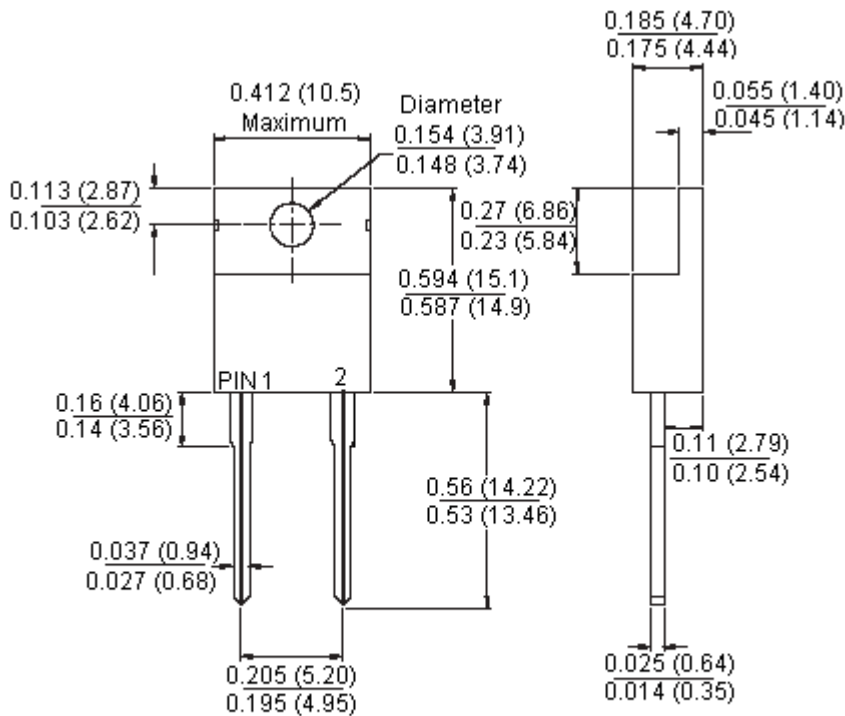




Features:

- Plastic material.
- 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.
- Guardring for over voltage protection.
- High temperature soldering guaranteed: 260°C/10 seconds, 0.25 inch (6.35mm) from case.

TO-220AC



Dimensions : Inches (Millimetres)

Mechanical Data:

Cases	: JEDEC TO-220AC moulded plastic body.
Terminals	: Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026.
Polarity	: As marked.
Mounting position	: Any
Mounting torque	: 5 in. - lbs. maximum.
Weight	: 0.08 ounce, 2.24 grams.

Maximum Ratings 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%.

