MBR1060, MBR1080, MBR1090, MBR10100

MBR1060 and MBR10100 are Preferred Devices

SWITCHMODE™ Power Rectifiers

. . . using the Schottky Barrier principle with a platinum barrier metal. These state–of–the–art devices have the following features:

- Guard–Ring for Stress Protection
- Low Forward Voltage
- 150°C Operating Junction Temperature
- Epoxy Meets UL94, VO at 1/8″
- Low Power Loss/High Efficiency
- High Surge Capacity
- Low Stored Charge Majority Carrier Conduction

Mechanical Characteristics:

- Case: Epoxy, Molded
- Weight: 1.9 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 50 units per plastic tube
- Marking: B1060, B1080, B1090, B10100

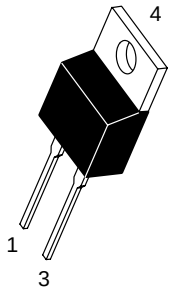
MAXIMUM RATINGS

Please See the Table on the Following Page

ON Semiconductor™

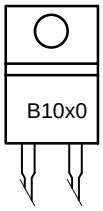
http://onsemi.com

SCHOTTKY BARRIER RECTIFIERS 10 AMPERES 60 to 100 VOLTS



TO–220AC
CASE 221B
PLASTIC

MARKING DIAGRAM



B10x0 = Device Code
x = 6, 8, 9 or 10

ORDERING INFORMATION

Device	Package	Shipping
MBR1060	TO–220	50 Units/Rail
MBR1080	TO–220	50 Units/Rail
MBR1090	TO–220	50 Units/Rail
MBR10100	TO–220	50 Units/Rail

Preferred devices are recommended choices for future use and best overall value.

MAXIMUM RATINGS

Rating	Symbol	MBR				Unit
		1060	1080	1090	10100	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	60	80	90	100	Volts
Average Rectified Forward Current (Rated V_R) T_C = 133°C	$I_{F(AV)}$	10				Amps
Peak Repetitive Forward Current (Rated V_R, Square Wave, 20 kHz) T_C = 133°C	I_{FRM}	20				Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	150				Amps
Peak Repetitive Reverse Surge Current (2.0 μs, 1.0 kHz)	I_{RRM}	0.5				Amp
Operating Junction Temperature	T_J	−65 to +150				°C
Storage Temperature	T_{stg}	−65 to +175				°C
Voltage Rate of Change (Rated V_R)	dv/dt	10,000				V/μs

THERMAL CHARACTERISTICS

Maximum Thermal Resistance — Junction to Case — Junction to Ambient	$R_{\theta JC}$ $R_{\theta JA}$	2.0 60	°C/W

ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (Note 1.) (i_F = 10 Amps, T_C = 125°C) (i_F = 10 Amps, T_C = 25°C) (i_F = 20 Amps, T_C = 125°C) (i_F = 20 Amps, T_C = 25°C)	v_F	 0.7 0.8 0.85 0.95	Volts
Maximum Instantaneous Reverse Current (Note 1.) (Rated dc Voltage, T_C = 125°C) (Rated dc Voltage, T_C = 25°C)	i_R	 6.0 0.10	mA

1. Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%.

