



MBR735 THRU MBR7100

7.5 AMPS. Schottky Barrier Rectifiers



Voltage Range
35 to 100 Volts
Current
7.5 Amperes

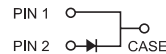
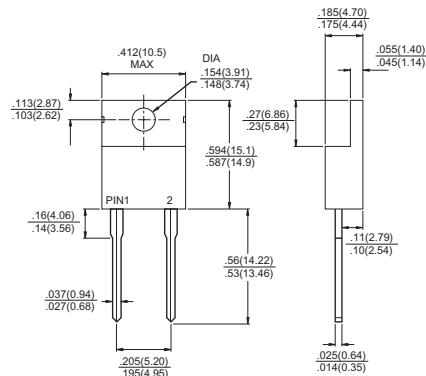
Features

- ✦ Plastic material used carries Underwriters Laboratory Classifications 94V-0
- ✦ 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 overvoltage protection
- ✦ High temperature soldering guaranteed:
260°C/10 seconds, 0.25" (6.35mm) from case

Mechanical Data

- ✦ Cases: JEDEC TO-220A molded plastic body
- ✦ Terminals: Lead solderable per MIL-STD-750, Method 2026
- ✦ Polarity: As marked
- ✦ Mounting position: Any
- ✦ Mounting torque: 5 in. - lbs. max
- ✦ Weight: 0.08 ounce, 2.24 grams

TO-220A



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	MBR 735	MBR 745	MBR 750	MBR 760	MBR 790	MBR 7100	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	90	100	V
Maximum RMS Voltage	V_{RMS}	24	31	35	42	63	70	V
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	90	100	V
Maximum Average Forward Rectified Current See Fig. 1	$I_{(AV)}$	7.5						A
Peak Repetitive Forward Current (Square Wave, 20KHz) at $T_c=105^\circ\text{C}$	I_{FRM}	15.0						A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150						A
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1.0		0.5			A	
Maximum Instantaneous Forward Voltage at (Note 2) $I_F=7.5\text{A}, T_c=25^\circ\text{C}$ $I_F=7.5\text{A}, T_c=125^\circ\text{C}$ $I_F=15\text{A}, T_c=25^\circ\text{C}$ $I_F=15\text{A}, T_c=125^\circ\text{C}$	V_F	0.57 0.84 0.72		0.75 0.65 -		0.92 0.82 -		V
Maximum Instantaneous Reverse Current @ $T_c=25^\circ\text{C}$ at Rated DC Blocking Voltage (Note 1) @ $T_c=125^\circ\text{C}$	I_R	0.1 15.0		0.5 50		0.1 -		mA mA
Voltage Rate of Change (Rated V_R)	Dv/dt	10,000						V/ μS
Typical Junction Capacitance	C_j	360		280		200		pF
Maximum Thermal Resistance, (Note 3)	$R_{\theta JC}$ $R_{\theta JA}$				5.0 15.0		$^\circ\text{C}/\text{W}$	
Operating Junction Temperature Range	T_J	-65 to +150						$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +175						$^\circ\text{C}$

- Notes: 1. 2.0 μs Pulse Width, $f=1.0$ KHz
2. Pulse Test: 300 μs Pulse Width, 1% Duty Cycle
3. Mounted on Heatsink Size of 2 in x 3 in x 0.25 in Al-Plated.

RATINGS AND CHARACTERISTIC CURVES (MBR735 THRU MBR7100)

FIG.1- FORWARD CURRENT DERATING CURVE

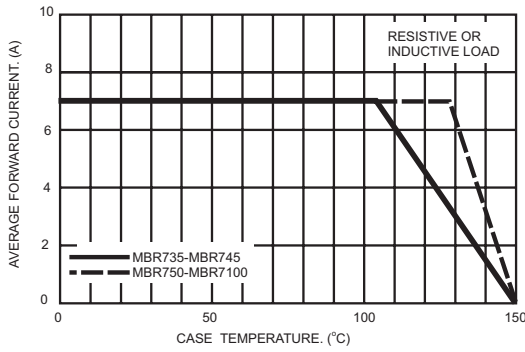


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

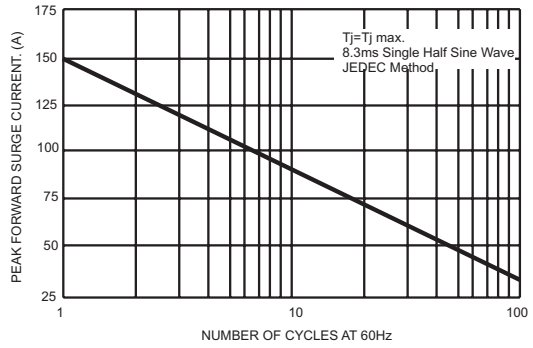


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

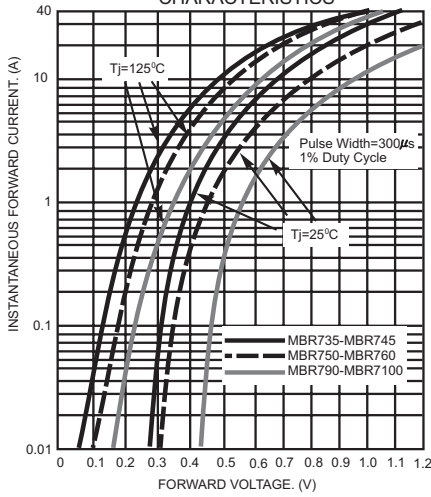


FIG.4- TYPICAL REVERSE CHARACTERISTICS

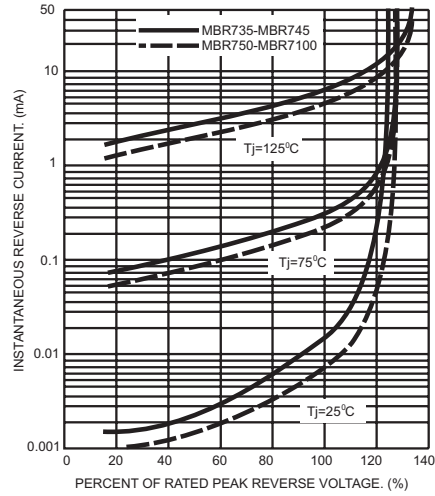


FIG.5- TYPICAL JUNCTION CAPACITANCE

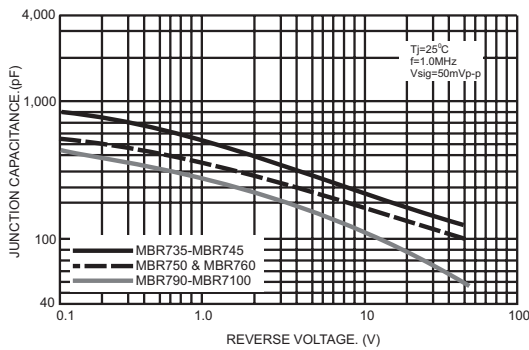


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

