Schottky Barrier Rectifier

Features:

- Schottky barrier chip
- Guard ring for over voltage protection
- Low power loss, high efficiency
- Low reverse leakage current
- High surge current capability
- Plastic package has UL flammability classification 94V-0

Mechanical Data:

Case	: TO-220AC molded plastic
Terminals	: Pure tin plated, lead solderable per MIL-STD-750, method 2026
Polarity	: As marked on the body
Weight	: 1.9 grams
Mounting Position	: Any
Reverse Voltage	: 40 to 150 Volts
Forward Current	: 16 Amperes

Typical Applications

For use in high frequency rectifier of switching mode power supplies, Freewheeling Diode, DC/DC converters or polarity protection application

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%.

Characteristics	Symbol	MBR1640	MBR1650	MBR1660	MBR16150	Unit
Max. Recurrent Peak Reverse Voltage	V_{RRM}	40	50	60	150	V
Max. RMS Voltage	V_{RMS}	28	35	42	105	
Max. DC Blocking Voltage	V_{DC}	40	50	60	150	
Max. Average Forward	$I_{F(AV)}$	16				A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	I_{FSM}	150				
Max. Forward Voltage at 16A per leg	V_F	0.7	0.75		0.92	V
Max. DC Reverse Current at T_J = 25°C Rated DC Blocking Voltage at T_J = 125°C	I_R	0.15 15			0.1 7.5	mA
Typical Thermal Resistance, Junction to Case	$R_{\theta JC}$	2				°C/W
Operating Temperature Range	T_J	-55 to +150				°C
Storage Temperature Range	T_{STG}	-55 to +150				°C

Notes:

1. Mounted on 14mm × 14mm pad areas,1oz. FR4 P.C.B
2. Free air, mounted on recommended copper pad area
3. Pulse test: 300μs pulse width,1% duty cycle
4. Pulse test: Pulse width ≦40ms
5. The typical data above is for reference only

