

MBR1030 thru MBR1060

10 AMP SCHOTTKY BARRIER RECTIFIERS



VOLTAGE RANGE
30 to 60 Volts
CURRENT
10 Amperes

FEATURES

- Plastic package has U/L Flammability Classification 94V-0
- Exceeds environmental standards of MIL-PRF-19500
- Metal-to-Silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capacity
- Guard ring for transient protection
- For use in low voltage, high frequency inverters, free-wheeling, and polarity protection applications
- High temperature soldering guaranteed:
250°C for 10 seconds, 0.375" (9.5mm) lead lengths at 5 lbs. (2.3Kg) tension

MECHANICAL DATA

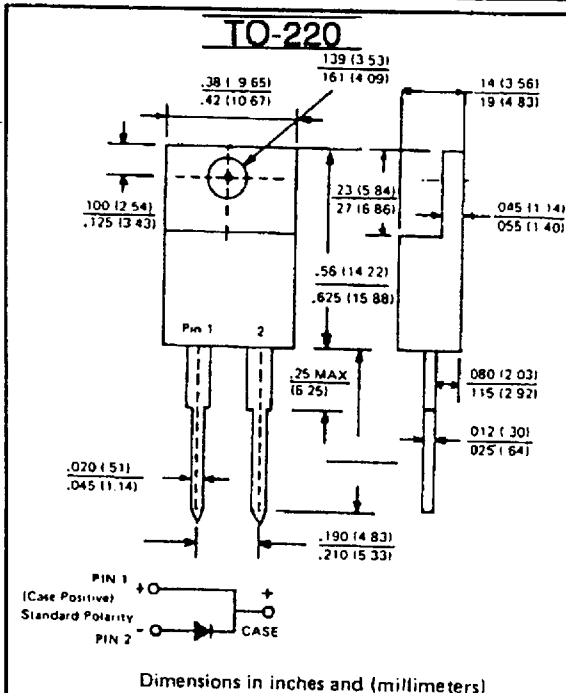
Case: TO-220 molded plastic

Terminals: Lead solderable per MIL-STD-202 Method 208

Polarity: As Marked

Mounting Position: Any

Weight: 0.079 ounces (2.24 grams)



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%.

		MBR1030	MBR1035	MBR1040	MBR1045	MBR1050	MBR1060	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	30	35	40	45	50	60	V
Working Peak Reverse Voltage	V_{RMM}	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 (See Fig. 1)	$I_{(AV)}$	10						A
Peak Repetitive Forward Current. (Square Wave 20KHz) at $T_c = 135^{\circ}C$	I_{FSM}	20						A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150						A
Peak Repetitive Reverse Surge Current (2.0 μ S, 1 KHz)	I_{RSM}	1.0						A
Voltage Rate of Change, dv/dt (rated V_R)	dv/dt	1000						V/ μ s
Maximum Forward Voltage $I_F = 10A, T_C = 125^{\circ}C$ (Note 1) $I_F = 20A, T_C = 125^{\circ}C$ $I_F = 20A, T_C = 25^{\circ}C$	V_F	0.57 0.72 0.84				0.70 0.85 0.95		V
Maximum Reverse Current at Peak Reverse Voltage (Note 1) $T_A = 25^{\circ}C$ $T_A = 125^{\circ}C$	I_R	0.1 15				25		mA
Maximum Thermal Resistance	$R_{\theta JC}$	2						
Maximum Operating Junction Temperature	T_J	-65 to + 150						$^{\circ}C$
Maximum Storage Temperature	T_{STG}	-65 to + 175						$^{\circ}C$

NOTE: 1. Test Pulse Width 300 μ s, Duty Cycle 2%.

