

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number:	MBRB25H35CTHM3/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/mbrb25h35cthm3-i.html>



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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:

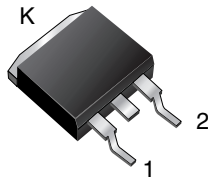
This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

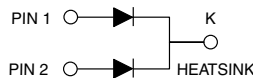
Dual Common Cathode Schottky Rectifier

High Barrier Technology for Improved High Temperature Performance

D²PAK (TO-263AB)



MBRB25HxxCT



LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2 x 15 A
V_{RRM}	35 V, 45 V, 60 V
I_{FSM}	150 A
V_F	0.54 V, 0.60 V
I_R	100 μ A
T_J max.	175 °C
Package	D ² PAK (TO-263AB)
Circuit configuration	Common cathode

FEATURES

- Power pack
- Guardring for overvoltage protection
- Lower power losses, 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

TYPICAL APPLICATIONS

For use in low voltage, 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/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	MBRB25H35CT	MBRB25H45CT	MBRB25H60CT	UNIT
Maximum repetitive peak reverse voltage	V _{RRM}	35	45	60	V
Working peak reverse voltage	V _{RWM}	35	45	60	
Maximum DC blocking voltage	V _{DC}	35	45	60	
Max. average forward rectified current (fig. 1) — total device per diode	I _{F(AV)}	30			A
		15			
Non-repetitive avalanche energy per diode at 25 °C, I _{AS} = 4 A, L = 10 mH	E _{AS}	80			mJ
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I _{FSM}	150			A
Peak repetitive reverse surge current per diode at t _p = 2.0 μs, 1 kHz	I _{RRM}	1.0	1.0	0.5	A
Peak non-repetitive reverse energy (8/20 μs waveform)	E _{RSM}	25	25	20	mJ
Electrostatic discharge capacitor voltage Human body model: C = 100 pF, R = 1.5 kΩ	V _C	25			kV
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 ($T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)								
PARAMETER	SYMBOL	TEST CONDITIONS		MBRB25H35CT MBRB25H45CT		MBRB25H60CT		UNIT
				TYP.	MAX.	TYP.	MAX.	
Maximum instantaneous forward voltage per diode	$V_F^{(1)}$	$I_F = 15\text{ A}$	$T_J = 25\text{ }^{\circ}\text{C}$	-	0.64	-	0.70	V
			$T_J = 125\text{ }^{\circ}\text{C}$	0.50	0.54	0.56	0.60	
		$I_F = 30\text{ A}$	$T_J = 25\text{ }^{\circ}\text{C}$	-	0.74	-	0.85	
			$T_J = 125\text{ }^{\circ}\text{C}$	0.63	0.67	0.68	0.72	
Maximum reverse current per diode	$I_R^{(2)}$	Rated V_R	$T_J = 25\text{ }^{\circ}\text{C}$	-	100	-	100	μA
			$T_J = 125\text{ }^{\circ}\text{C}$	6.0	20	4.0	20	mA

Notes

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

(2) Pulse test: pulse width $\leq 40\text{ ms}$

THERMAL CHARACTERISTICS ($T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	MBRB	UNIT
Thermal resistance, junction to case per diode	$R_{\theta JC}$	1.5	$^{\circ}\text{C/W}$

ORDERING INFORMATION (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
D ² PAK (TO-263AB)	MBRB25H60CTHM3/I	1.35	I	800/reel	Tape and reel



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

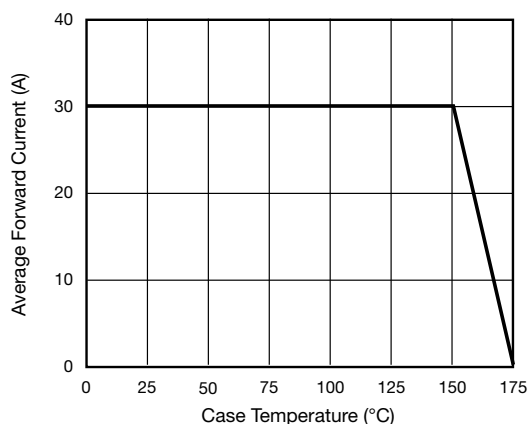


Fig. 1 - Forward Derating Curve (Total)

