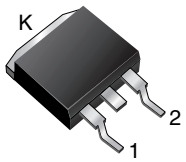
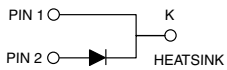
Schottky Barrier Rectifier

High Barrier Technology for Improved High Temperature Performance

D²PAK (TO-263AB)





LINKS TO ADDITIONAL RESOURCES

3D Models

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	16 A
V_{RRM}	35 V, 45 V, 60 V
I_{FSM}	150 A
V_F	0.56 V, 0.62 V
I_R	100 µA
T_J max.	175 °C
Package	D²PAK (TO-263AB)
Circuit configuration	Single

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

TYPICAL APPLICATIONS

For use in low voltage, high frequency rectifier of switching mode power supplies, freewheeling diodes, DC/DC converters, and 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**	**MBRB16H60**	**UNIT**
Maximum repetitive peak reverse voltage	V_{RRM}	60	V
Working peak reverse voltage	V_{RWM}	60	
Maximum DC blocking voltage	V_{DC}	60	
Maximum average forward rectified current (fig. 1)	$I_{F(AV)}$	16	A
Non-repetitive avalanche energy 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	I_{FSM}	150	A
Peak repetitive reverse surge current at t_p = 2.0 µs, 1 kHz	I_{RRM}	0.5	
Peak non-repetitive reverse energy (8/20 µs waveform)	E_{RSM}	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

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ELECTRICAL CHARACTERISTICS (T_C = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	TEST CONDITIONS		MBRB16H60		UNIT
				TYP.	MAX.	
Maximum instantaneous forward voltage	V_F (1)	I_F = 16 A	T_J = 25 °C	-	0.73	V
		I_F = 16 A	T_J = 125 °C	0.58	0.62	
Maximum reverse current	I_R (2)	Rated V_R	T_J = 25 °C	-	100	µA
			T_J = 125 °C	4.0	20	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	MBRB16H60	UNIT
Typical thermal resistance, junction to case	$R_{\theta JC}$	1.5	°C/W

ORDERING INFORMATION					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
D^2PAK (TO-263AB)	MBRB16H60HM3/I	1.33	I	800/reel	Tape and reel

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

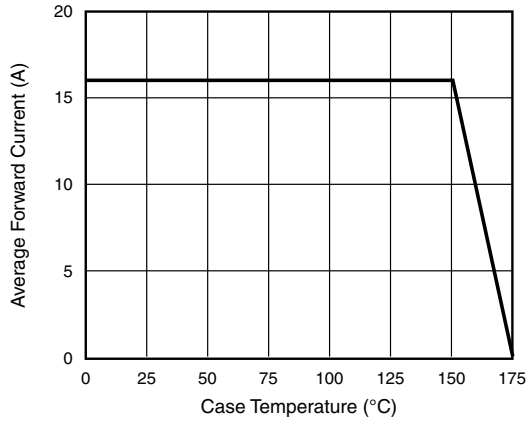


Fig. 1 - Forward Current Derating Curve

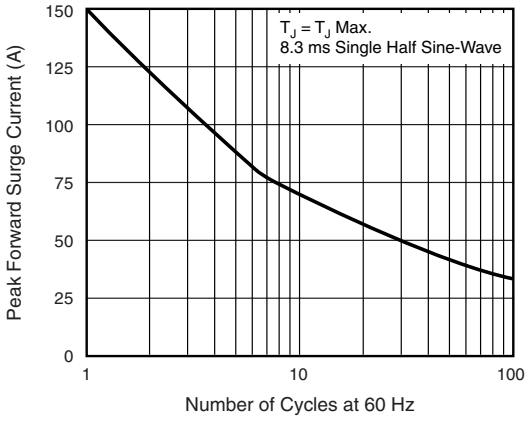


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

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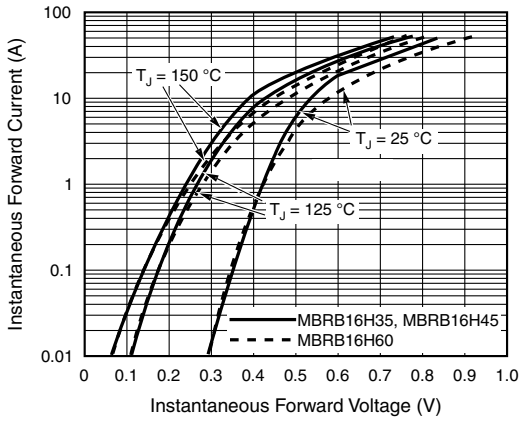


