape & Reel (TR)
Availability:	Please confirm with sales

Product Page:

https://antrexco.com/product/details/vishay-general-semiconductor-diodes-division mb30h90cthe3-a-i.html

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Contact Information

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Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

Note:

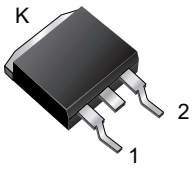
This PDF includes an ANTREX product reference cover page.

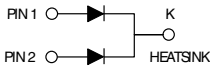
The original manufacturer datasheet follows from the next page.

Dual Common Cathode High Voltage Schottky Rectifier

High Barrier Technology for Improved High Temperature Performance

D²PAK (TO-263AB)





FEATURES

- Power pack
- Guardring for overvoltage protection
- Low power loss, high efficiency
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High frequency operation
- Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

HALOGEN FREE Available

TYPICAL APPLICATIONS

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

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2 x 15 A
V_{RRM}	100 V
I_{FSM}	275 A
V_F	0.67 V
I_R	5.0 µA
T_J max.	175 °C
Package	D²PAK (TO-263AB)
Circuit configuration	Common cathode

MECHANICAL DATA

Case: D²PAK (TO-263AB)

Molding compound meets UL 94 V-0 flammability rating

Base P/NHM3 - RoHS-compliant, halogen-free, AEC-Q101 qualified

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

HM3 suffix meets JESD 201 class 2 whisker test

Polarity: as marked

MAXIMUM RATINGS (T_C = 25 °C unless otherwise noted)

PARAMETER		SYMBOL	MB30H100CT	UNIT
Device marking code			MBRB30H100CT	
Maximum repetitive peak reverse voltage		V_{RRM}	100	V
Working peak reverse voltage		V_{RWM}	100	
Maximum DC blocking voltage		V_{DC}	100	
Maximum average forward rectified current (fig.1)	total device	$I_{F(AV)}$	30	A
	per diode		15	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode		I_{FSM}	275	
Peak repetitive reverse surge current per diode at t_p = 2.0 µs, 1 kHz		I_{RRM}	1.0	
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 +175	°C

ELECTRICAL CHARACTERISTICS (T_C = 25 °C unless otherwise noted)					
PARAMETER	**SYMBOL**	**TEST CONDITIONS**		**VALUE**	**UNIT**
Maximum instantaneous forward voltage per diode	V_F (1)	I_F = 15 A	T_J = 25 °C	0.82	V
		I_F = 15 A	T_J = 125 °C	0.67	
		I_F = 30 A	T_J = 25 °C	0.93	
		I_F = 30 A	T_J = 125 °C	0.80	
Maximum reverse current per diode	I_R (2)	Rated V_R	T_J = 25 °C	5.0	μA
			T_J = 125 °C	6.0	mA

Note

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

(2) Pulse test: Pulse width, ≤ 40 ms

THERMAL CHARACTERISTICS (T_C = 25 °C unless otherwise noted)			
PARAMETER	**SYMBOL**	**MB30H100CT**	**UNIT**
Typical thermal resistance per diode	$R_{\theta JC}$	1.9	°C/W

ORDERING INFORMATION					
PACKAGE	**PREFERRED P/N**	**UNIT WEIGHT (g)**	**PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
D^2PAK (TO-263AB)	MB30H100CTHM3/I	1.35	I	800/reel	Tape and reel

