Diode
Schottky

RoHS Compliant

Features:

- Plastic material
- Metal silicon rectifier, 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" (6.35mm) from case

Specifications:

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. Max.
Weight	: 0.08 oz, 2.24g

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%.

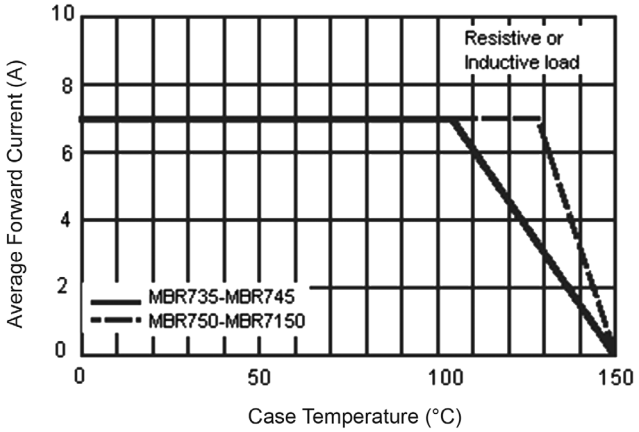
Parameter	Symbol	MBR 735	MBR 745	MBR 750	MBR 760	MBR 790	MBR 7100	MBR 7150	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	90	100	150	V
Maximum RMS Voltage	V_{RMS}	24	31	35	42	63	70	105	
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	90	100	150	
Maximum Average Forward Rectified Current	$I_{(AV)}$	7.5							A
Peak Repetitive Forward Current (Square Wave, 20kHz) at T_C = 105°C	I_{FRM}	15							
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150							

Parameter	Symbol	MBR 735	MBR 745	MBR 750	MBR 760	MBR 790	MBR 7100	MBR 7150	Units
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1		0.5					A
Maximum Instantaneous Forward Voltage at (Note 2) I_F = 7.5A, T_C = 25°C I_F = 7.5A, T_C = 125°C I_F = 15A, T_C = 25°C I_F = 15A, T_C = 125°C	V_F	- 0.57 0.84 0.72		0.75 0.65 - -		0.92 0.82 - -		0.95 0.92 - -	V
Maximum Instantaneous Reverse Current at T_C = 25°C at Rated DC Blocking Voltage (Note 2) at T_C = 125°C	I_R	0.1 15		0.1 10		0.1 5			µA µA
Voltage Rate of Change (Rated V_R)	dV/dt	10,000							V/µS
Typical Junction Capacitance	C_j	360		280		200		160	pF
Maximum Typical Thermal Resistance, (Note 3)	$R_{\theta JC}$ $R_{\theta JA}$	5 15							°C/W
Operating Junction Temperature Range	T_J	-65 to +150							°C
Storage Temperature Range	T_{STG}	-65 to +175							

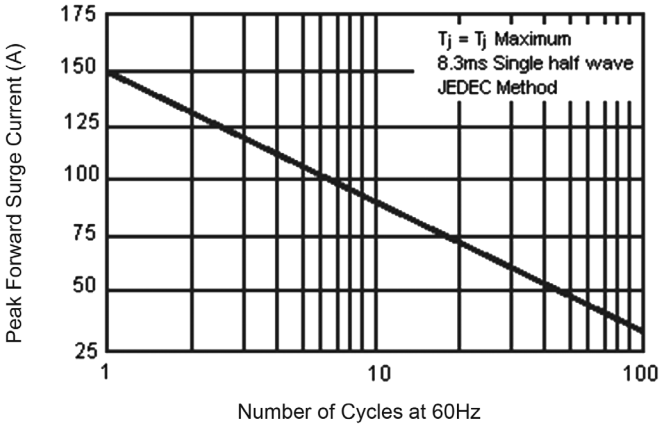
Note: 1. 2µs Pulse Width, f = 1kHz.
Note: 2. Pulse Test: 300µs Pulse Width, 1% Duty Cycle.
Note: 3. Mount on Heatsink Size of 2 × 3 × 0.25" Al-Plated.

Ratings and Characteristic Curves (MBR735 thru MBR7150)

