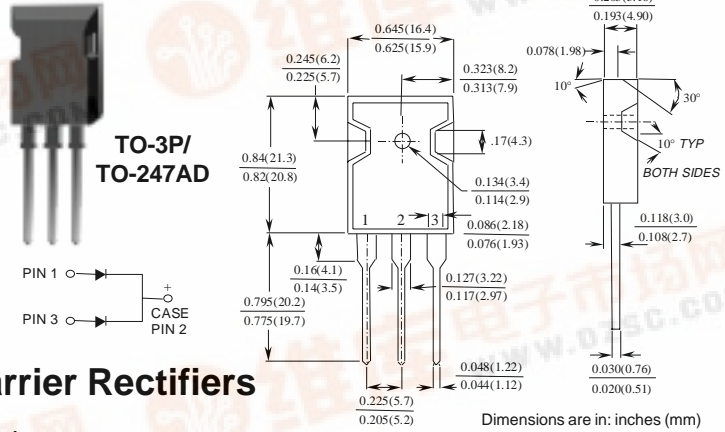




# MBR4035PT - MBR4060PT

## Features

- Low power loss, high efficiency.
- High surge capacity.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- Metal silicon junction, majority carrier conduction.
- High current capacity, low forward voltage drop.
- Guard ring for over voltage protection.



## 40 Ampere Schottky Barrier Rectifiers

### Absolute Maximum Ratings\* T<sub>A</sub> = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
I <sub>o</sub>	Average Rectified Current .375" lead length @ T <sub>A</sub> = 125 °C	40	A
I <sub>r</sub> (repetitive)	Peak Repetitive Forward Current (Rated V <sub>R</sub> , Square Wave, 20 KHz) @ T <sub>A</sub> = 120°C	40	A
I <sub>r</sub> (surge)	Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	400	A
P <sub>D</sub>	Total Device Dissipation Derate above 25°C	3.0 25	W mW/°C
R <sub>θJL</sub>	Thermal Resistance, Junction to Lead	1.2	°C/W
T <sub>stg</sub>	Storage Temperature Range	-65 to +175	°C
T <sub>J</sub>	Operating Junction Temperature	-65 to +150	°C

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Electrical Characteristics T<sub>A</sub> = 25°C unless otherwise noted

Parameter	Device				Units
	4035PT	4045PT	4050PT	4060PT	
Peak Repetitive Reverse Voltage	35	45	50	60	V
Maximum RMS Voltage	24	31	35	42	V
DC Reverse Voltage (Rated V <sub>R</sub> )	35	45	50	60	V
Voltage Rate of Change (Rated V <sub>R</sub> )	10,000				V/μs
Maximum Reverse Current @ rated V <sub>R</sub> T <sub>A</sub> = 25°C T <sub>A</sub> = 125°C	1.0 100				mA mA
Maximum Forward Voltage I <sub>F</sub> = 20 A, T <sub>C</sub> = 25°C	0.70		0.72		V
I <sub>F</sub> = 20 A, T <sub>C</sub> = 125°C	0.60		0.62		V
I <sub>F</sub> = 40 A, T <sub>C</sub> = 25°C	0.80		-		V
I <sub>F</sub> = 40 A, T <sub>C</sub> = 125°C	0.75		-		V
Peak Repetitive Reverse Surge Current 2.0 us Pulse Width, f = 1.0 KHz	2.0		1.0		A

MBR4035PT-MBR4060PT



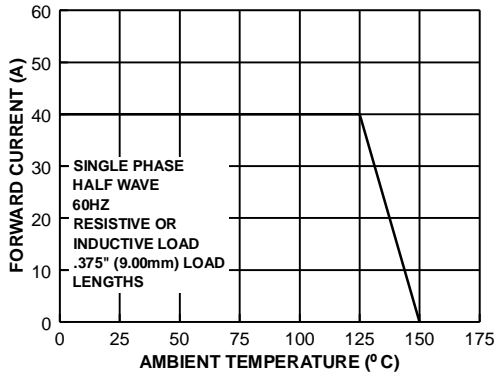
# Schottky Barrier Rectifier

(continued)

