

Schottky Barrier Rectifier



Features:

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High current capability, low VF
- High surge capacity
- Plastic package has UL flammability classification 94V-0
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

Mechanical Data:

Case	: TO-220AC molded plastic
Polarity	: As marked on the body
Weight	: 0.08 ounces, 2.24 grams
Mounting Position	: Any
Reverse Voltage	: 40 to 100 Volts
Forward Current	: 10 Amperes

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	MBR10100	MBR1040	MBR1050	MBR1060	Unit
Max. Recurrent Peak Reverse Voltage	V_{RRM}	100	40	50	60	V
Max. RMS Voltage	V_{RMS}	70	28	35	42	
Max. DC Blocking Voltage	V_{DC}	100	40	50	60	
Max. Average Forward Rectified Current (See Fig.1)	$I_{(AV)}$	10				A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	I_{FSM}	150				
Peak Forward Voltage (Note1) $I_F=10A @T_J=25^\circ C$ $I_F=10A @T_J=125^\circ C$ $I_F=20A @T_J=25^\circ C$ $I_F=20A @T_J=125^\circ C$	V_F	0.85 0.71 - -	7 0.57 0.84 0.72	0.8 0.7 0.95 0.85		V
Max. DC Reverse Current at Rated DC Blocking Voltage at $T_A = 25^\circ C$ $T_A = 125^\circ C$	I_R	0.1 6	0.1 15	0.1 10		mA
Typical Junction Capacitance (Note 2)	C_J	1100	400			pF
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	2	2.5			°C/W
Operating Temperature Range	T_J	-55 to +150				°C
Storage Temperature Range	T_{STG}	-55 to +175				°C

Notes:

1. 300µs pulse width, 2% duty cycle.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
3. Thermal resistance junction to case
4. The typical data above is for reference only

