



**America Semiconductor**

**Silicon Power  
Schottky Diode**

**MBRF12020 thru  
MBRF12040R**

**$V_{RRM} = 20\text{ V} - 100\text{ V}$**

**$I_F = 120\text{ A}$**

**Features**

- High Surge Capability
- Types up to 100 V  $V_{RRM}$

TO-244AB Package



**Maximum ratings, at  $T_j = 25\text{ }^\circ\text{C}$ , unless otherwise specified ("R" devices have leads reversed)**

Parameter	Symbol	Conditions	MBRF12020 (R)	MBRF12030 (R)	MBRF12035 (R)	MBRF12040 (R)	Unit
Repetitive peak reverse voltage	$V_{RRM}$		20	30	35	40	V
RMS reverse voltage	$V_{RMS}$		14	21	25	28	V
DC blocking voltage	$V_{DC}$		20	30	35	40	V
Continuous forward current	$I_F$	$T_C \leq 140\text{ }^\circ\text{C}$	120	120	120	120	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	$T_C = 25\text{ }^\circ\text{C}$ , $t_p = 8.3\text{ ms}$	800	800	800	800	A
Operating temperature	$T_j$		-40 to 175	-40 to 175	-40 to 175	-40 to 175	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-40 to 175	-40 to 175	-40 to 175	-40 to 175	$^\circ\text{C}$

**Electrical characteristics, at  $T_j = 25\text{ }^\circ\text{C}$ , unless otherwise specified**

Parameter	Symbol	Conditions	MBRF12020 (R)	MBRF12030 (R)	MBRF12035 (R)	MBRF12040 (R)	Unit
Diode forward voltage	$V_F$	$I_F = 60\text{ A}$ , $T_j = 25\text{ }^\circ\text{C}$	0.65	0.65	0.65	0.65	V
Reverse current	$I_R$	$V_R = 20\text{ V}$ , $T_j = 25\text{ }^\circ\text{C}$	3	3	3	3	mA
		$V_R = 20\text{ V}$ , $T_j = 125\text{ }^\circ\text{C}$	200	200	200	200	

**Thermal characteristics**

Thermal resistance, junction - case	$R_{thJC}$		0.8	0.8	0.8	0.8	$^\circ\text{C/W}$
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Figure .1-Typical Forward Characteristics

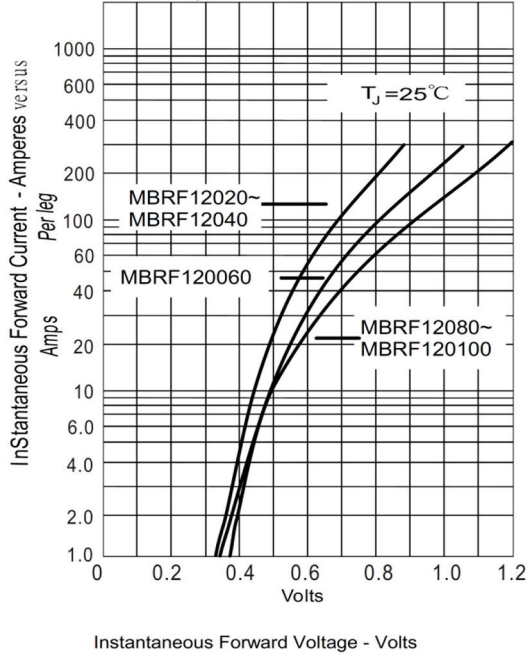


Figure .2-Forward Derating Curve

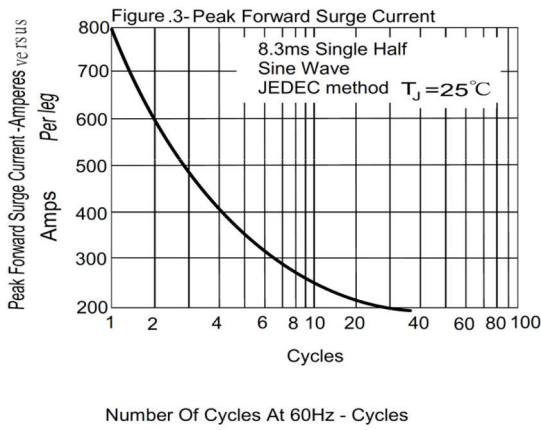
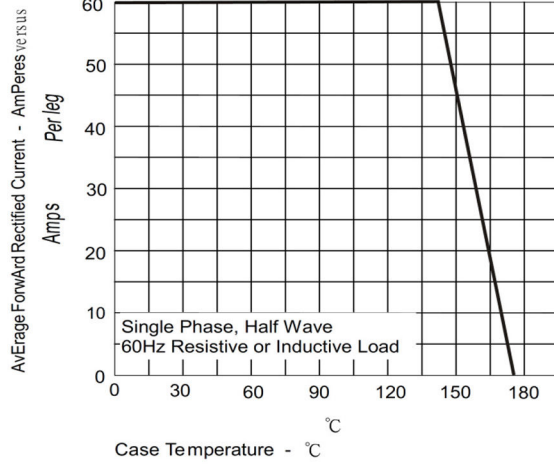


Figure .4-Typical Reverse Characteristics

