

# MBR3035PT - MBR3060PT

## 30 A Schottky Barrier Rectifiers

### Features

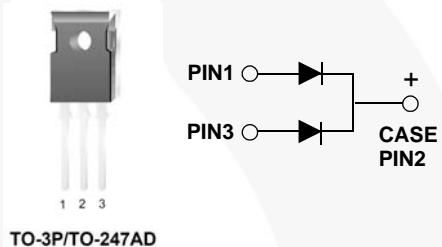
- Low Power Loss, High Efficiency
- High Surge Capacity
- Metal Silicon Junction, Majority Carrier Conduction
- High Current Capacity, Low Forward Voltage Drop
- Guard Ring for Over-Voltage Protection (OVP)

### Applications

- Low-Voltage
- High-Frequency Inverters
- Free Wheeling
- Polarity Protection

### Description

This center-tap Schottky rectifier is optimal for secondary rectification and free-wheeling applications for high-efficiency DC-DC convertor design, which features very low forward voltage drop and low leakage current.



### Ordering Information

Part Number	Marking	Package	Packing Method
MBR3035PT	MBR3035PT	TO-247 3L	Rail
MBR3045PT	MBR3045PT		
MBR3050PT	MBR3050PT		
MBR3060PT	MBR3060PT		

### Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value				Units
		MBR 3035PT	MBR 3045PT	MBR 3050PT	MBR 3060PT	
$V_{RRM}$	Maximum Repetitive Reverse Voltage	35	45	50	60	V
$I_{F(AV)}$	Average Rectified Forward Current .375-inch Lead Length at $T_A = 105^\circ\text{C}$		30			A
$I_{FSM}$	Non-Repetitive Peak Forward Surge Current: 8.3 ms Single Half-Sine Wave			200		A
$T_{STG}$	Storage Temperature Range			-65 to +175		°C
$T_J$	Operating Junction Temperature Range			-65 to +150		°C

## Thermal Characteristics

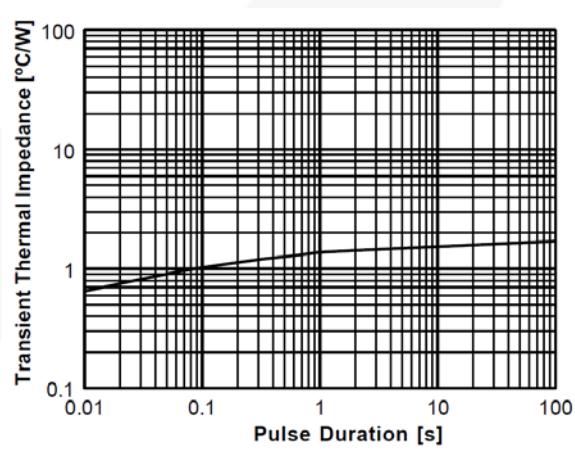
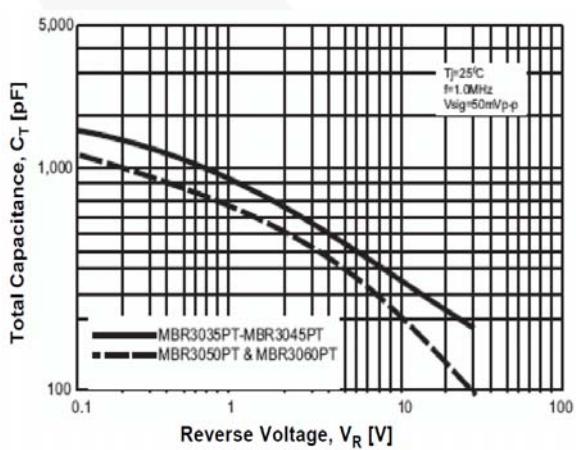
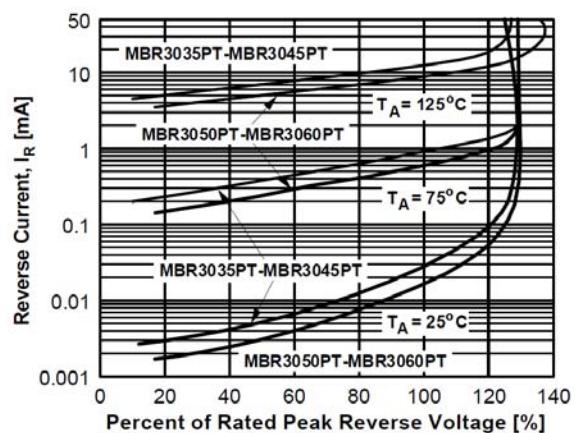
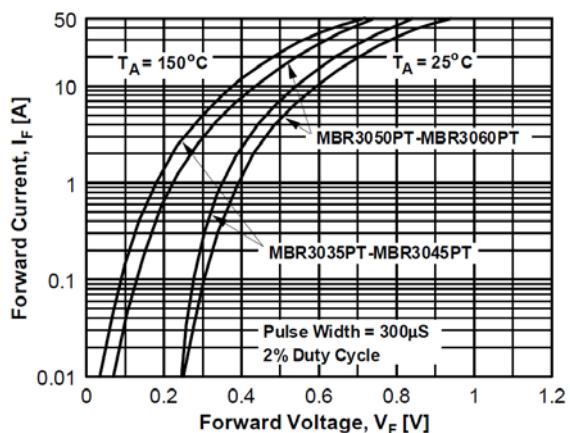
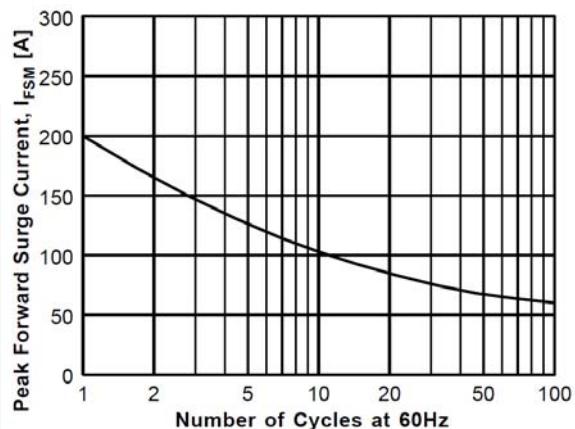
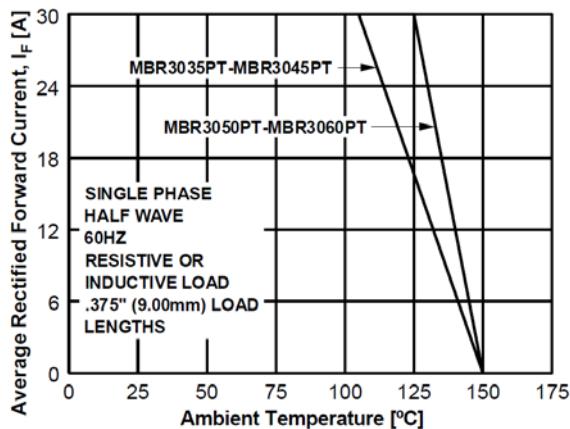
Symbol	Parameter	Value	Units
$P_D$	Power Dissipation	3.0	W
$R_{\theta JL}$	Thermal Resistance, Junction to Lead	1.4	°C/W

## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

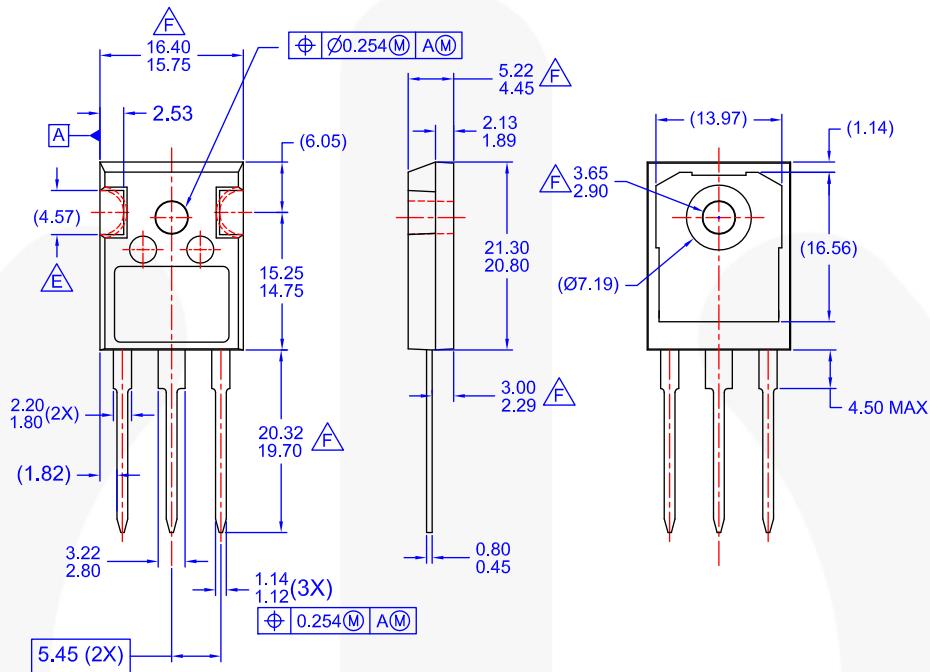
Symbol	Parameter	Value				Units
		MBR 3035PT	MBR 3045PT	MBR 3050PT	MBR 3060PT	
$V_F$	Maximum Forward Voltage, per Leg	$I_F = 20 \text{ A}, T_C = 25^\circ\text{C}$			0.75	V
		$I_F = 20 \text{ A}, T_C = 125^\circ\text{C}$	0.60		0.65	
		$I_F = 30 \text{ A}, T_C = 25^\circ\text{C}$	0.76			
		$I_F = 30 \text{ A}, T_C = 125^\circ\text{C}$	0.72			
$I_R$	Maximum Reverse Current at Rated $V_{RRM}$ , per Leg	$T_A = 25^\circ\text{C}$	0.1		5.0	mA
		$T_A = 125^\circ\text{C}$	60.0		100.0	
$I_{RRM}$	Peak Repetitive Reverse Surge Current, per Leg 2.0 $\mu\text{s}$ Pulse Width, $f = 1.0 \text{ kHz}$		1.0		0.5	A

## Typical Performance Characteristics



## Physical Dimensions

### TO-247 3L



#### NOTES: UNLESS OTHERWISE SPECIFIED

- A. PACKAGE REFERENCE: JEDEC TO-247,  
ISSUE "E", VARIATION AD
- B. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD  
FLASH, AND TIE BAR EXTRUSIONS.
- C. ALL DIMENSIONS ARE IN MILLIMETERS.
- D. DRAWING CONFORMS TO ASME Y14.5 - 1994

DOES NOT COMPLY JEDEC STANDARD VALUE.

NOTCH MAY BE SQUARE

G. DRAWING FILENAME: MKT-TO247E03\_REV02

**Figure 7. TO-247, MOLDED, 3 LEADS, JEDEC OPTION AD (ACTIVE)**

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EcoSPARK®	MegaBuck™	Solutions for Your Success™	TriFault Detect™
EfficientMax™	MICROCOUPLER™	SPM®	TRUECURRENT®
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Fairchild®	MicroPak2™	SuperSOT™-3	Ultra FRFET™
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