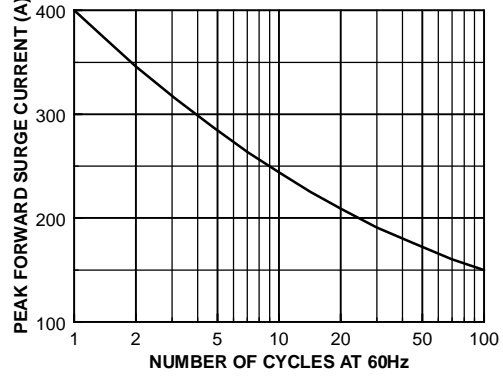
MBR4035PT-MBR4060PT

## Typical Characteristics

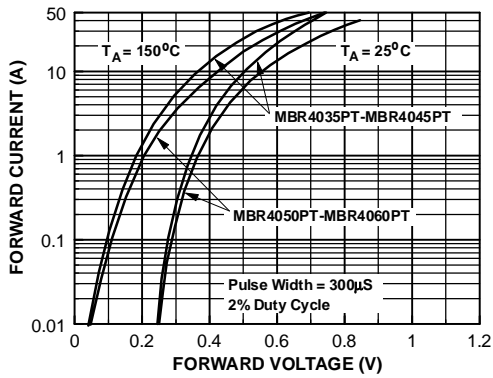
### Forward Current Derating Curve



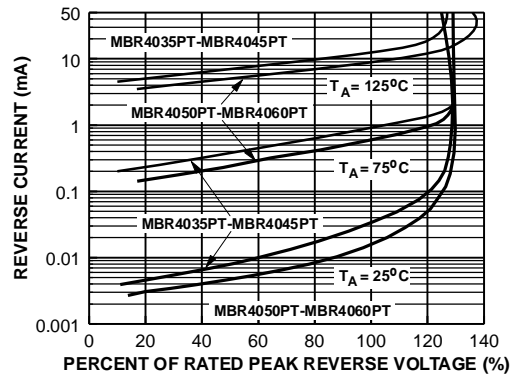
### Non-Repetitive Surge Current



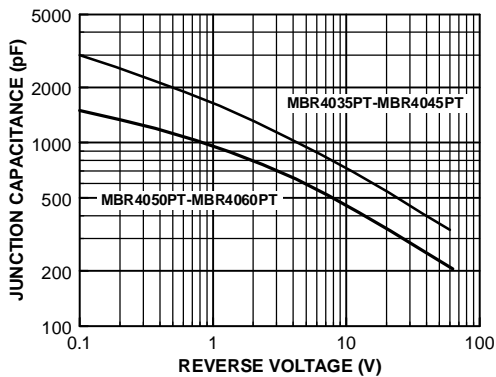
### Forward Characteristics



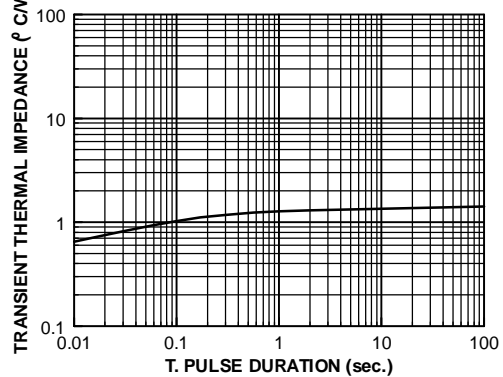
### Reverse Characteristics



### Typical Junction Capacitance



### Transient Thermal Impedance



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CROSSVOLT™	POP™
E <sup>2</sup> CMOS™	PowerTrench™
FACT™	QS™
FACT Quiet Series™	Quiet Series™
FAST®	SuperSOT™-3
FASTr™	SuperSOT™-6
GTO™	SuperSOT™-8
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## PRODUCT STATUS DEFINITIONS

### Definition of Terms

Datasheet Identification	Product Status	Definition
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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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