



MBR735 THRU MBR7100

7.5 AMPS. Schottky Barrier Rectifiers



Voltage Range
35 to 100 Volts
Current
7.5 Amperes

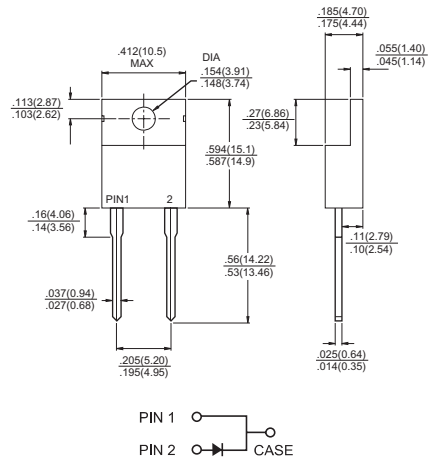
Features

- ✧ 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
- ✧ Guarding 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 Tc=105°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 =7.5A,Tc=25°C I _F =7.5A,Tc=125°C I _F =15A,Tc=25°C I _F =15A,Tc=125°C	V _F	— 0.57 0.84 0.72		0.75 0.65 — —		0.92 0.82 — —		V
Maximum Instantaneous Reverse Current @ Tc =25°C at Rated DC Blocking Voltage (Note 1) @ Tc=125°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 θ _{JC} R θ _{JA}	5.0 15.0						°C/W
Operating Junction Temperature Range	T _J	-65 to +150						°C
Storage Temperature Range	T _{STG}	-65 to +175						°C

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

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

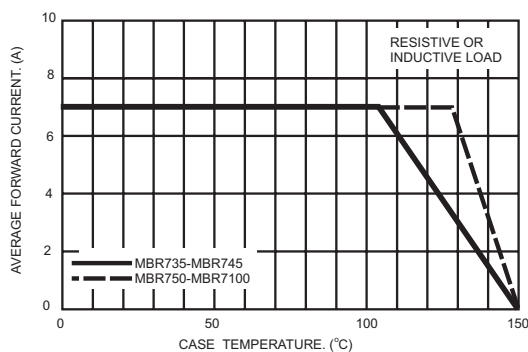


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

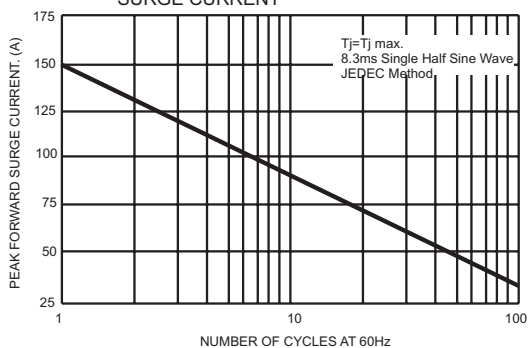


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

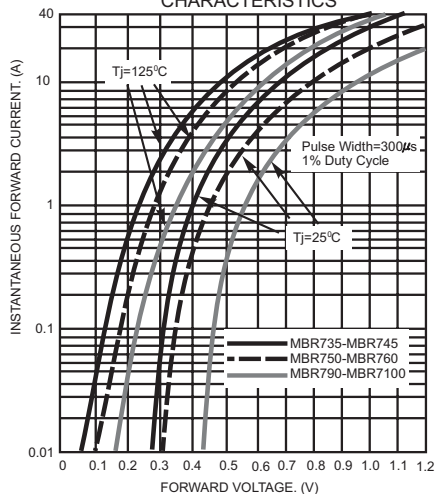


FIG.4- TYPICAL REVERSE CHARACTERISTICS

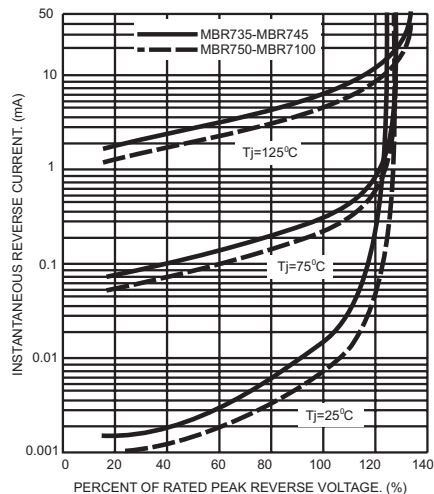


FIG.5- TYPICAL JUNCTION CAPACITANCE

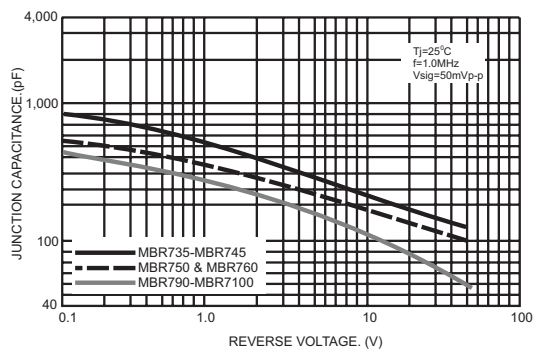


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

