

Schottky Barrier Rectifier **multicomp**PRO



Features:

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High current capability, low V_F
- 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 (Note 1) $I_F=10A @ T_J=25^\circ C$ $I_F=10A @ T_J=125^\circ C$ $I_F=20A @ T_J=25^\circ C$ $I_F=20A @ T_J=125^\circ C$	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

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Ratings and Characteristic Curves

FIG. 1 – FORWARD CURRENT DERATING CURVE

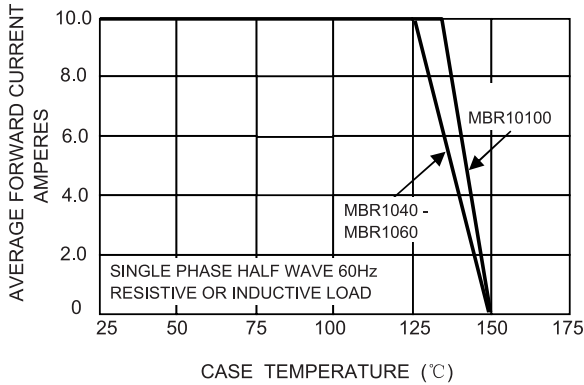


FIG. 2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

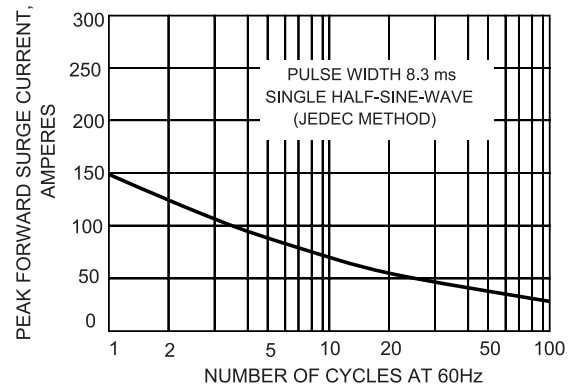


FIG.3-TYPICAL REVERSE

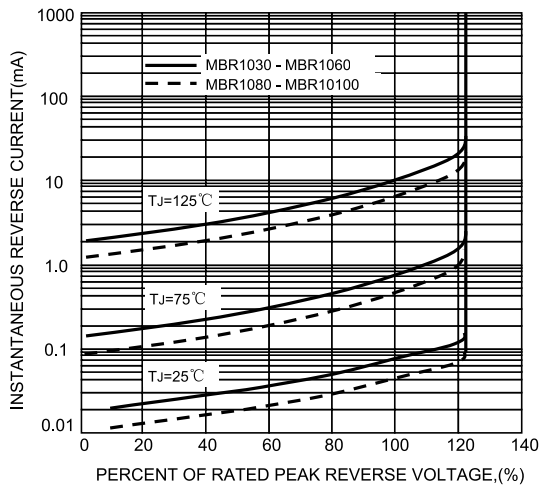


FIG.4-TYPICAL FORWARD CHARACTERISTICS

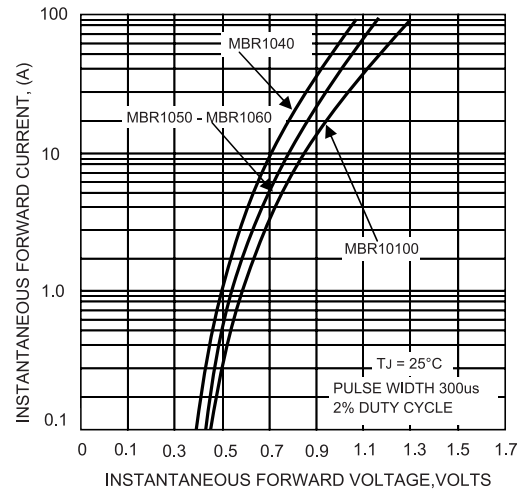
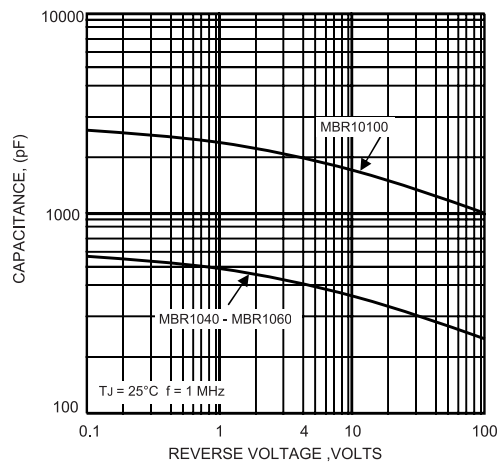
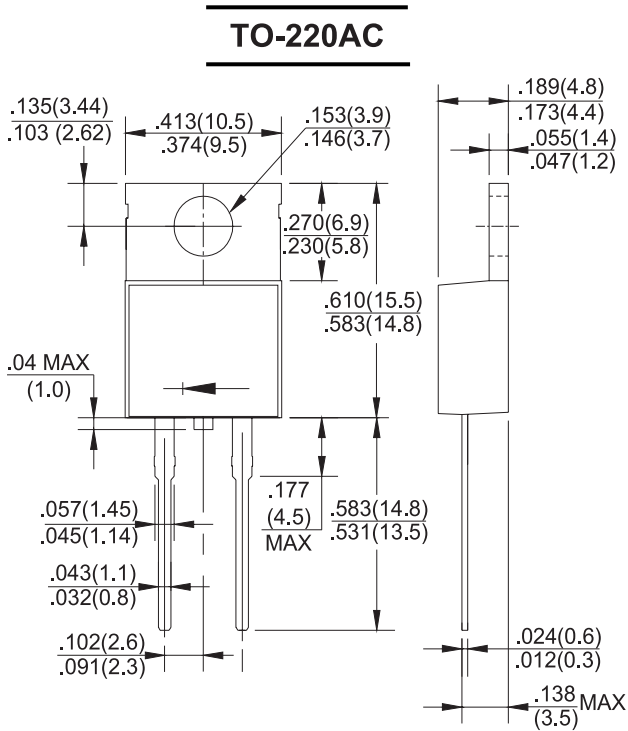


FIG.5 – TYPICAL JUNCTION CAPACITANCE



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Dimensions:



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Schottky Barrier Rectifiers	MBR1040
	MBR1050
	MBR1060
	MBR10100

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