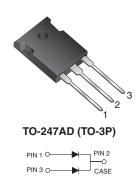


Vishay General Semiconductor

Dual Common-Cathode High-Voltage Schottky Rectifier

High Barrier Technology for Improved High Temperature Performance



PRIMARY CHARACTERISTICS					
I _{F(AV)}	15 A x 2				
V _{RRM}	90 V, 100 V				
I _{FSM}	265 A				
V_{F}	0.67 V				
I _R	5.0 μΑ				
T _J max.	175 °C				

FEATURES





· Lower power losses, high efficiency



· Low forward voltage drop

D

Low leakage current

High forward surge capability

· High frequency operation

• Solder dip 260 °C, 40 s

 Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: TO-247AD (TO-3P)

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class

1A whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	MBR30H90PT	MBR30H100PT	UNIT	
Maximum repetitive peak reverse voltage	V _{RRM}	90	100	V	
Maximum working peak reverse voltage	V_{RWM}	90	100	V	
Maximum DC blocking voltage	V _{DC}	90	100	٧	
Maximum average forward rectified current total device per diode	e I _{F(AV)}	30 15		Α	
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load per diode	I _{FSM}	265		Α	
Peak repetitive reverse surge current at t_p = 2 μ s, f = 1 kHz per diode	I _{RRM}	1.0		А	
Non-repetitive avalanche energy ($I_{AS} = 0.5 \text{ A}, L = 60 \text{ mH}$) per diode	E _{AS}	7.5		mJ	
Voltage rate of change at (rated V _R)	dV/dt	10 000		V/µs	
Operating junction and storage temperature range	T _J , T _{STG}	- 65 to + 175		°C	

MBR30H90PT & MBR30H100PT

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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	MBR30H90PT	MBR30H100PT	UNIT
Maximum instantaneous forward voltage per diode ⁽¹⁾	$I_F = 15 \text{ A}$ $I_F = 15 \text{ A}$ $I_F = 30 \text{ A}$ $I_F = 30 \text{ A}$	$T_J = 25 ^{\circ}\text{C}$ $T_J = 125 ^{\circ}\text{C}$ $T_J = 25 ^{\circ}\text{C}$ $T_J = 125 ^{\circ}\text{C}$	V _F	0.82 0.67 0.93 0.80		V
Maximum instantaneous reverse current at rated DC blocking voltage per diode ⁽¹⁾		T _J = 25 °C T _J = 125 °C	I _R	5.0 6.0		μA mA

Note:

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

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	MBR30H90PT	MBR30H100PT	UNIT	
Thermal resistance from junction to case per diode	$R_{ hetaJC}$	1.6		°C/W	

ORDERING INFORMATION (Example)							
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE		
TO-247AD	MBR30H100PT-E3/45	6.13	45	30/tube	Tube		

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

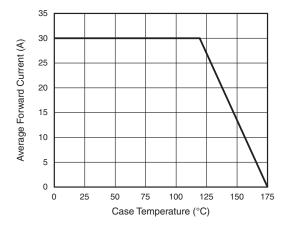


Figure 1. Forward Derating Curve

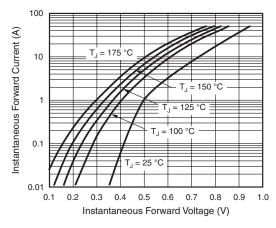


Figure 2. Typical Instantaneous Forward Characteristics Per Diode



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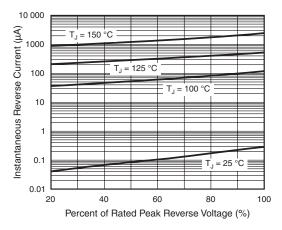


Figure 3. Typical Reverse Characteristics Per Diode

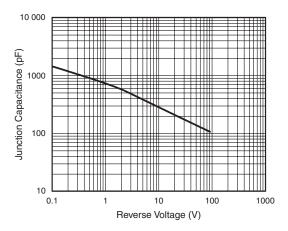
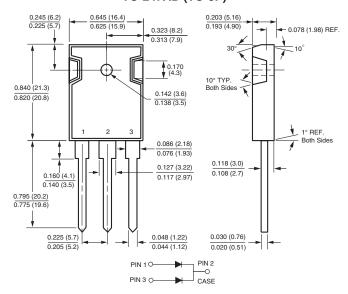


Figure 4. Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-247AD (TO-3P)





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