

SCHOTTKY BARRIER RECTIFIERS

REVERSE VOLTAGE - 30 to 60 Volts
FORWARD CURRENT - 8.0 Amperes

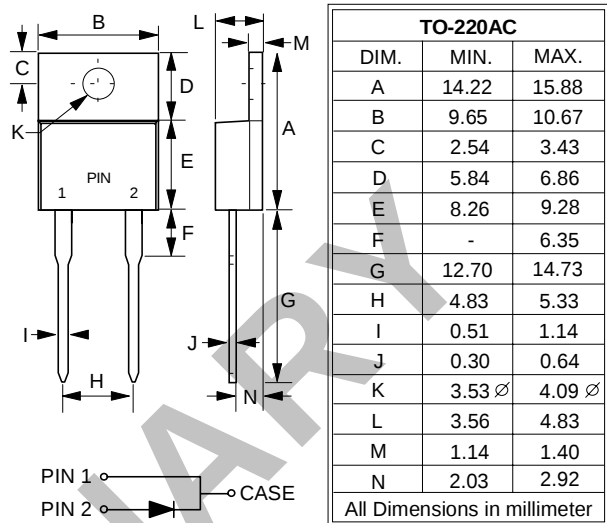
FEATURES

- 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

TO-220AC



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings 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	MBR830	MBR835	MBR840	MBR845	MBR850	MBR860	UNIT
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	30	35	40	45	50	60	V
Maximum RMS Voltage	V _{RMS}	21	24.5	28	31.5	35	42	V
Maximum DC Blocking Voltage	V _{DC}	30	35	40	45	50	60	V
Maximum Average Forward Rectified Current at T _C =125 °C (See Fig.1)	I(AV)	8						A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC METHOD)	I _{FSM}	150						A
Voltage Rate of Change (Rated VR)	dv/dt	10000						V/us
Maximum Forward Voltage (Note 1) I _F =8A @ T _J =125°C I _F =8A @ T _J =25°C I _F =16A @ T _J =25°C	V _F	0.57				0.70		V
		0.70				0.80		V
		0.84				0.95		V
Maximum DC Reverse Current at Rated DC Blocking Voltage @T _J =25°C @T _J =125°C	I _R	0.1 15						mA mA
Typical Junction Capacitance (Note 2)	C _J	250						pF
Typical Thermal Resistance (Note 3)	R _{θJC}	3.0						°C/W
Operating Temperature Range	T _J	-55 to +150						°C
Storage Temperature Range	T _{STG}	-55 to +175						°C

NOTES : 1. 300us Pulse Width, 2% Duty Cycle.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
3. Thermal Resistance Junction to Case.

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FIG.1 - FORWARD CURRENT DERATING CURVE

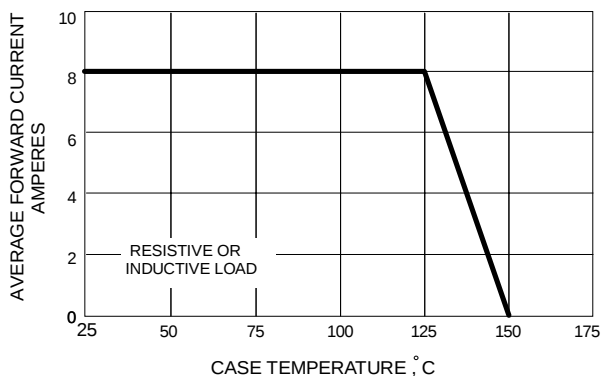


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

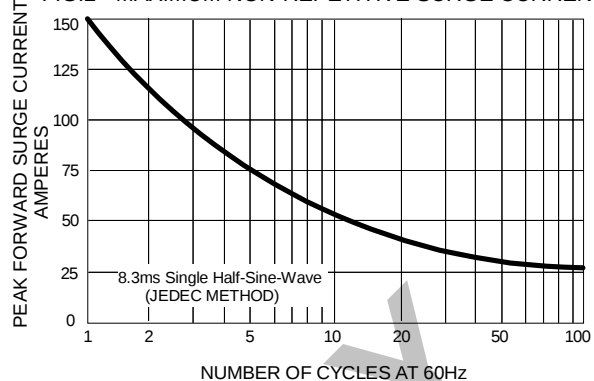


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

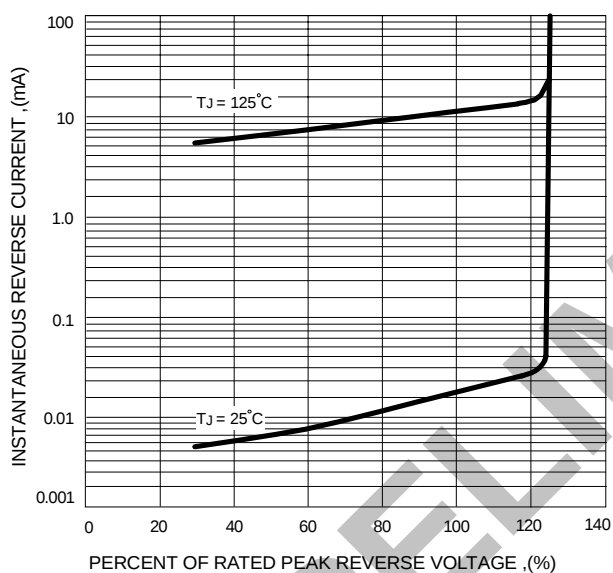


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

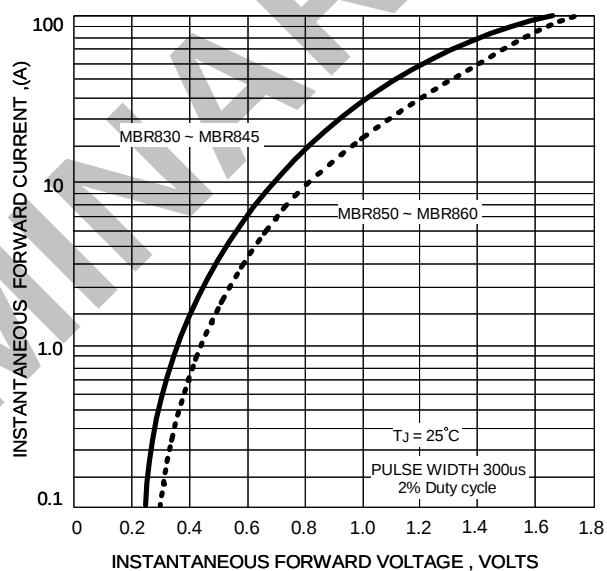


FIG.5 - TYPICAL JUNCTION CAPACITANCE

