

# 16Amps. Schottky Barrier Rectifiers

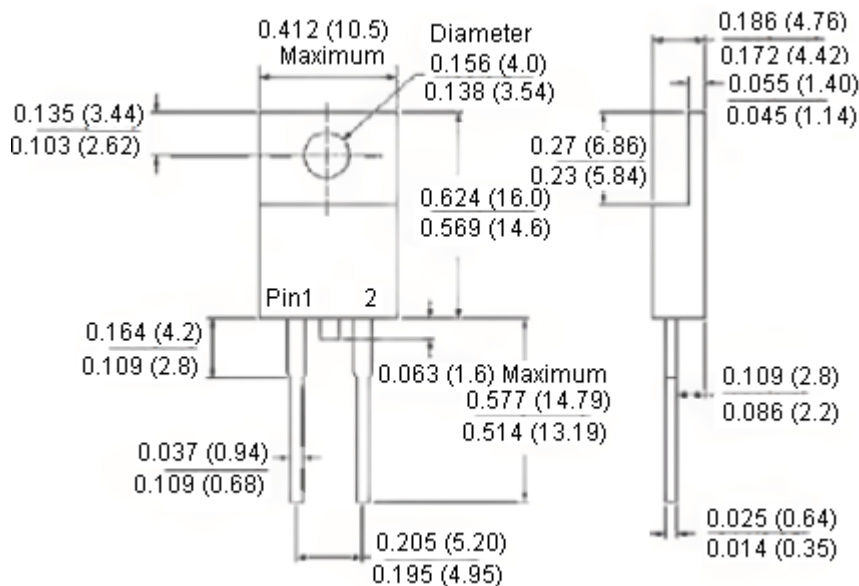


## Features:

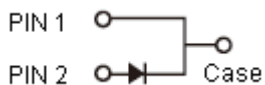


- UL Recognized file # E-326243.
- Plastic material used carries underwriters laboratory classifications 94V-0.
- Metal silicon junction, majority carrier conduction.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- Guarding for overvoltage protection.
- High temperature soldering guaranteed:  
260°C/10 seconds, 0.25 inches (6.35mm) from case

## TO-220AC



Diameters : Inches (Millimetres)



## Marking Diagram



MBR16XX = Specific Device Code  
G = Green Compound  
Y = Year  
WW = Work Week

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## Mechanical Data

Cases : JEDEC TO-220AC moulded plastic body.  
 Terminals : Pure tin plated, lead free solderable per MIL-STD-750, method 2026.  
 Mounting position: Any.  
 Mounting torque : 5 inches - lbs. maximum.

## Maximum Rating and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%

Type Number	Symbol	MBR 16100	MBR 16150	MBR 1645	MBR 1660	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	100	150	45	60	V
Maximum RMS Voltage	$V_{RMS}$	70	105	31	42	
Maximum DC Blocking Voltage	$V_{DC}$	100	150	45	60	
Maximum Average Forward Rectified Current at $T_C = 125^\circ\text{C}$	$I_{F(AV)}$	16				A
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20KHz) at $T_C = 125^\circ\text{C}$	$I_{FRM}$	32				
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	150				
Peak Repetitive Reverse Surge Current (Note 2)	$I_{RRM}$	0.5		1	0.5	
Maximum Instantaneous Forward Voltage at: $I_F = 16\text{A}, T_A = 25^\circ\text{C}$ $I_F = 16\text{A}, T_A = 125^\circ\text{C}$	$V_F$	0.85 0.75	0.95 0.92	0.63 0.57	0.75 0.65	V
Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage (Note 1) at $T_A = 25^\circ\text{C}$ at $T_A = 125^\circ\text{C}$	$I_R$	0.3 7.5	0.1 5	0.5 15	0.5 10	mA
Voltage Rate of Change (Rated $V_R$ )	$dV/dt$	10,000				V/ $\mu\text{S}$
Typical Junction Capacitance	$C_j$	500				pF
Maximum Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	3				$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_J$	-65 to +150				$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +175				

- Notes:**
1. Pulse Test : 300 $\mu\text{s}$  pulse width, 1% duty cycle.
  2. 2 $\mu\text{s}$  pulse width,  $f = 1\text{KHz}$ .
  3. Mount on heatsink size of 2 x 3 x 0.25 Inches Al-Plate.

