

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Rating	Symbol	MBR 1070	MBR 1080	MBR 1090	MBR 10100	MBR 10200	Unit	
Peak repetitive reverse voltage	V_{RRM}							
Working peak reverse voltage	V_{RWM}	70	80	90	100	200	V	
DC blocking voltage	V_R							
Average rectified forward current (rated V_R)@ $T_C = 133^\circ\text{C}$	$I_{F(AV)}$	10						A
Peak repetitive forward current (Rated V_R , square wave, 20kHz), $T_C = 133^\circ\text{C}$	I_{FRM}	20						A
Non-repetitive peak surge current (surge applied at rated load conditions halfwave, single phase, 60Hz)	I_{FSM}	150						A
Peak repetitive reverse surge current (2.0 μs , 1.0kHz)	I_{RRM}	0.5						A
Operating junction temperature range	T_J	-65 to +150						$^\circ\text{C}$
Storage temperature range	T_{stg}	-65 to +175						$^\circ\text{C}$
Voltage rate of change (rated V_R)	dv/dt	10,000						V/ μs
Maximum thermal resistance								
Junction to case	$R_{\theta JC}$	2.0						$^\circ\text{C}/\text{W}$
Junction to ambient	$R_{\theta JA}$	60						

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	MBR 1070	MBR 1080	MBR 1090	MBR 10100	MBR 10200	Unit
Maximum instantaneous forward voltage ⁽¹⁾ ($I_F = 10\text{A}$, $T_C = 125^\circ\text{C}$) ($I_F = 10\text{A}$, $T_C = 25^\circ\text{C}$) ($I_F = 20\text{A}$, $T_C = 125^\circ\text{C}$) ($I_F = 20\text{A}$, $T_C = 25^\circ\text{C}$)	V_F			0.7 0.8 0.85 0.95			V
Maximum instantaneous reverse current ⁽¹⁾ (Rated dc voltage, $T_C = 125^\circ\text{C}$) (Rated dc voltage, $T_C = 25^\circ\text{C}$)	I_R			6.0 0.10			mA

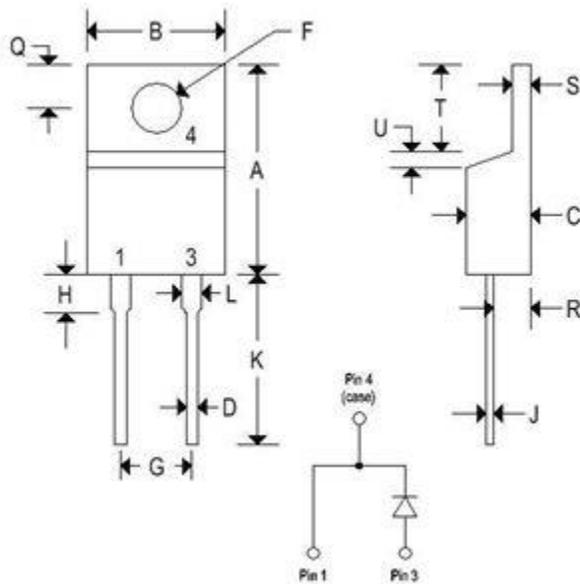
Note 1: Pulse test: Pulse width = 300 μs , duty cycle $\leq 2.0\%$.

MBR1070-MBR10200

10 A SCHOTTKY RECTIFIERS

MECHANICAL CHARACTERISTICS

Case	TO-220AC
Marking	Alpha-numeric
Pin out	Cathode band



	TO-220AC			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.595	0.620	15.110	15.750
B	0.380	0.405	9.650	10.290
C	0.160	0.190	4.060	4.820
D	0.142	0.147	3.610	3.730
F	0.142	0.147	3.610	3.730
G	0.190	0.210	4.830	5.330
H	0.110	0.130	2.790	3.300
J	0.018	0.025	0.460	0.640
K	0.500	0.562	12.700	14.270
L	0.045	0.050	1.140	1.270
Q	0.100	0.120	2.540	3.040
R	0.080	0.110	2.040	2.790
S	0.045	0.055	1.140	1.390
T	0.235	0.255	5.970	6.480
U	0.030	0.050	0.760	1.270