USA

405 S.W. Columbia Street

EUROPE

Avenue J.F. Kennedy Bât B4 Parc Cadéra Nord

Bend, Oregon 97702-1035

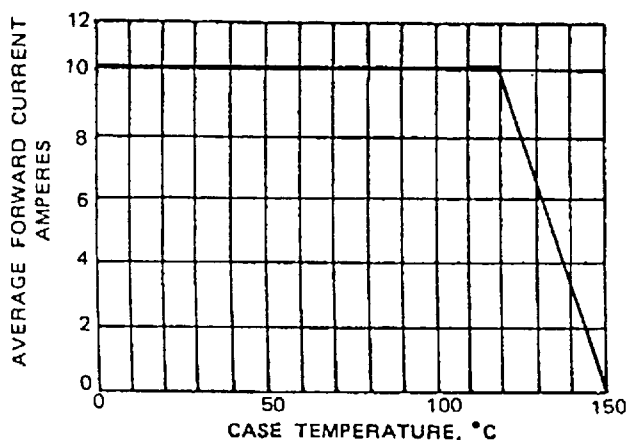
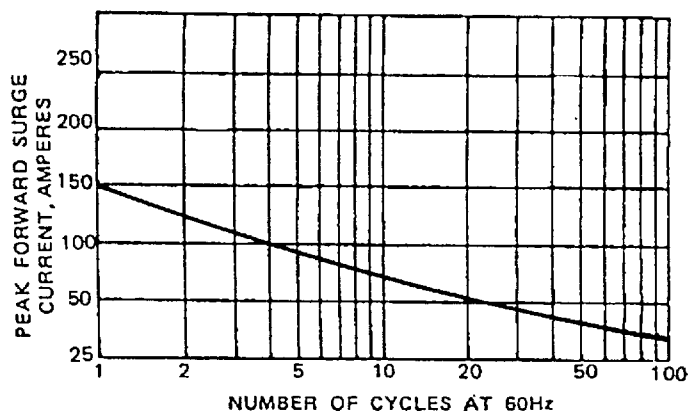
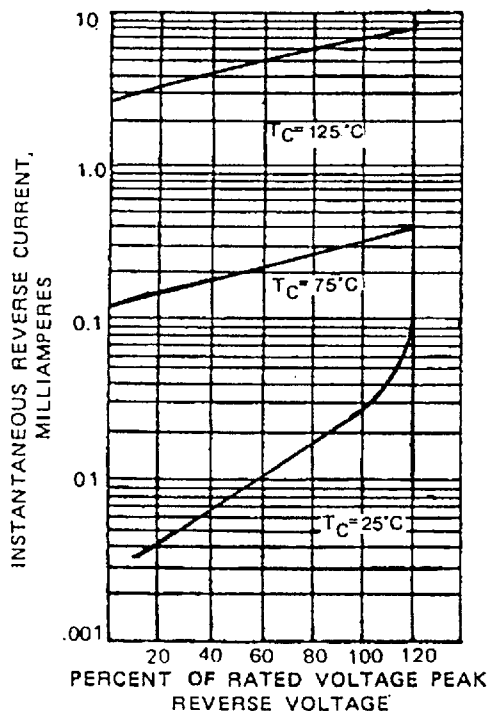
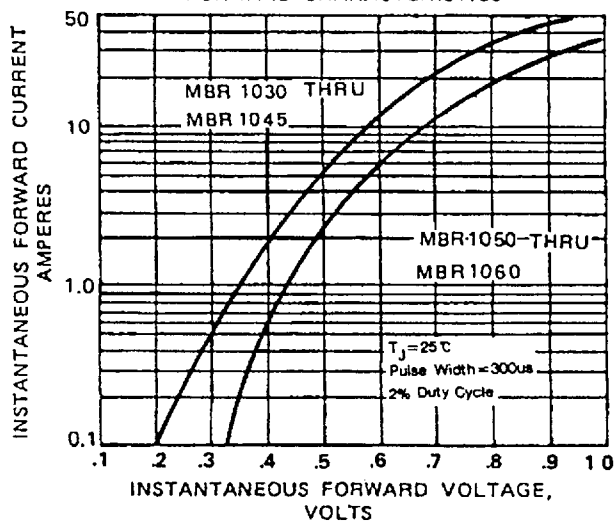
F-33700 Merignac - France

Phone: (541)382-8028

Phone: (33)557921515

FAX: (541)388-0364

FAX: (33)556479761

FIG. 1 – FORWARD CURRENT DERATING CURVE

FIG. 3 – MAXIMUM NON-REPETITIVE SURGE CURRENT

FIG. 2 – TYPICAL REVERSE CHARACTERISTICS

FIG. 4 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

FIG. 5 – TYPICAL JUNCTION CAPACITANCE