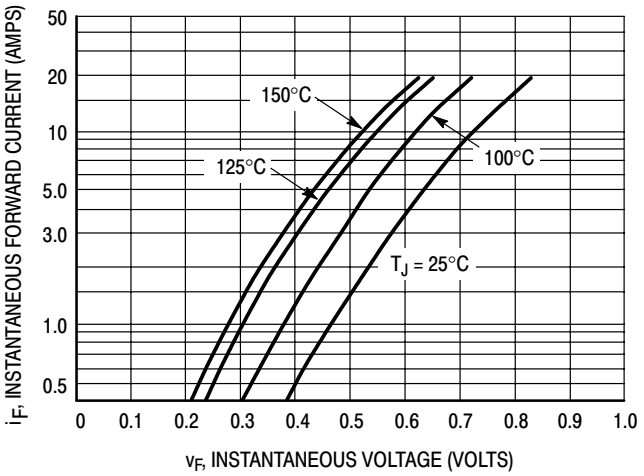


Figure 1. Typical Forward Voltage

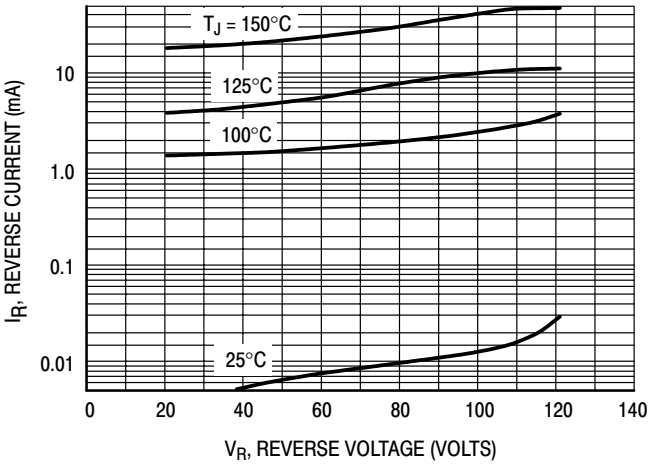


Figure 2. Typical Reverse Current

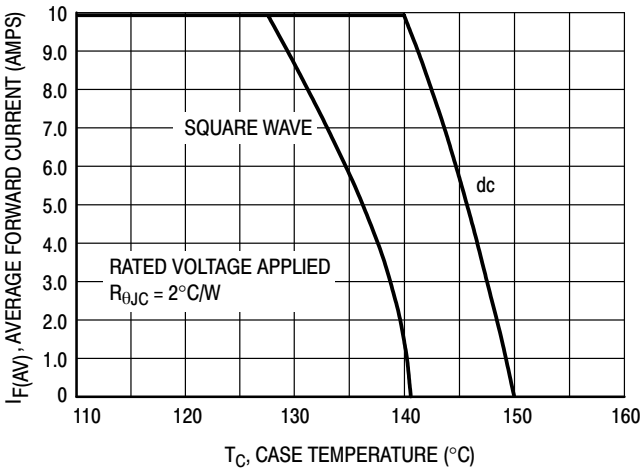


Figure 3. Current Derating, Case

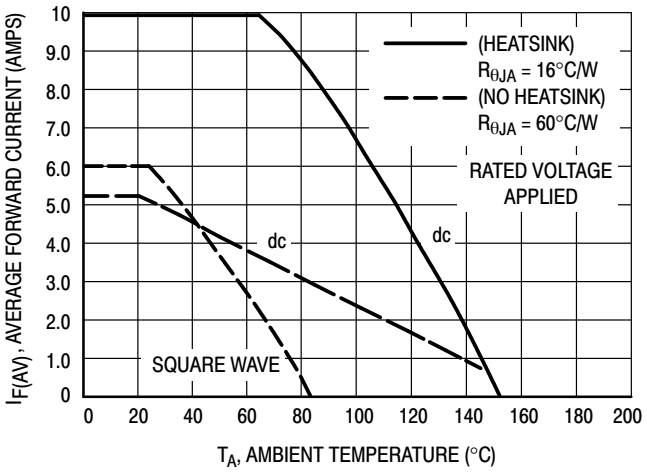


Figure 4. Current Derating, Ambient

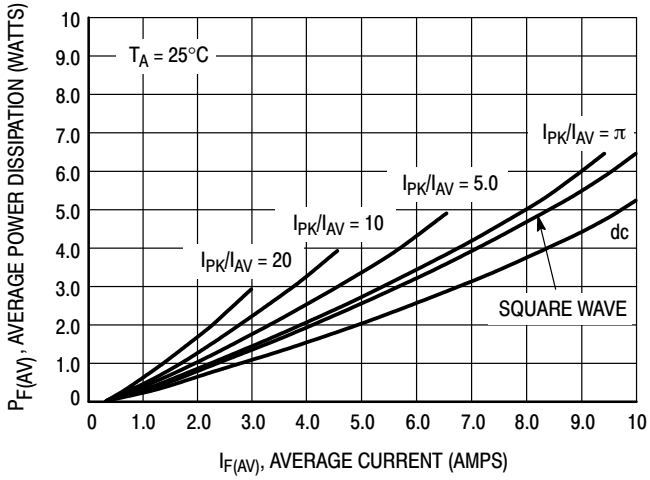
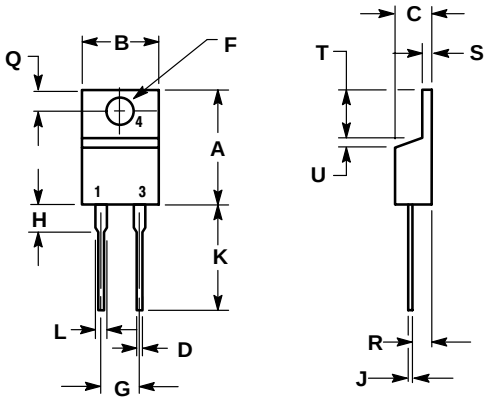


Figure 5. Forward Power Dissipation

PACKAGE DIMENSIONS

TO–220
PLASTIC
CASE 221B–04
ISSUE D



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.595	0.620	15.11	15.75
B	0.380	0.405	9.65	10.29
C	0.160	0.190	4.06	4.82
D	0.025	0.035	0.64	0.89
F	0.142	0.147	3.61	3.73
G	0.190	0.210	4.83	5.33
H	0.110	0.130	2.79	3.30
J	0.018	0.025	0.46	0.64
K	0.500	0.562	12.70	14.27
L	0.045	0.060	1.14	1.52
Q	0.100	0.120	2.54	3.04
R	0.080	0.110	2.04	2.79
S	0.045	0.055	1.14	1.39
T	0.235	0.255	5.97	6.48
U	0.000	0.050	0.000	1.27

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