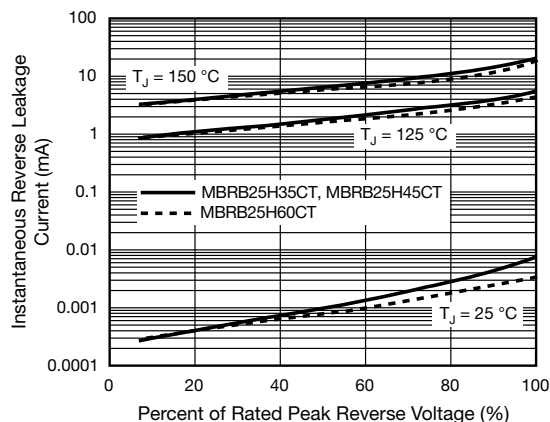


Fig. 4 - Typical Reverse Characteristics Per Diode

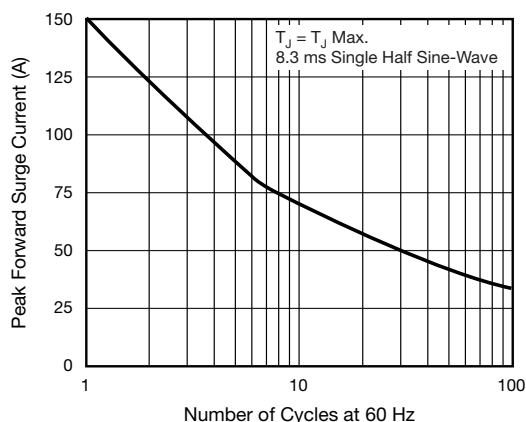


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

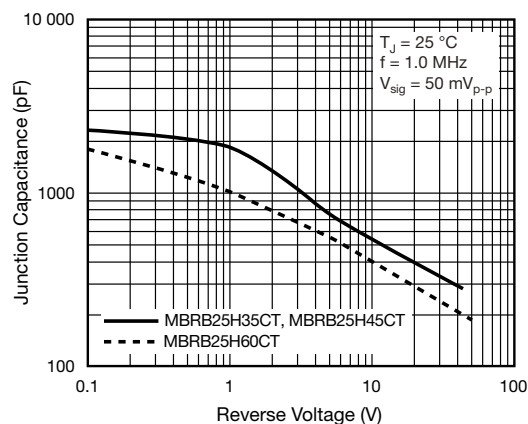


Fig. 5 - Typical Junction Capacitance Per Diode

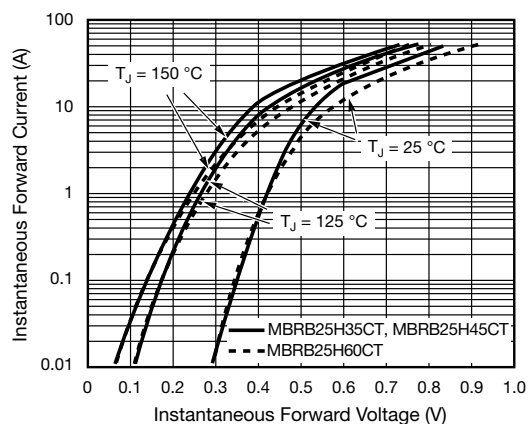


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

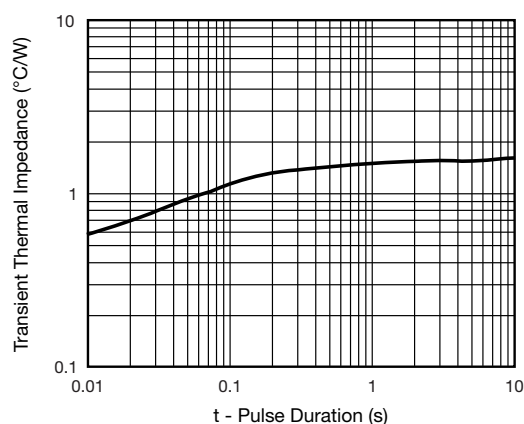
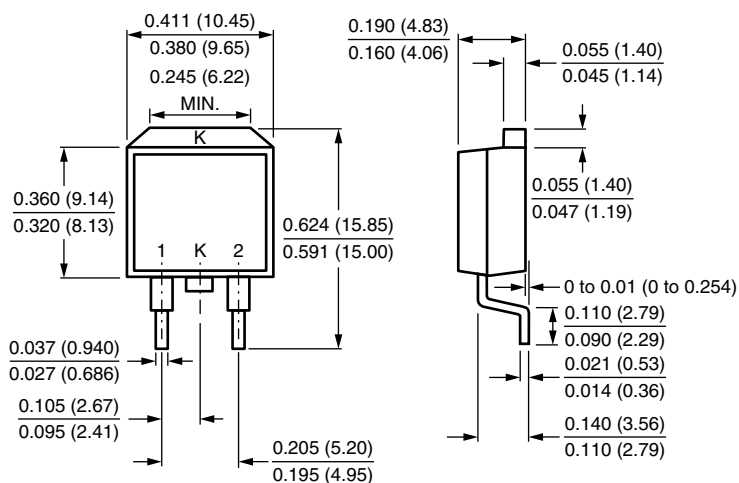


Fig. 6 - Typical Transient Thermal Impedance Per Diode

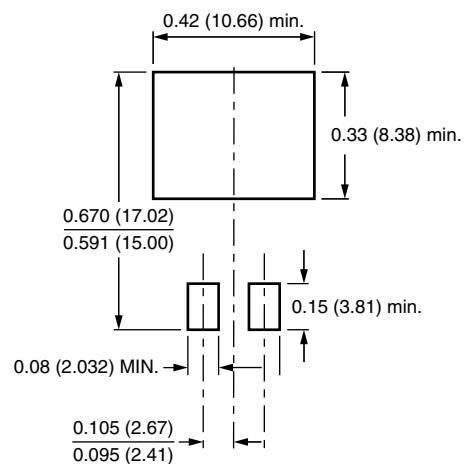


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

D²PAK (TO-263AB)



Mounting Pad Layout





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