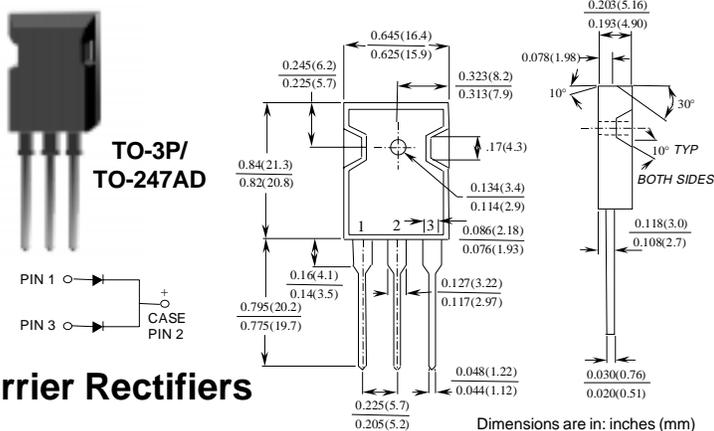


# MBR4035PT - MBR4060PT

## 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

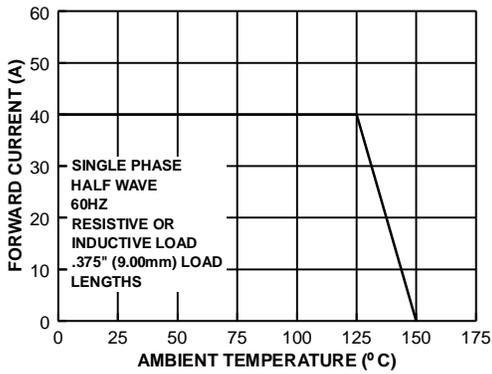
\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

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

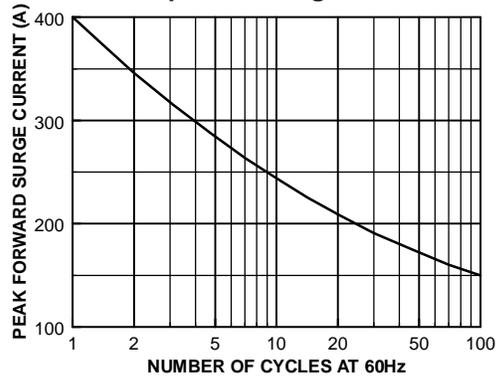
Parameter	Device				Units
	4035PT	4045PT	4050PT	4060PT	
Peak Repetitive Reverse Voltage	35	45	50	60	V
Maximum RMS Voltage	24	31	35	42	V
DC Reverse Voltage (Rated V <sub>R</sub> )	35	45	50	60	V
Voltage Rate of Change (Rated V <sub>R</sub> )	10,000				V/μS
Maximum Reverse Current @ rated V <sub>R</sub>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

Typical Characteristics

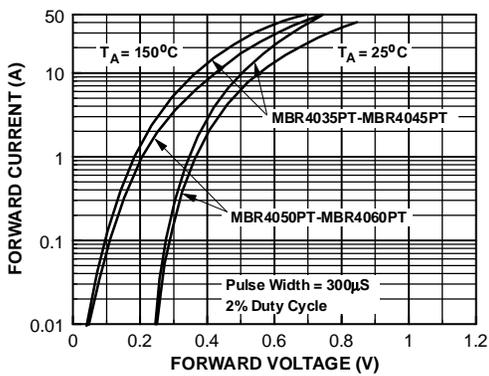
Forward Current Derating Curve



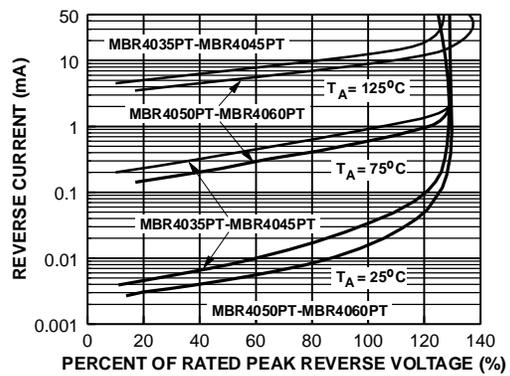
Non-Repetitive Surge Current



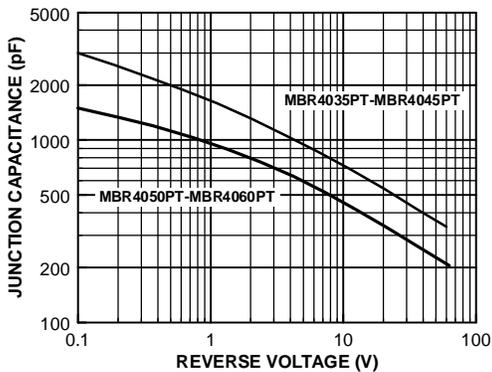
Forward Characteristics



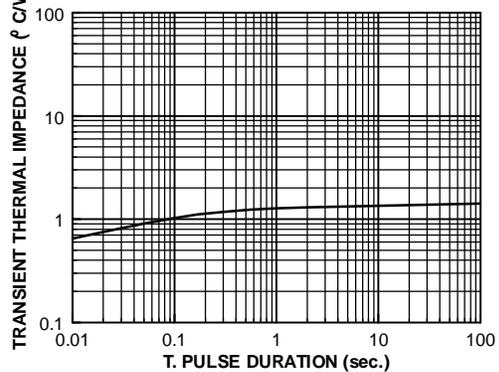
Reverse Characteristics



Typical Junction Capacitance



Transient Thermal Impedance



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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
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
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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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