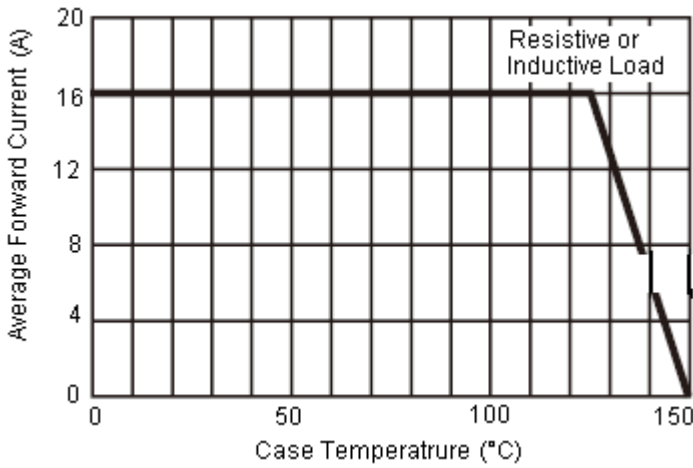


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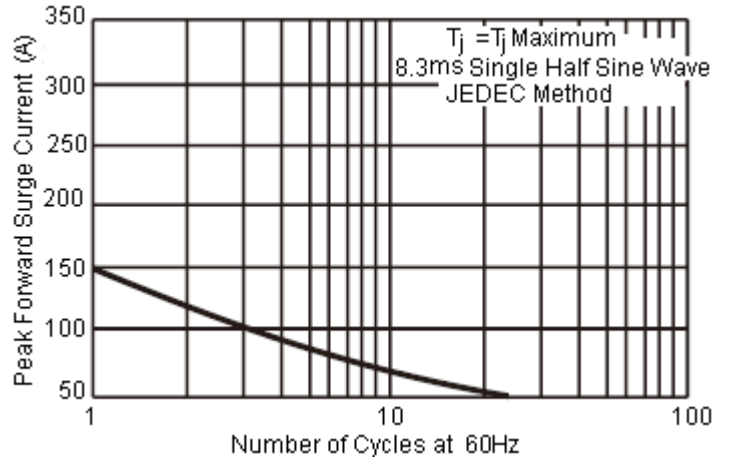


