

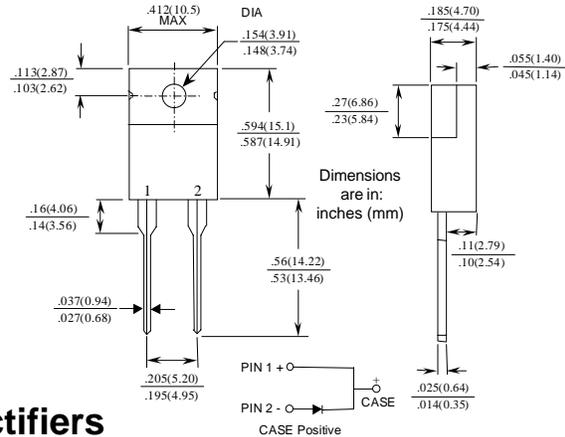
MBR1635 - MBR1660

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.



TO-220AC



16 Ampere Schottky Barrier Rectifiers

Absolute Maximum Ratings*

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

Symbol	Parameter	Value	Units
I_O	Average Rectified Current .375" lead length @ $T_A = 125^\circ\text{C}$	16	A
$i_{f(\text{repetitive})}$	Peak Repetitive Forward Current (Rated V_R , Square Wave, 20 KHz) @ $T_A = 125^\circ\text{C}$	32	A
$i_{f(\text{surge})}$	Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	150	A
P_D	Total Device Dissipation Derate above 25°C	2.0 16.6	W mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	60	$^\circ\text{C}/\text{W}$
$R_{\theta JL}$	Thermal Resistance, Junction to Lead	1.5	$^\circ\text{C}/\text{W}$
T_{stg}	Storage Temperature Range	-65 to +175	$^\circ\text{C}$
T_J	Operating Junction Temperature	-65 to +150	$^\circ\text{C}$

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

Electrical Characteristics

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

Parameter	Device				Units
	1635	1645	1650	1660	
Peak Repetitive Reverse Voltage	35	45	50	60	V
Maximum RMS Voltage	24	31	35	42	V
DC Reverse Voltage (Rated V_R)	35	45	50	60	V
Voltage Rate of Change (Rated V_R)	10,000				V/ μs
Maximum Reverse Current @ rated V_R	$T_A = 25^\circ\text{C}$	0.2	1.0	50	mA
	$T_A = 125^\circ\text{C}$	40	50	50	mA
Maximum Forward Voltage $I_F = 16\text{ A}, T_C = 25^\circ\text{C}$		0.63	0.75		V
	$I_F = 16\text{ A}, T_C = 125^\circ\text{C}$	0.57	0.65		V
Peak Repetitive Reverse Surge Current 2.0 μs Pulse Width, $f = 1.0\text{ KHz}$	1.0		0.5		A

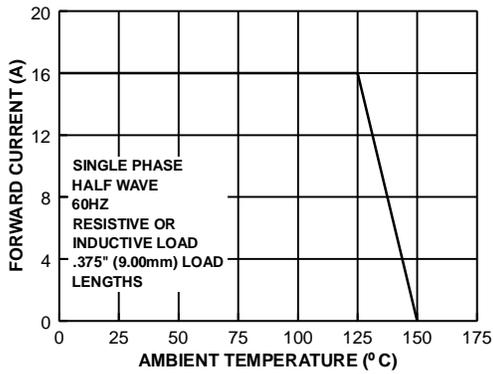
Schottky Barrier Rectifier

(continued)

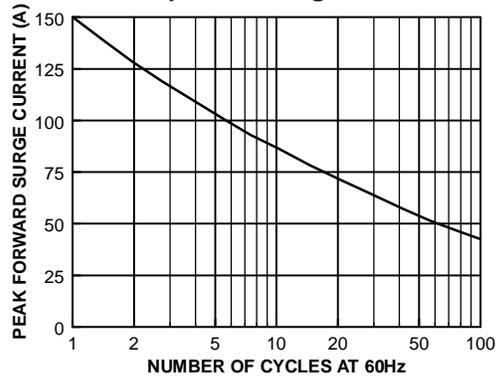
MBR1635 - MBR1660

Typical Characteristics

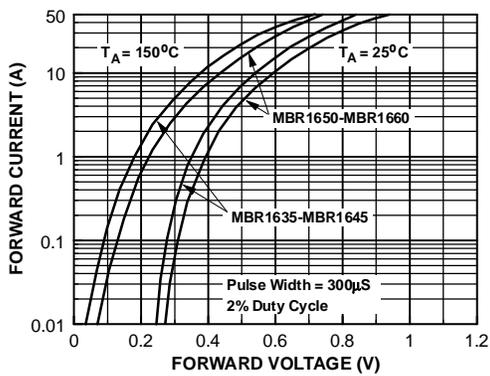
Forward Current Derating Curve



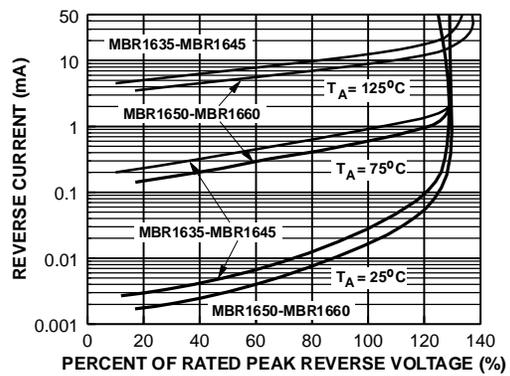
Non-Repetitive Surge Current



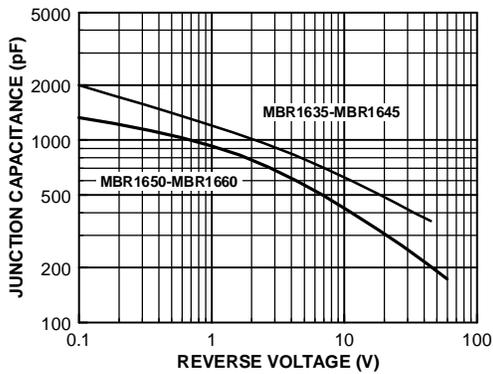
Forward Characteristics



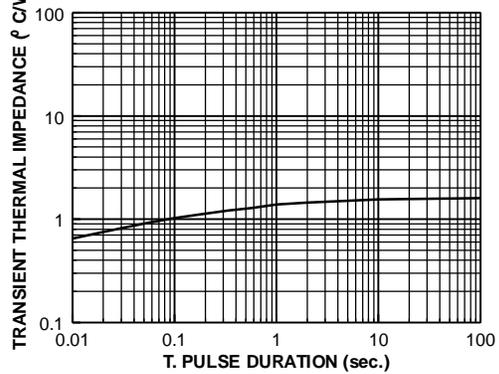
Reverse Characteristics



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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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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