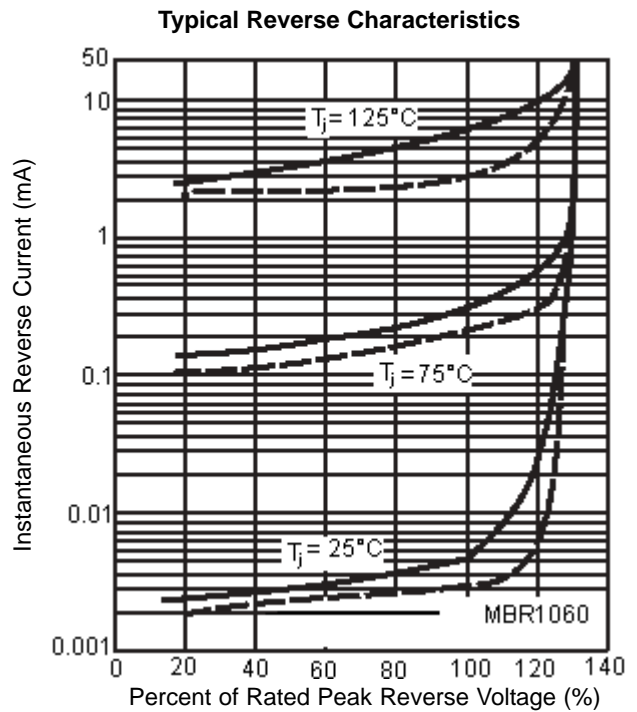
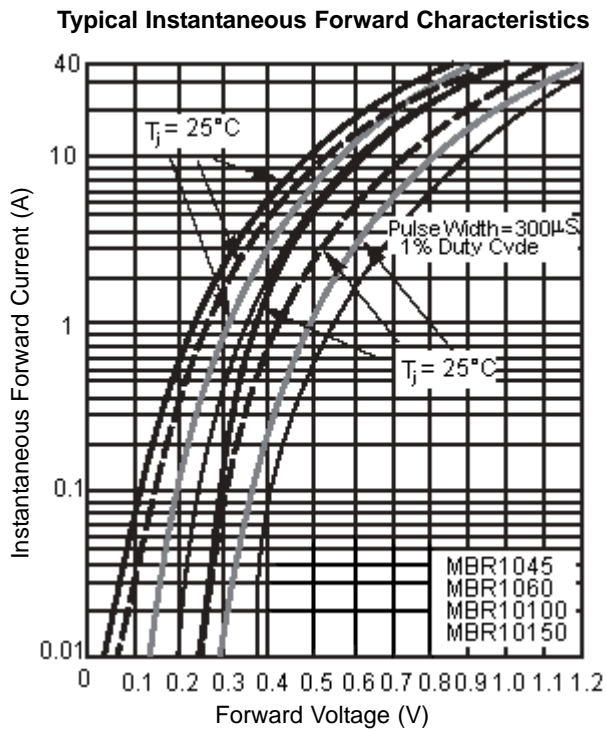
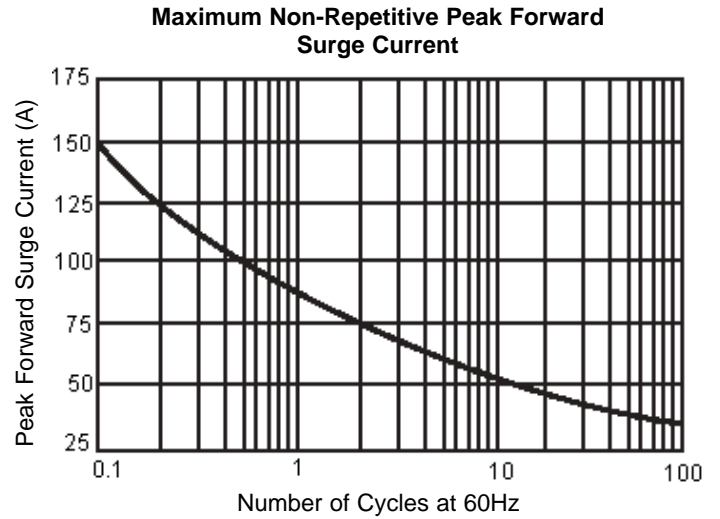
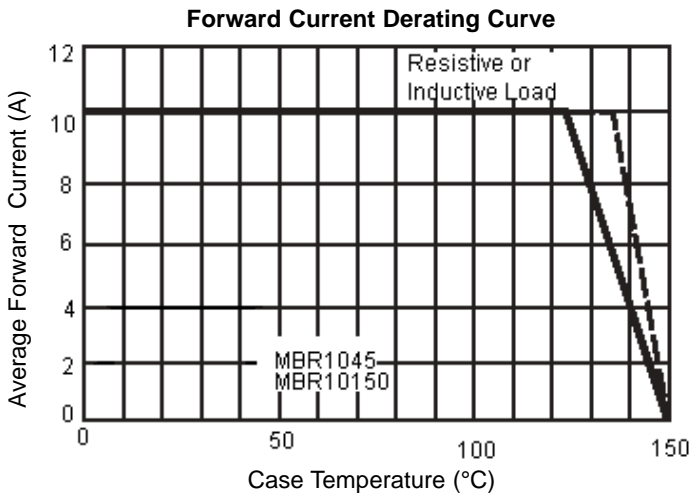
Type Number	Symbol	MBR 1045	MBR 1060	MBR 10100	MBR 10150	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	45	60	100	150	V
Maximum RMS Voltage	V_{RMS}	31	42	70	105	
Maximum DC Blocking Voltage	V_{DC}	45	60	100	150	
Maximum Average Forward Rectified Current at $T_C = 125^\circ\text{C}$	$I_{(AV)}$	10				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 1)	I_{RRM}	1.0	0.5			
Maximum Instantaneous Forward Voltage at: (Note 2) $I_F = 10\text{A}, T_C = 25^\circ\text{C}$ $I_F = 10\text{A}, T_C = 125^\circ\text{C}$ $I_F = 20\text{A}, T_C = 25^\circ\text{C}$ $I_F = 20\text{A}, T_C = 125^\circ\text{C}$	V_F	0.70 0.57 0.84 0.72	0.80 0.70 0.95 0.85	0.85 0.71 - -	1.05 - - -	V
Maximum Instantaneous Reverse Current at $T_C = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_C = 125^\circ\text{C}$ (Note 2)	I_R	0.1				μA μA
		15	10	6.0		
Voltage Rate of Change (Rated V_R)	dV/dt	10,000				$\text{V}/\mu\text{S}$
Typical Junction Capacitance	C_j	500				pF
Maximum Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	3.0				$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	T_J	-65 to +150				$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +175				