Ratings and Characteristic Curves

FIG. 1 – FORWARD CURRENT DERATING CURVE

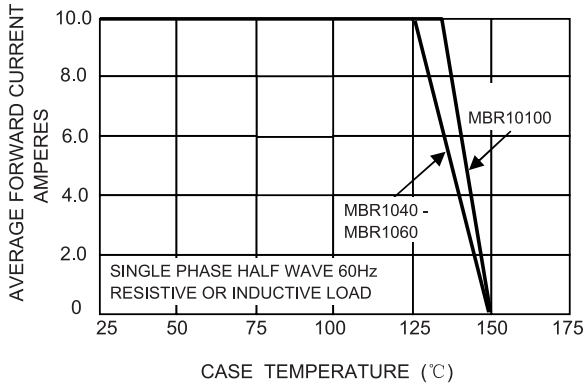


FIG. 2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

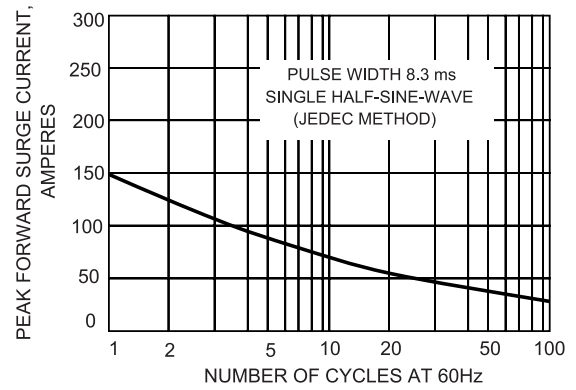


FIG.3-TYPICAL REVERSE

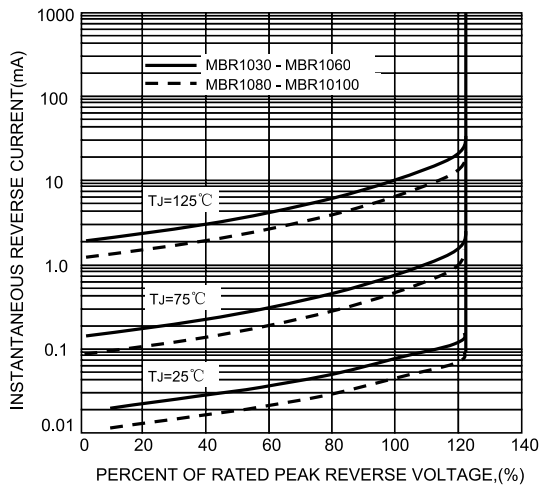


FIG.4-TYPICAL FORWARD CHARACTERISTICS

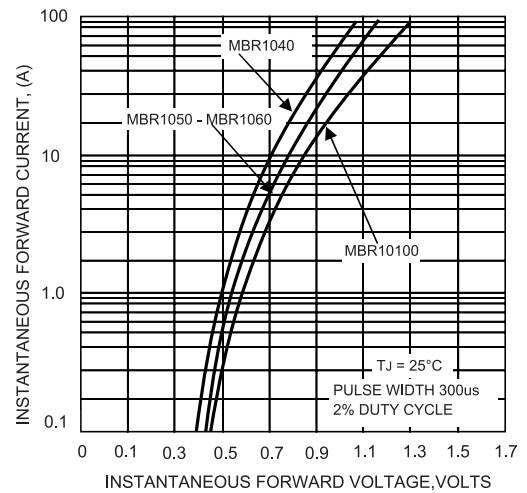
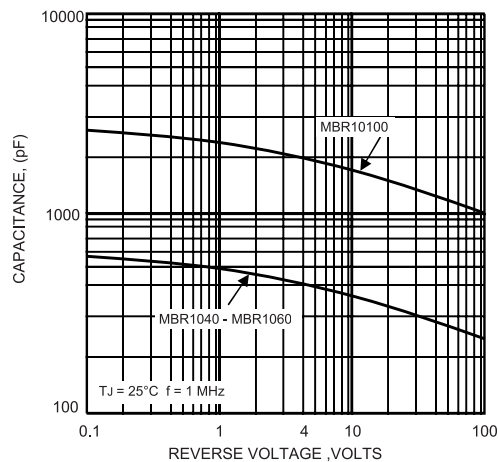
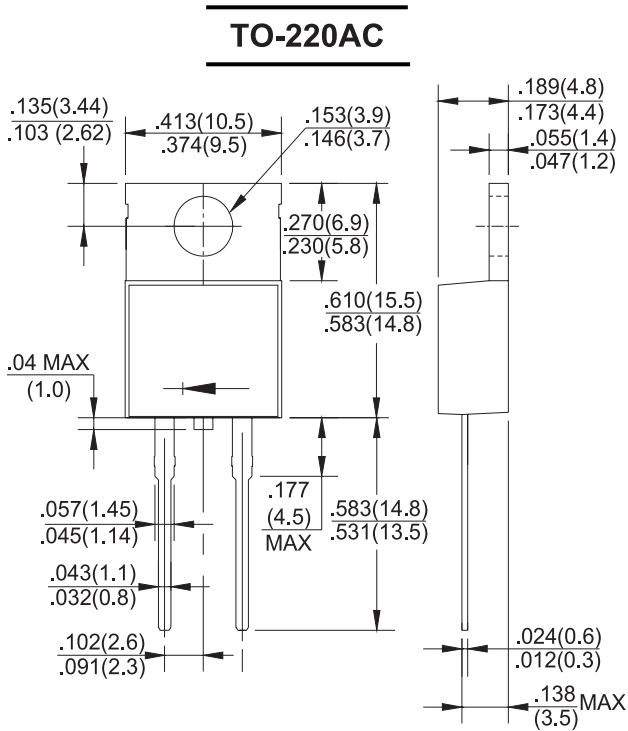


FIG.5 – TYPICAL JUNCTION CAPACITANCE



Schottky Barrier Rectifier

Dimensions:



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Schottky Barrier Rectifiers	MBR1040
	MBR1050
	MBR1060
	MBR10100

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