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 60 Volts
Forward Current	: 8 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	MBR840	MBR850	MBR860	Unit
Max. Recurrent Peak Reverse Voltage	V_{RRM}	40	50	60	V
Max. RMS Voltage	V_{RMS}	28	35	42	
Max. DC Blocking Voltage	V_{DC}	40	50	60	
Max. Average Forward Rectified Current (See Fig.1)	$I_{(AV)}$	8.0			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=8A @T_J=25°C I_F=8A @T_J=125°C I_F=16A @T_J=25°C	V_F	0.7 0.57 0.84	0.8 0.7 0.95		V
Max. DC Reverse Current at T_A = 25°C Rated DC Blocking Voltage at T_A = 125°C	I_R	0.1 15			mA
Typical Junction Capacitance (Note 2)	C_J	250			pF
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	3			°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 at1.0MHz 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

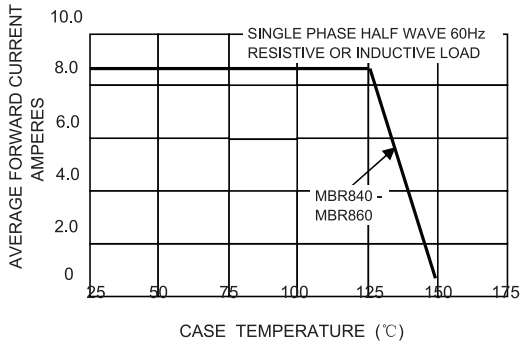


FIG. 2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

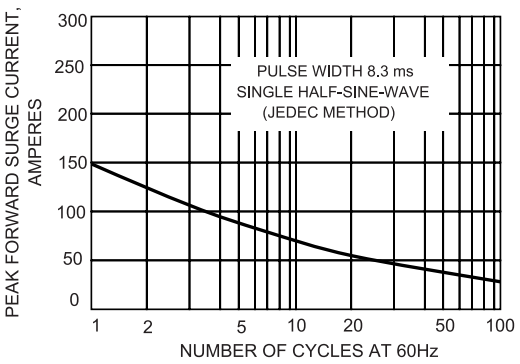


FIG.3-TYPICAL REVERSE CHARACTERISTICS

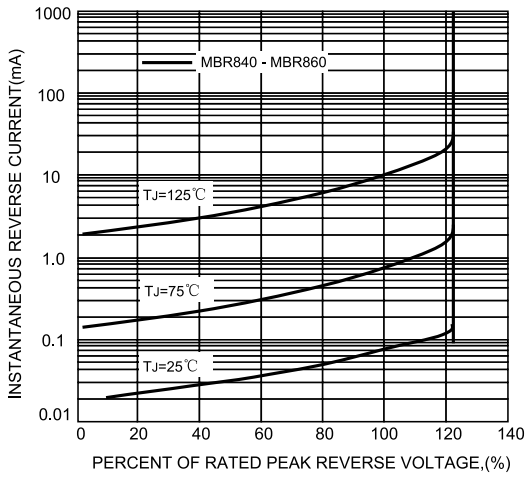


FIG.4-TYPICAL FORWARD CHARACTERISTICS

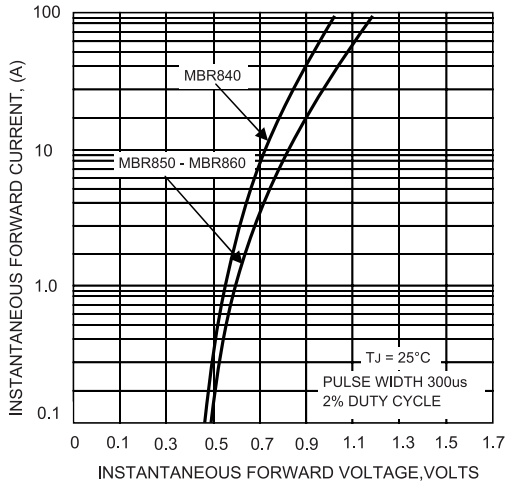
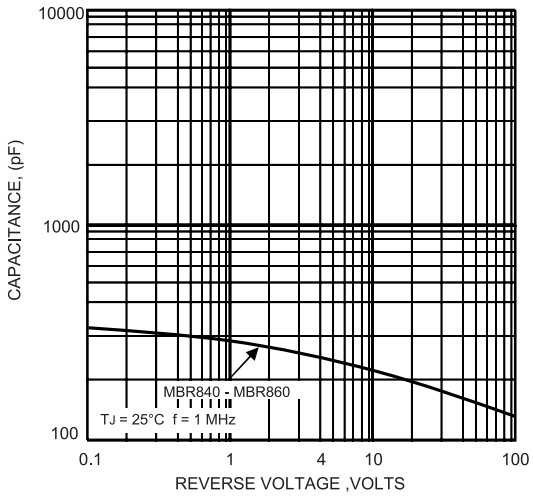
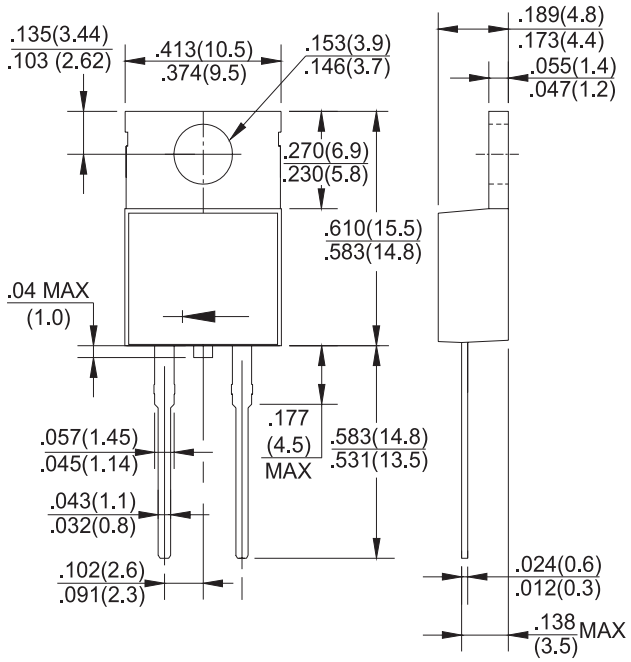


FIG.5 – TYPICAL JUNCTION CAPACITANCE



Dimensions:

TO-220AC



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Schottky Barrier Rectifiers	MBR840
	MBR850
	MBR860