## Ratings and Characteristic Curves (MBR1645 thru MBR16150)

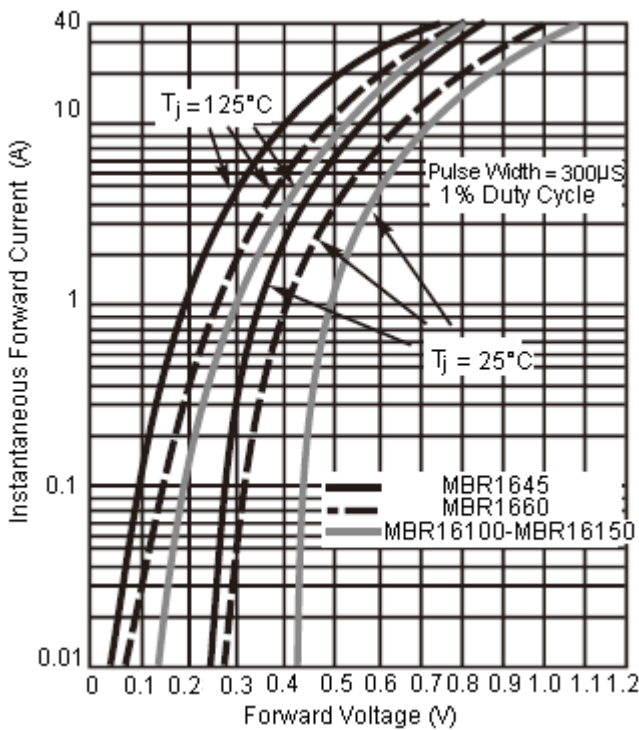
Forward Current Derating Curve



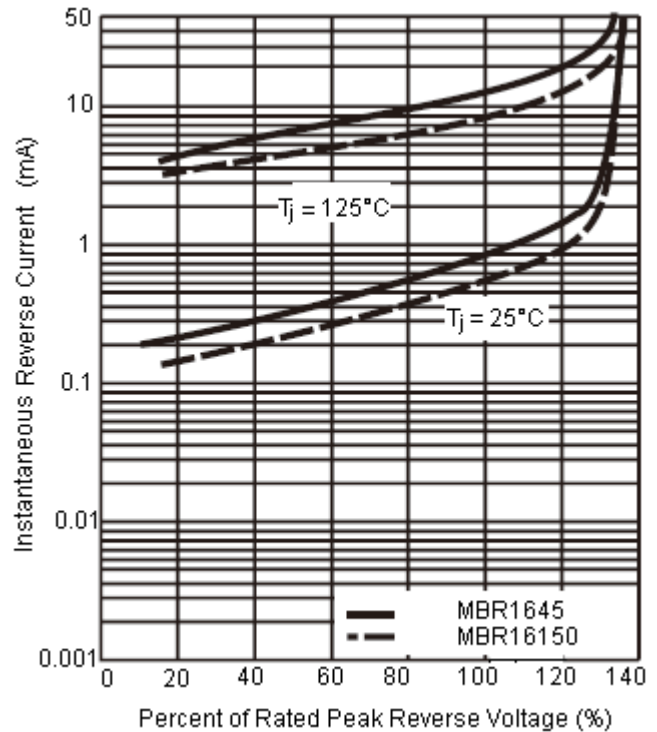
Maximum Non-Repetitive Forward Surge Current



Typical Instantaneous Forward Characteristics

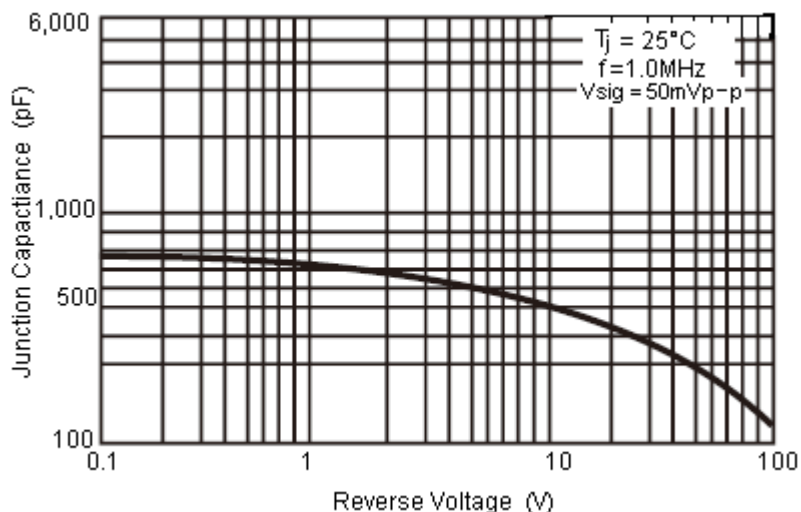


Typical Reverse Characteristics

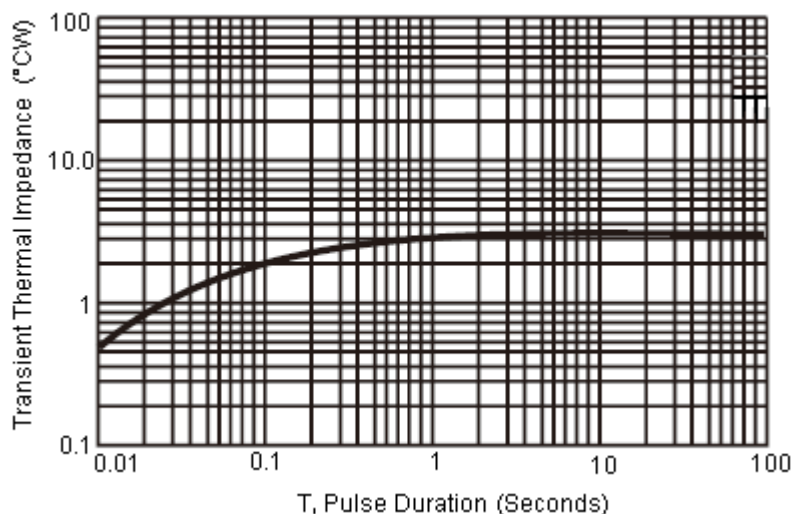


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Typical Junction Capacitance



Typical Transient Thermal Characteristics



## Part Number Table

Description	Part Number
Diode, Schottky, 16A, 100V	MBR16100
Diode, Schottky, 16A, 150V	MBR16150
Diode, Schottky, 16A, 45V	MBR1645
Diode, Schottky, 16A, 60V	MBR1660

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