Ratings and Characteristic Curves

FIG.1- FORWARD CURRENT DERATING CURVE

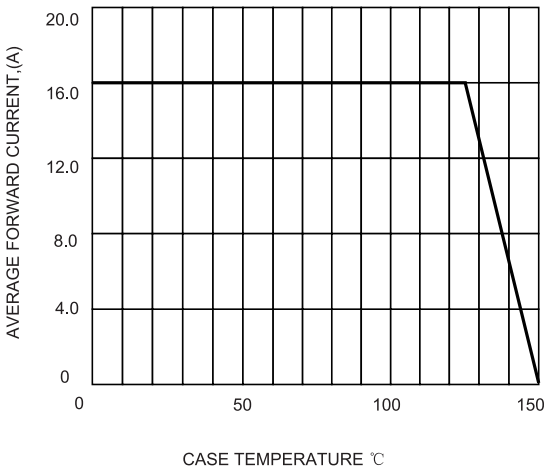


FIG. 2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

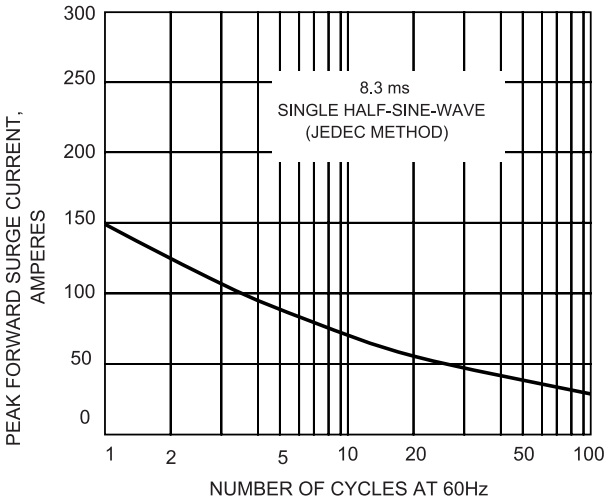


FIG.3-TYPICAL REVER CHARACTERISTICS

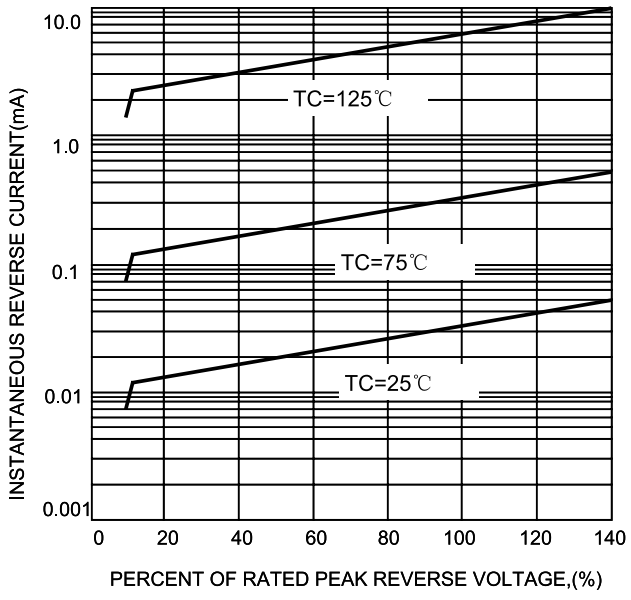
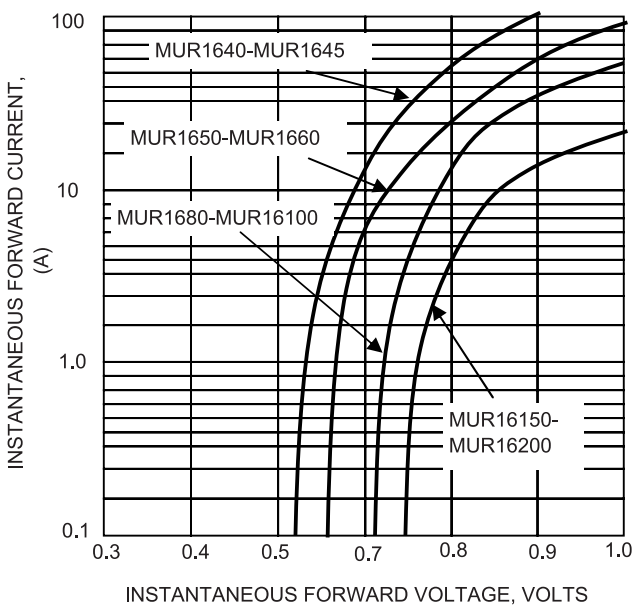
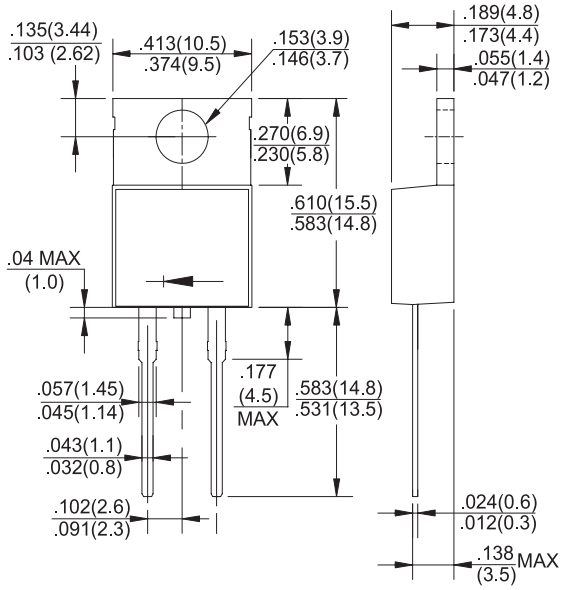


FIG.4-TYPICAL FORWARD CHARACTERISTICS



Dimensions:

TO-220AC



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Schottky Barrier Rectifiers	MBR1640
	MBR1650
	MBR1660
	MBR16150