Fig. 3 - Typical Instantaneous Forward Characteristics

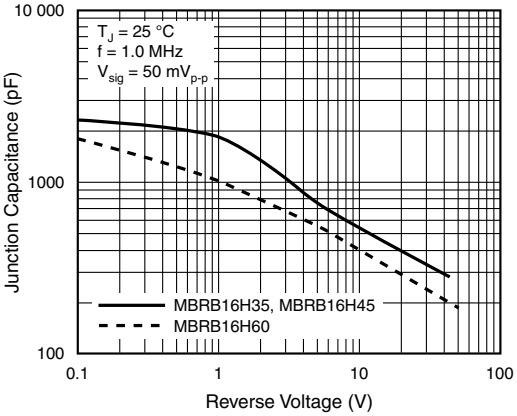


Fig. 5 - Typical Junction Capacitance

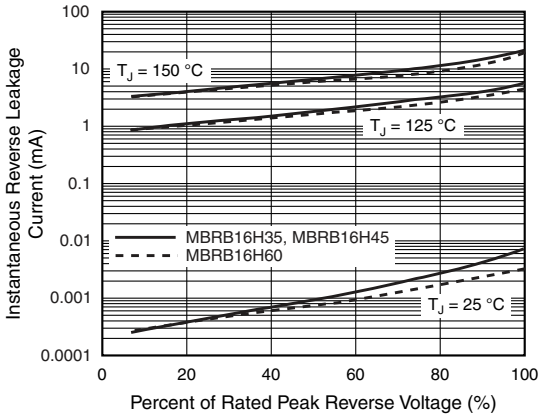


Fig. 4 - Typical Reverse Characteristics

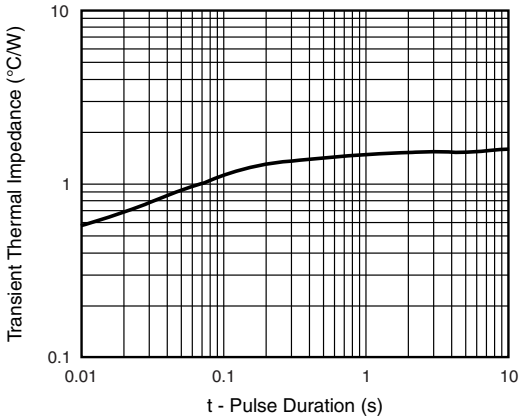
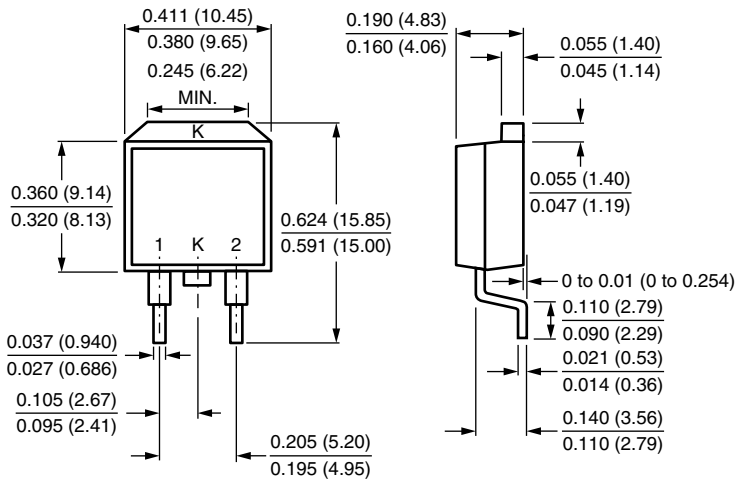


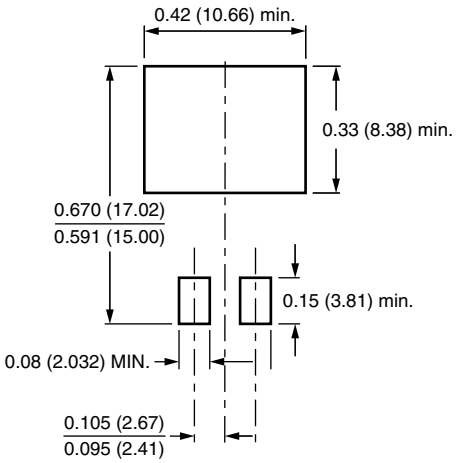
Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

D²PAK (TO-263AB)



Mounting Pad Layout



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