

MBR16XX SERIES

SCHOTTKY BARRIER RECTIFIER

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MBR1635 THRU MBR16200

SCHOTTKY BARRIER RECTIFIER



REVERSE VOLTAGE: 35 to 200 VOLTS
FORWARD CURRENT: 16.0 AMPERE

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- Metal silicon junction, majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss, high efficiency
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed:
250°C/10 seconds, 0.25" (6.35mm) from case

MECHANICAL DATA

Case: Molded plastic, TO-220A

Epoxy: UL 94V-O rate flame retardant

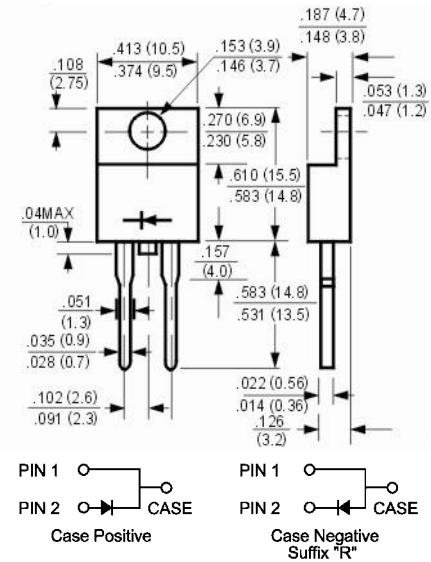
Terminals: Leads solderable per MIL-STD-202 method 208 guaranteed

Polarity: As marked

Mounting position: Any

Weight: 0.08ounce, 2.24gram

TO-220A



Dimensions in inches and (millimeters)

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%.

	Symbols	MBR1635	MBR1645	MBR1650	MBR1660	MBR1680	MBR16100	MBR16150	MBR16200	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	80	100	150	200	Volts
Maximum RMS Voltage	V_{RMS}	24	31	35	42	56	70	105	140	Volts
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	80	100	150	200	Volts
Maximum Average Forward Rectified Current See Fig. 1	$I_{(AV)}$	16.0								Amp
Peak repetitive forward current at $T_C = 125^\circ\text{C}$ (rated VR, sq. wave, 20 KHz)	I_{FRM}	32.0								Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150								Amp
Peak repetitive reverse current at $t_p = 2.0\mu\text{s}$, 1KHz	I_{RRM}	1.0			0.5				Amp	
Maximum Forward Voltage (Note 1) at $I_F = 16\text{A}$, $T_C = 25^\circ\text{C}$ at $I_F = 16\text{A}$, $T_C = 125^\circ\text{C}$	V_F	0.63		0.75		0.85		0.95		Volts
Maximum Reverse Current at Rated DC Blocking Voltage at $T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$	I_R	0.2		1.0				0.2		mAmp
		30		45				30		
Typical Thermal Resistance	$R_{\theta JC}$	3.0								°C/W
Operating Temperature Range	T_J	-55 to +150								°C
Storage Temperature Range	T_{stg}	-55 to +150								°C

NOTES:

1- Pulse test: 300μs pulse width, 1% duty cycle

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RATINGS AND CHARACTERISTIC CURVES

FIG.1- FORWARD CURRENT DERATING CURVE

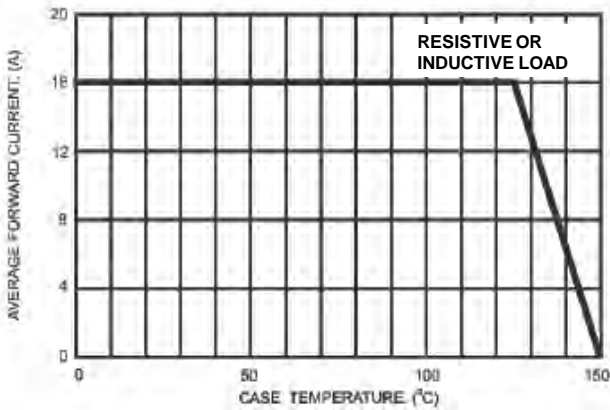


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

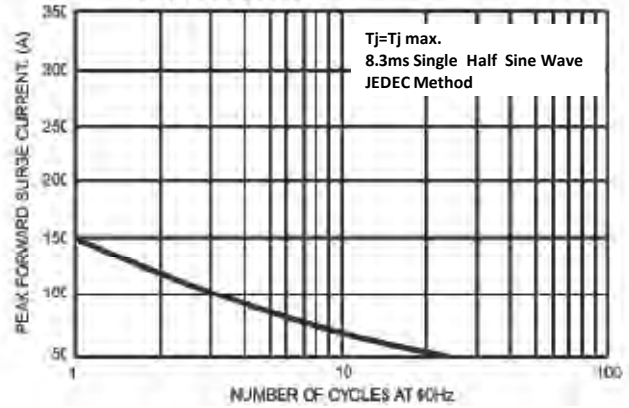


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

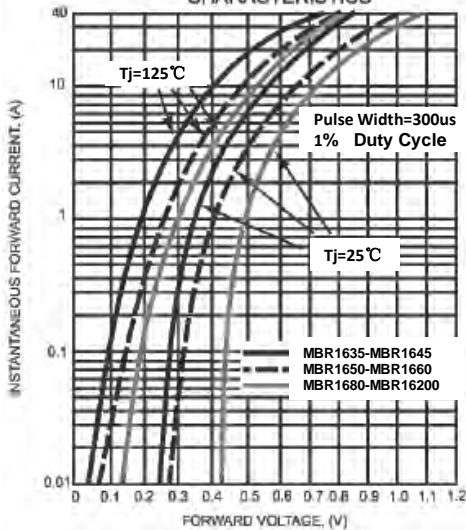


FIG.4- TYPICAL REVERSE CHARACTERISTICS

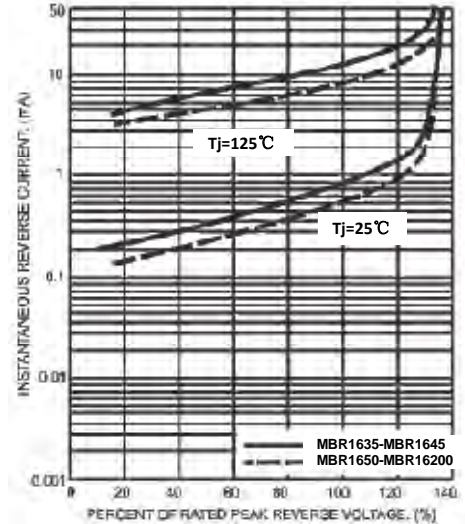


FIG.5- TYPICAL JUNCTION CAPACITANCE

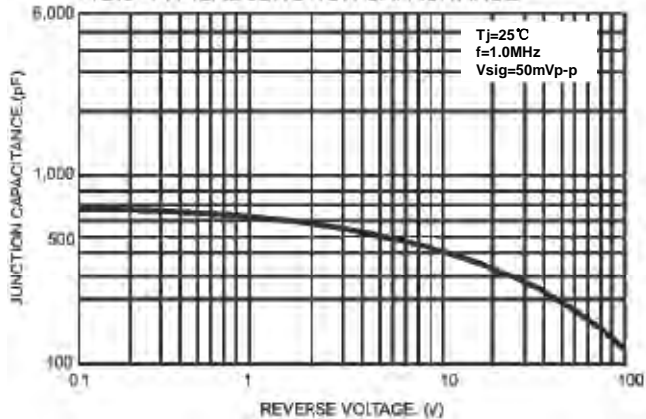


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

