

MBR10XX SERIES

SCHOTTKY BARRIER RECTIFIER

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MBR1035 THRU MBR10200

SCHOTTKY BARRIER RECTIFIER



REVERSE VOLTAGE: 35 to 200 VOLTS
FORWARD CURRENT: 10.0 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

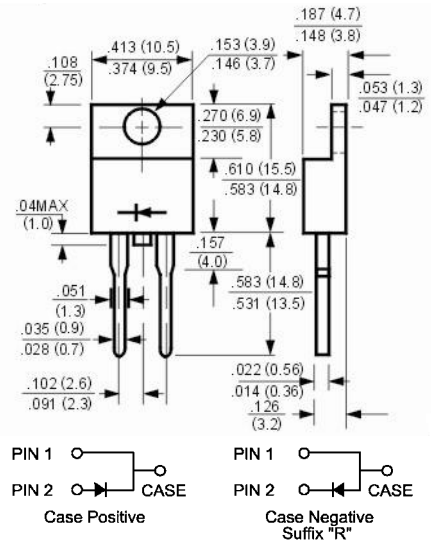
Terminals: Leads solderable per MIL-STD-202 method 208 guaranteed

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	MBR1035	MBR1045	MBR1050	MBR1060	MBR1080	MBR10100	MBR10150	MBR10200	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	$I_{(AV)}$	10.0								Amp	
Peak repetitive forward current (sq. wave, 20 KHz) at $T_C = 135^\circ\text{C}$	I_{FRM}	20.0								Amp	
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150								Amp	
Maximum Forward Voltage (Note 1)	V_F	at $I_F = 10\text{A}, T_C = 25^\circ\text{C}$		0.70		0.80		0.85		0.95	Volts
		at $I_F = 10\text{A}, T_C = 125^\circ\text{C}$		0.57		0.70		0.71		-	
		at $I_F = 20\text{A}, T_C = 25^\circ\text{C}$		0.84		0.95		-		-	
		at $I_F = 20\text{A}, T_C = 125^\circ\text{C}$		0.72		0.85		-		-	
Maximum Reverse Current at Rated DC Blocking Voltage	I_R	at $T_C = 25^\circ\text{C}$		0.1				0.2		mAmp	
		at $T_C = 125^\circ\text{C}$		15		10		6			
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

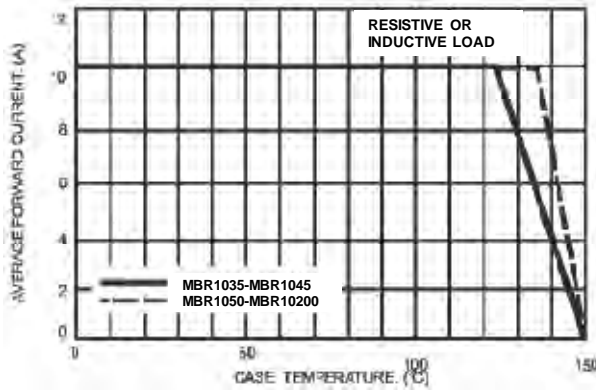


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

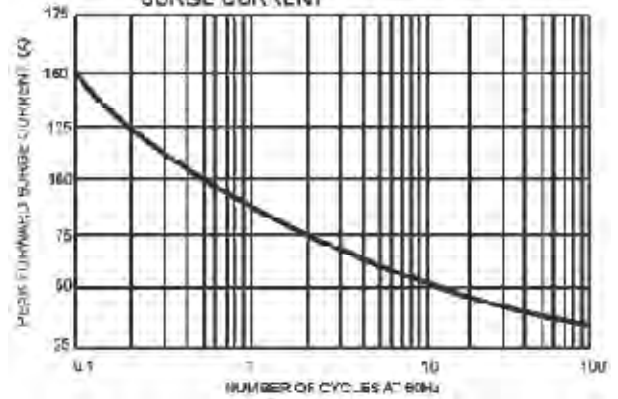


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

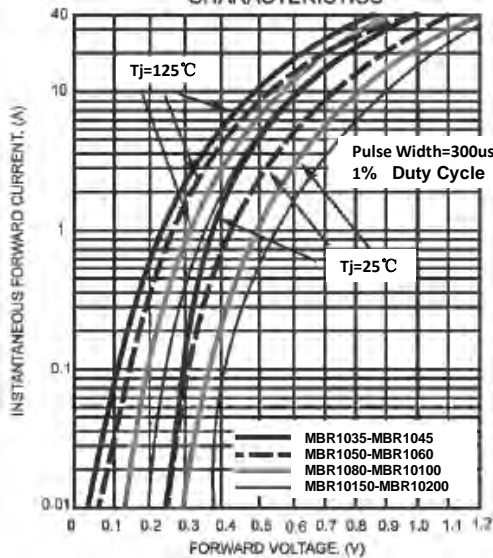


FIG.4- TYPICAL REVERSE CHARACTERISTICS

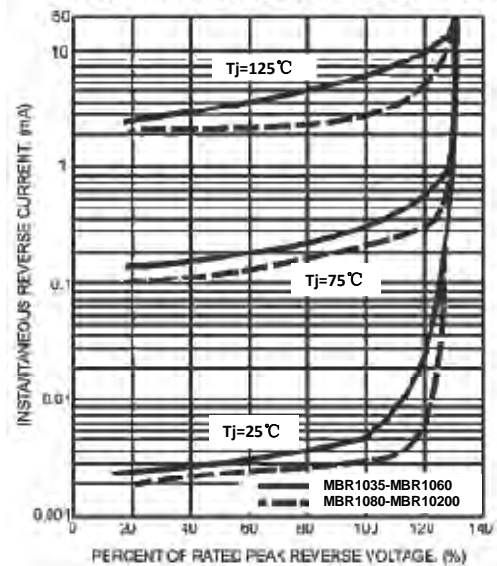


FIG.5- TYPICAL JUNCTION CAPACITANCE

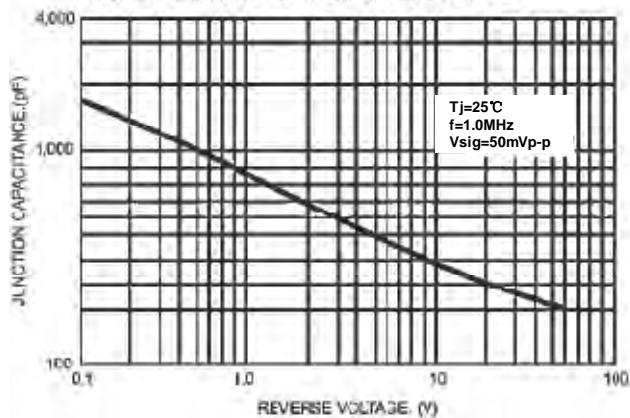


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTIC

