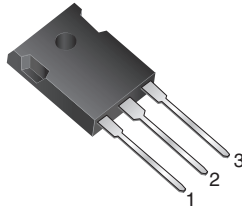
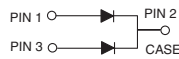


Dual Common-Cathode High-Voltage Schottky Rectifier

High Barrier Technology for Improved High Temperature Performance



TO-247AD (TO-3P)



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 μ A
T_J max.	175 °C

FEATURES

- Guardring for overvoltage protection
- Lower power losses, high efficiency
- Low forward voltage drop
- 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



RoHS
COMPLIANT

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	V
Maximum average forward rectified current total device per diode	$I_{F(AV)}$	30 15		A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	265		A
Peak repetitive reverse surge current at $t_p = 2$ μ s, $f = 1$ kHz per diode	I_{RRM}	1.0		A
Non-repetitive avalanche energy ($I_{AS} = 0.5$ A, $L = 60$ mH) per diode	E_{AS}	7.5		mJ
Voltage rate of change at (rated V_R)	dV/dt	10 000		V/ μ s
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175		°C

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	MBR30H90PT	MBR30H100PT	UNIT
Maximum instantaneous forward voltage per diode ⁽¹⁾	$I_F = 15\text{ A}$	$T_J = 25\text{ }^\circ\text{C}$	V_F			V
	$I_F = 15\text{ A}$	$T_J = 125\text{ }^\circ\text{C}$				
	$I_F = 30\text{ A}$	$T_J = 25\text{ }^\circ\text{C}$				
	$I_F = 30\text{ A}$	$T_J = 125\text{ }^\circ\text{C}$				
Maximum instantaneous reverse current at rated DC blocking voltage per diode ⁽¹⁾			I_R			μA mA
	$T_J = 25\text{ }^\circ\text{C}$					
		$T_J = 125\text{ }^\circ\text{C}$				

Note:

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

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	MBR30H90PT	MBR30H100PT	UNIT
Thermal resistance from junction to case per diode	$R_{\theta JC}$	1.6		$^\circ\text{C/W}$

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

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

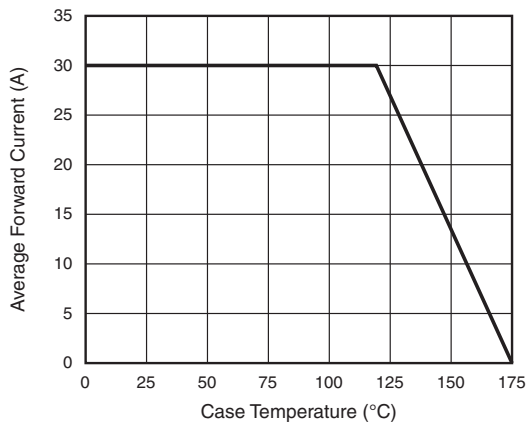


Figure 1. Forward Derating Curve

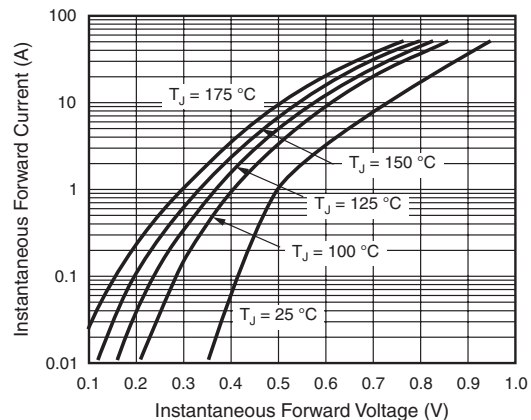


Figure 2. Typical Instantaneous Forward Characteristics Per Diode

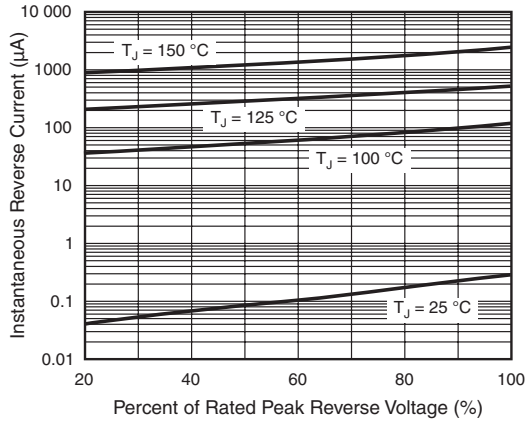


Figure 3. Typical Reverse Characteristics Per Diode

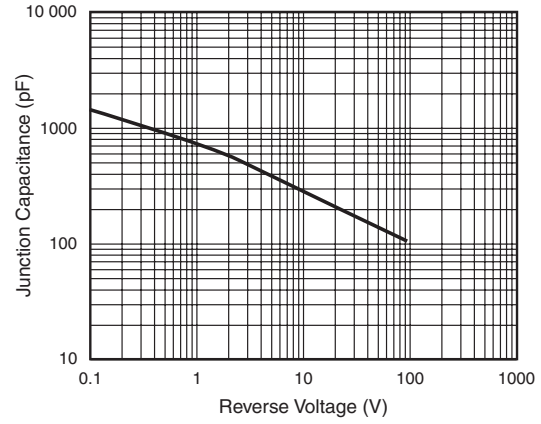


Figure 4. Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-247AD (TO-3P)

