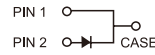
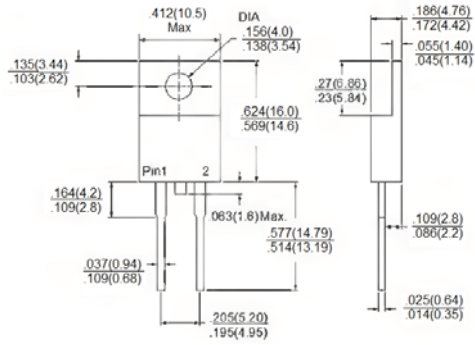




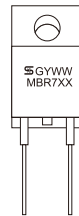
# MBR735 - MBR7150

## 7.5 AMPS. Schottky Barrier Rectifiers

### TO-220AC



Dimensions in inches and (millimeters)



Marking Diagram

MBR7XX = Specific Device Code  
G = Green Compound  
Y = Year  
WW = Work Week

### Features

- ◇ UL Recognized File # E-326243
- ◇ 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
- ◇ Green compound with suffix "G" on packing code & prefix "G" on datecode.

### Mechanical Data

- ◇ Cases: JEDEC TO-220AC molded 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: 1.85 grams

### 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	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	V
Maximum DC Blocking Voltage	$V_{DC}$	35	45	50	60	90	100	150	V
Maximum Average Forward Rectified Current See Fig. 1	$I_{F(AV)}$	7.5							A
Peak Repetitive Forward Current (Square Wave, 20KHz) at $T_c=105^\circ\text{C}$	$I_{FRM}$	15							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 2)	$I_{RRM}$	1.0			0.5				A
Maximum Instantaneous Forward Voltage at $I_F=7.5A, T_A=25^\circ\text{C}$ $I_F=7.5A, T_A=125^\circ\text{C}$ $I_F=15A, T_A=25^\circ\text{C}$ $I_F=15A, T_A=125^\circ\text{C}$	$V_F$	— 0.57 0.84 0.72	— 0.75 0.65	— 0.92 0.82	— 0.95 0.92				V
Maximum Instantaneous Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage (Note 1) @ $T_A=125^\circ\text{C}$	$I_R$	0.1 15.0	0.1 10	0.1 5.0				mA mA	
Voltage Rate of Change (Rated $V_R$ )	$dV/dt$	10,000							V/ $\mu\text{s}$
Typical Junction Capacitance	$C_j$	360	280	200	160				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. Pulse Test: 300us Pulse Width, 1% Duty Cycle  
2. 2.0us Pulse Width, f=1.0 KHz  
3. Mounted on Heatsink Size of 2 in x 3 in x 0.25 in Al-Plated.

## RATINGS AND CHARACTERISTIC CURVES (MBR735 THRU MBR7150)

FIG.1- FORWARD CURRENT DERATING CURVE

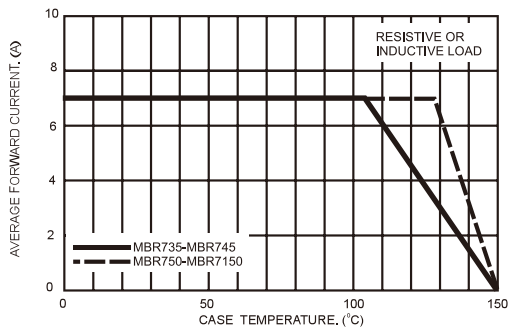


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

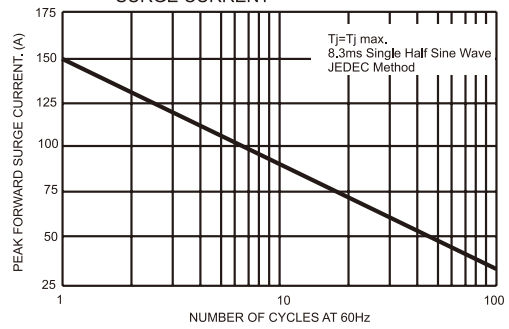


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

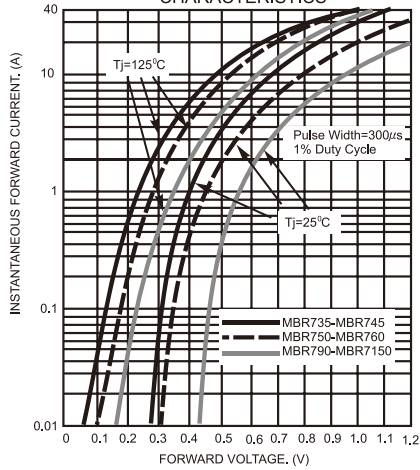


FIG.4- TYPICAL REVERSE CHARACTERISTICS

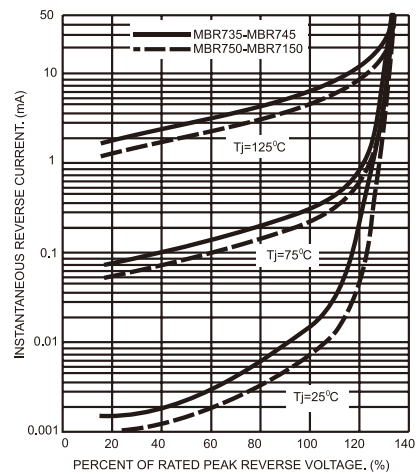


FIG.5- TYPICAL JUNCTION CAPACITANCE

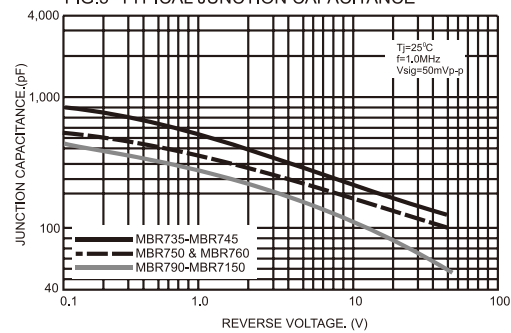


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