Notes: 1. 2.0 μs Pulse Width, $f = 1.0\text{KHz}$.

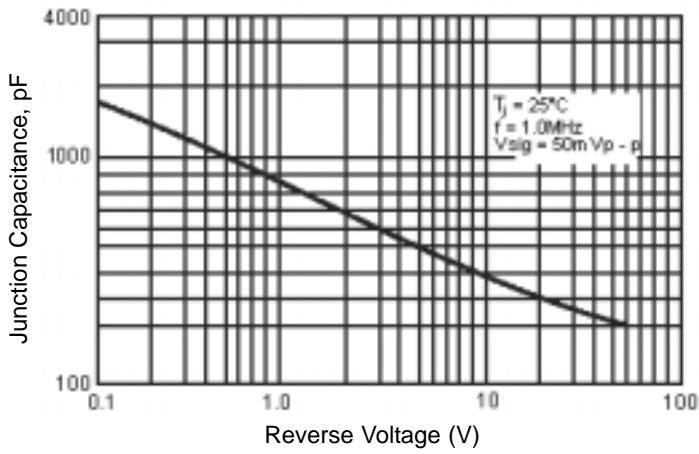
2. Pulse Test: 300 μs Pulse Width, 1% Duty Cycle.

3. Thermal Resistance from Junction to Case Per Leg with Heatsink Size of 2 in x 3 in x 0.25 in Al-Plate.

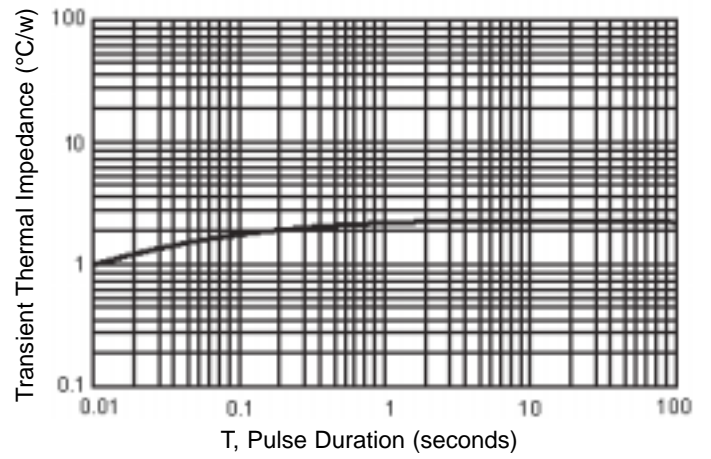
Ratings and Characteristic Curves (MBR10100, MBR10150, MBR1045 and MBR1060)



Typical Junction Capacitance



Typical Transient Thermal Characteristics



Part Number Table

Description	Part Number
Diode, Schottky, 10A, 100V	MBR10100
Diode, Schottky, 10A, 150V	MBR10150
Diode, Schottky, 10A, 45V	MBR1045
Diode, Schottky, 10A, 60V	MBR1060

Notes:

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