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

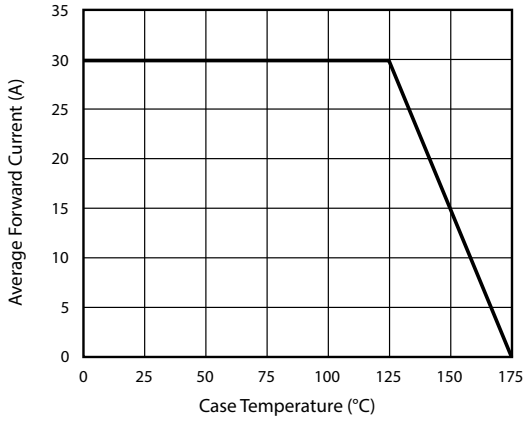


Fig. 1 - Forward Derating Curve Per Diode

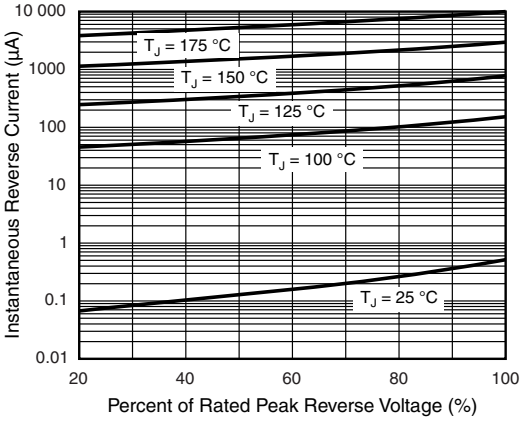


Fig. 4 - Typical Reverse Characteristics Per Diode

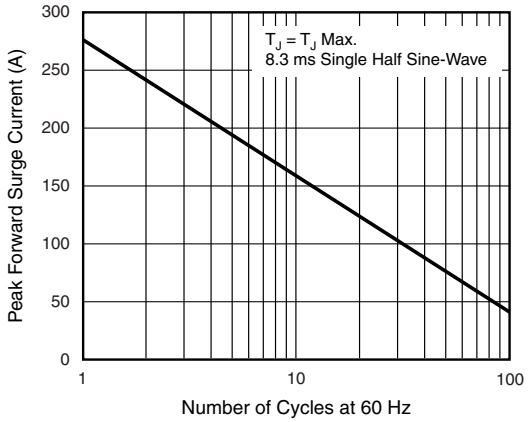


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

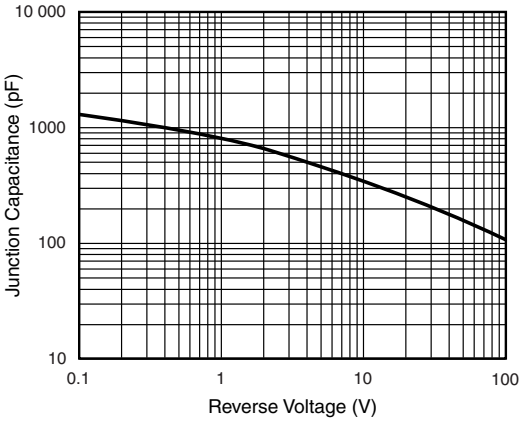


Fig. 5 - Typical Junction Capacitance Per Diode

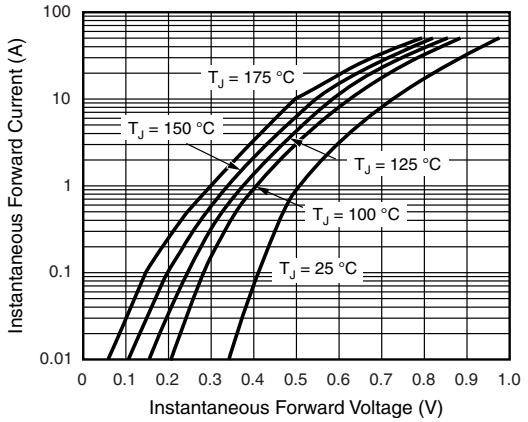


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

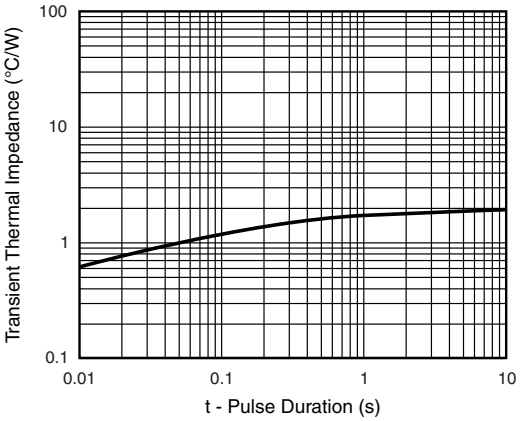
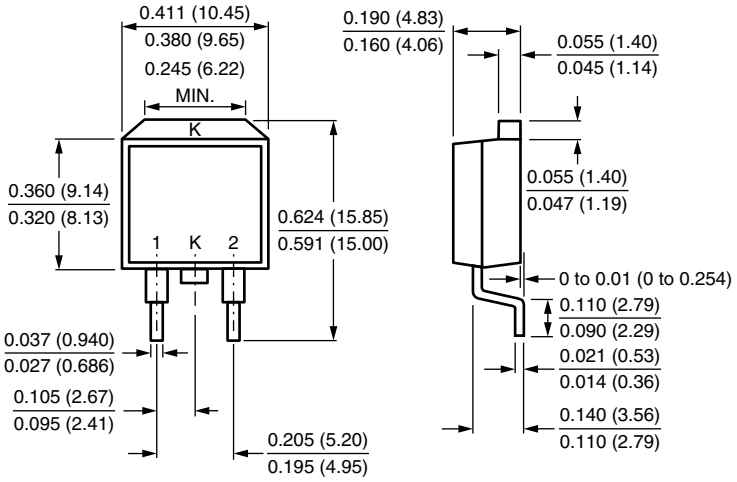


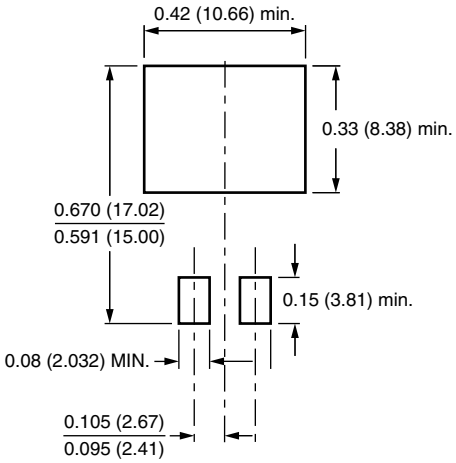
Fig. 6 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

D^2PAK (TO-263AB)



Mounting Pad Layout



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