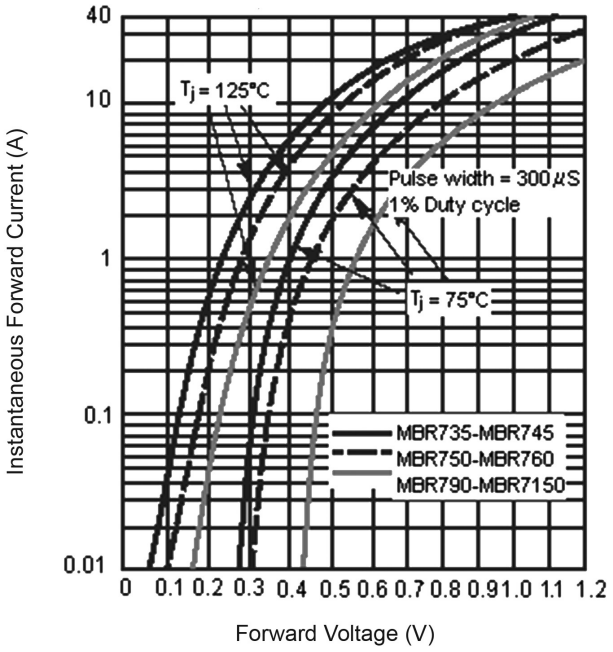
Maximum Forward Current Derating Curve



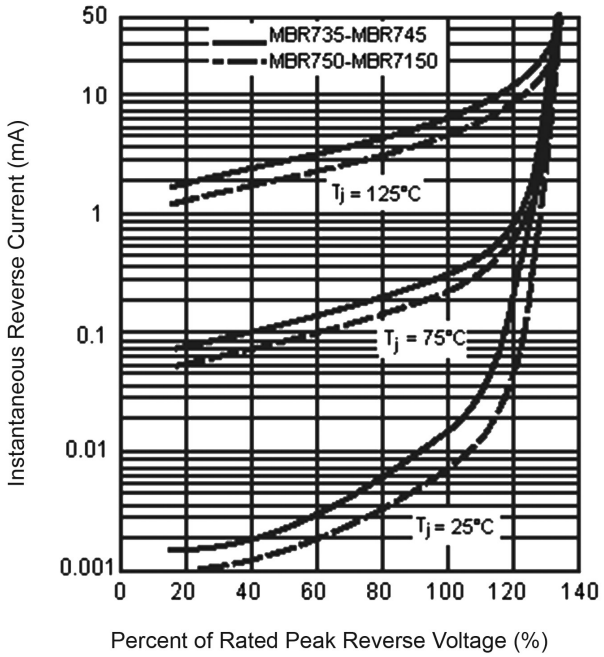
Maximum Non-Repetitive Peak Forward Surge Current



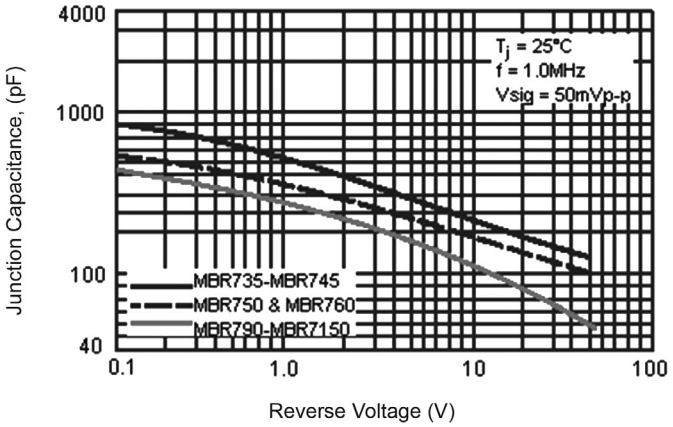
Typical Instantaneous Forward Characteristics



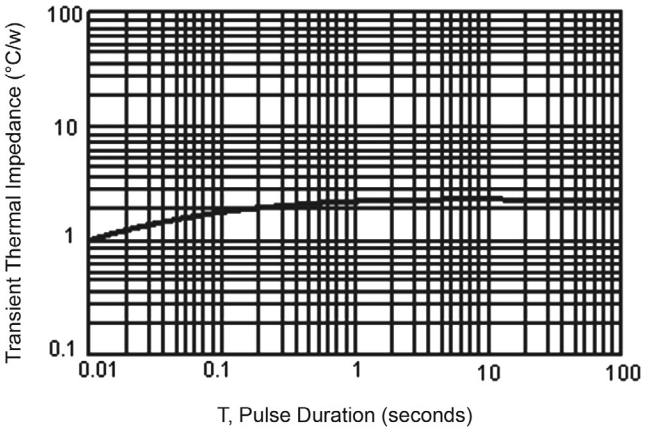
Typical Reverse Characteristics



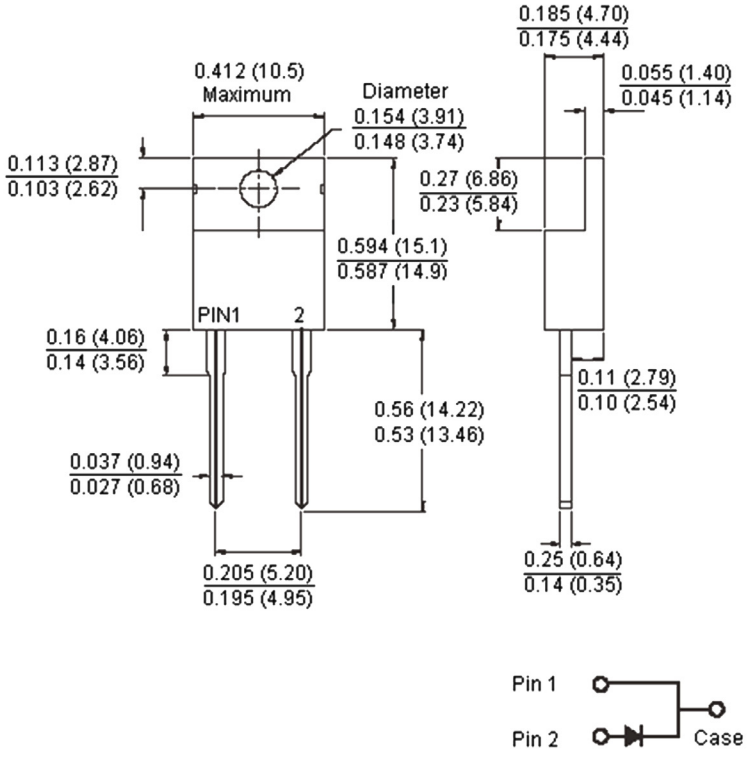
Typical Junction Capacitance



Typical Transient Thermal Characteristics



TO-220AC



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Diode, Schottky, 7A, 100V	MBR7100
Diode, Schottky, 7A, 150V	MBR7150
Diode, Schottky, 7A, 35V	MBR735
Diode, Schottky, 7A, 45V	MBR745
Diode, Schottky, 7A, 50V	MBR750
Diode, Schottky, 7A, 60V	MBR760
Diode, Schottky, 7A, 90V	MBR790