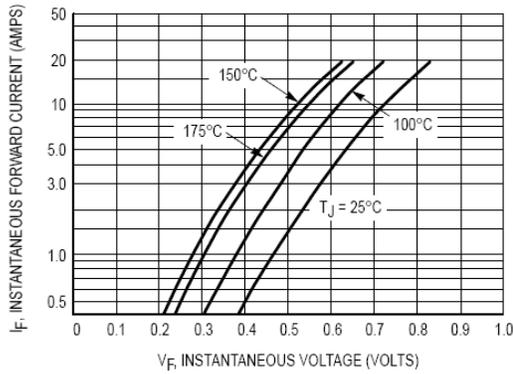


Figure 1. Typical Forward Voltage

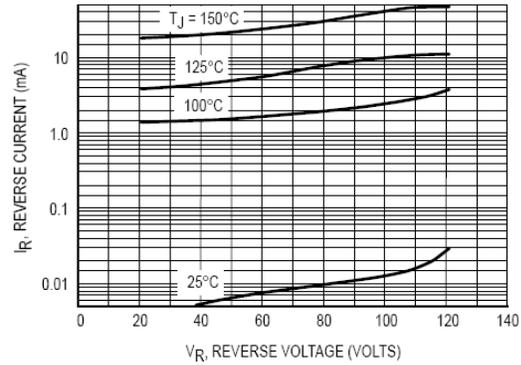


Figure 2. Typical Reverse Current

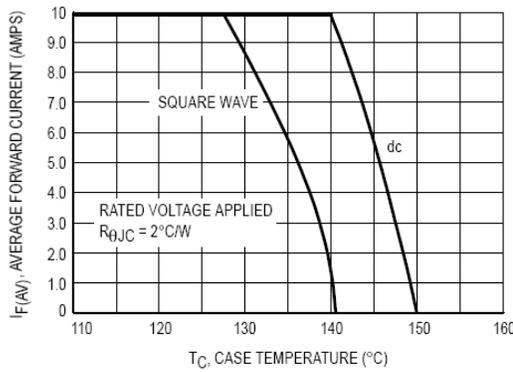


Figure 3. Current Derating, Case

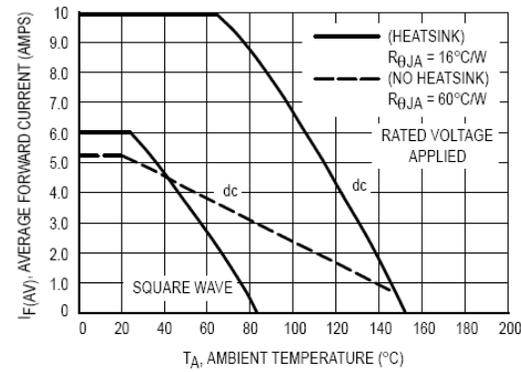


Figure 4. Current Derating, Ambient

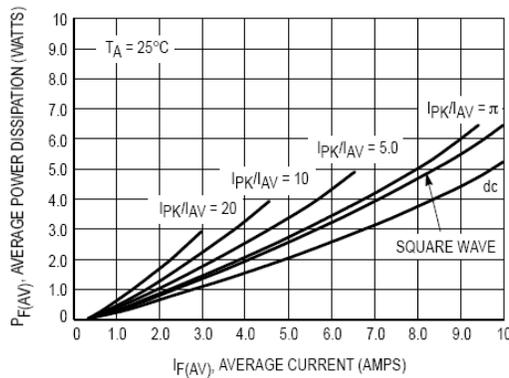


Figure 5. Forward Power Dissipation