

16Amps. Schottky Barrier Rectifiers

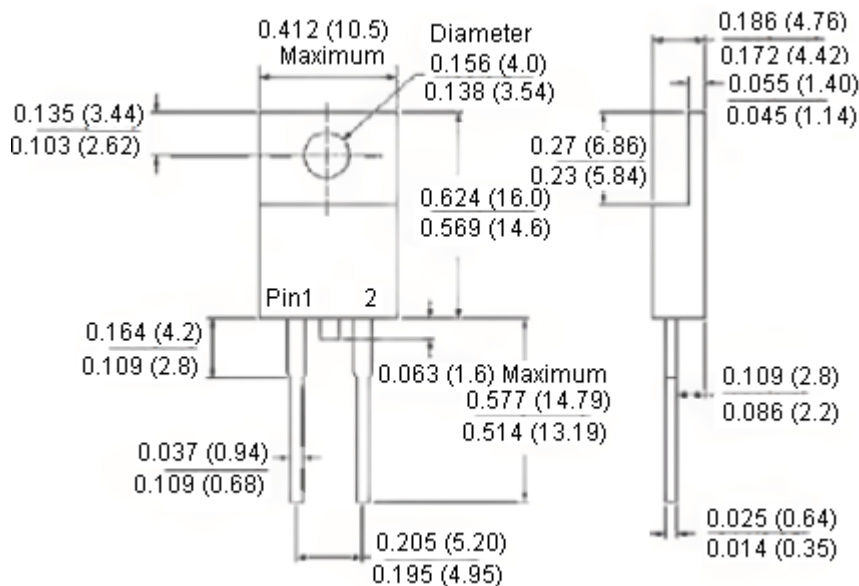


Features:

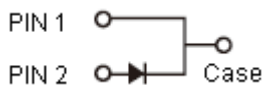


- UL Recognized file # E-326243.
- Plastic material used carries underwriters laboratory classifications 94V-0.
- Metal silicon junction, majority carrier conduction.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- For use in low voltage, 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

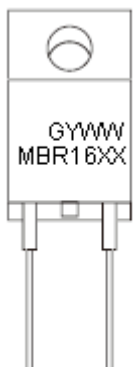
TO-220AC



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/ μS
Typical Junction Capacitance	C_j	500				pF
Maximum Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	3				$^\circ\text{C}/\text{W}$
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 μs pulse width, 1% duty cycle.
 2. 2 μs pulse width, $f = 1\text{KHz}$.
 3. Mount on heatsink size of 2 x 3 x 0.25 Inches Al-Plate.

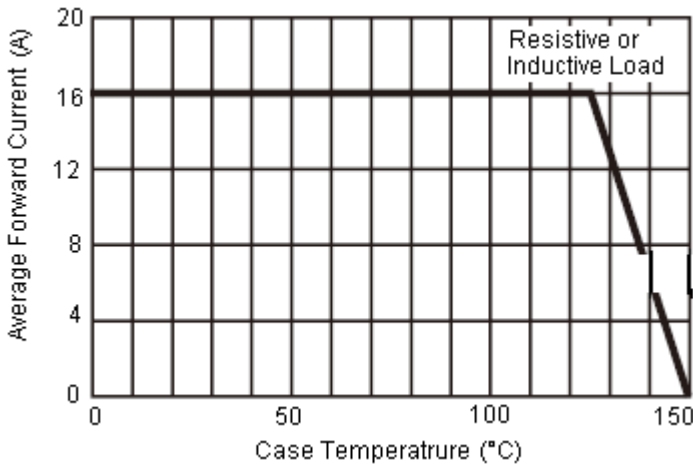


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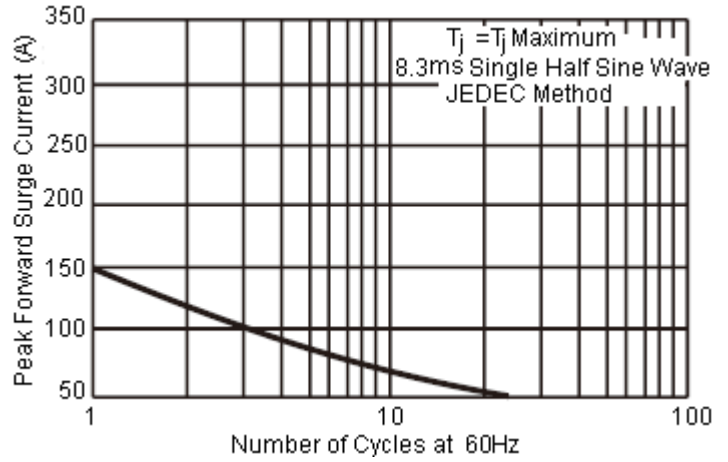


Ratings and Characteristic Curves (MBR1645 thru MBR16150)

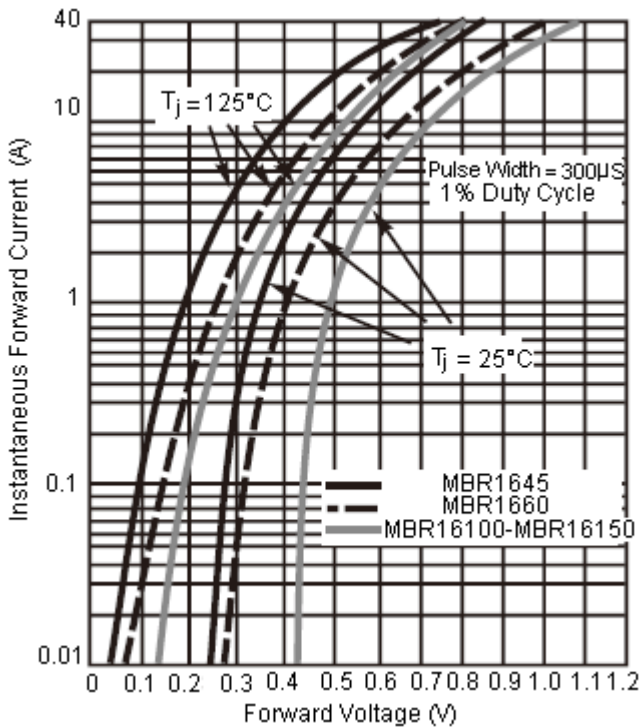
Forward Current Derating Curve



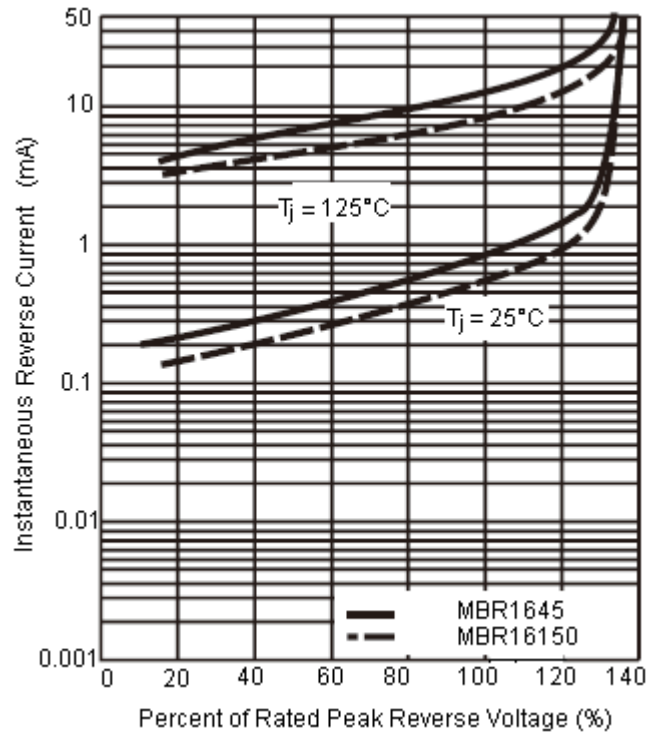
Maximum Non-Repetitive Forward Surge Current



Typical Instantaneous Forward Characteristics

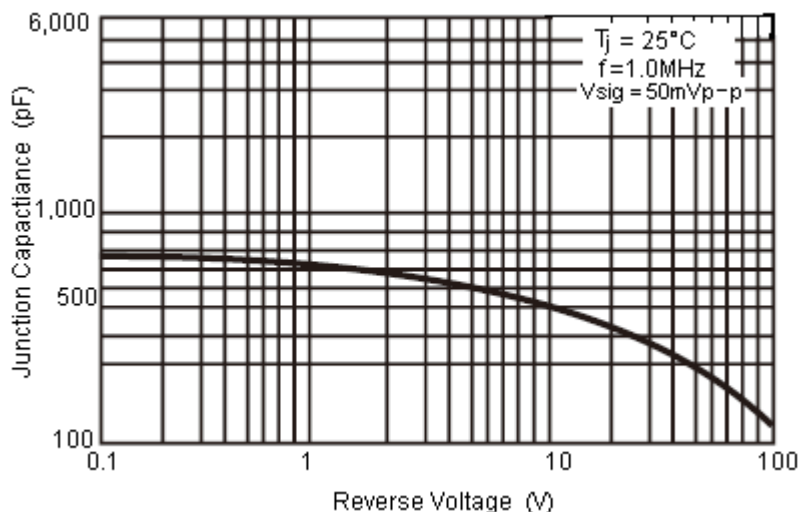


Typical Reverse Characteristics

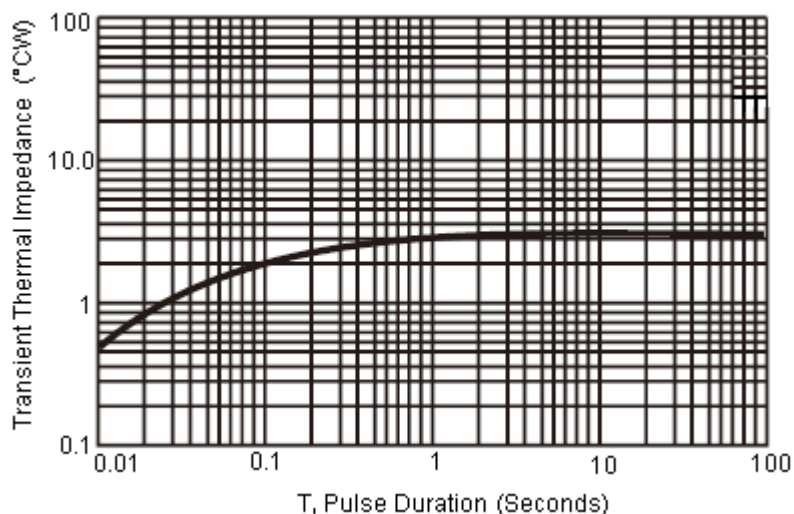


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Typical Junction Capacitance



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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