America Semiconductor

Silicon Power Schottky Diode

MBRF30045 thru MBRF300100R

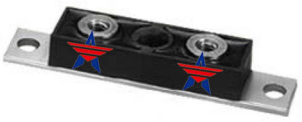
V_{RRM} = 20 V - 100 V

I_F = 300 A

Features

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

TO-244AB Package



Maximum ratings, at T_j = 25 °C, unless otherwise specified ("R" devices have leads reversed)

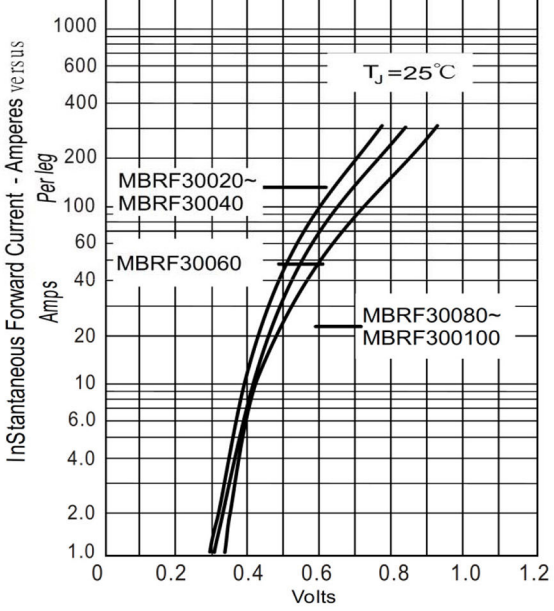
Parameter	Symbol	Conditions	MBRF30045 (R)	MBRF30060 (R)	MBRF30080 (R)	MBRF300100 (R)	Unit
Repetitive peak reverse voltage	V_{RRM}		45	60	80	100	V
RMS reverse voltage	V_{RMS}		32	42	56	70	V
DC blocking voltage	V_{DC}		45	60	80	100	V
Continuous forward current	I_F	$T_C \leq 140$ °C	300	300	300	300	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	T_C = 25 °C, t_p = 8.3 ms	2500	2500	2500	2500	A
Operating temperature	T_j		-40 to 175	-40 to 175	-40 to 175	-40 to 175	°C
Storage temperature	T_{stg}		-40 to 175	-40 to 175	-40 to 175	-40 to 175	°C

Electrical characteristics, at Tj = 25 °C, unless otherwise specified

Parameter	Symbol	Conditions	MBRF30045 (R)	MBRF30060 (R)	MBRF30080 (R)	MBRF300100 (R)	Unit
Diode forward voltage	V_F	I_F = 150 A, T_j = 25 °C	0.65	0.75	0.84	0.84	V
Reverse current	I_R	V_R = 20 V, T_j = 25 °C	8	8	8	8	mA
		V_R = 20 V, T_j = 125 °C	200	200	200	200	
Thermal characteristics							
Thermal resistance, junction - case	R_{thJC}		0.4	0.4	0.4	0.4	°C/W

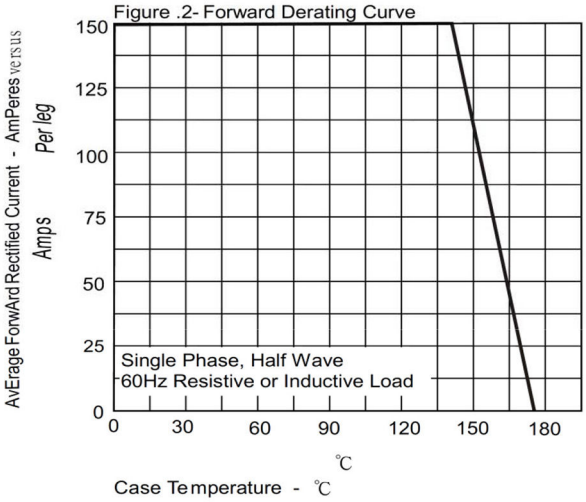
RoHS Compliant

Figure .1-Typical Forward Characteristics



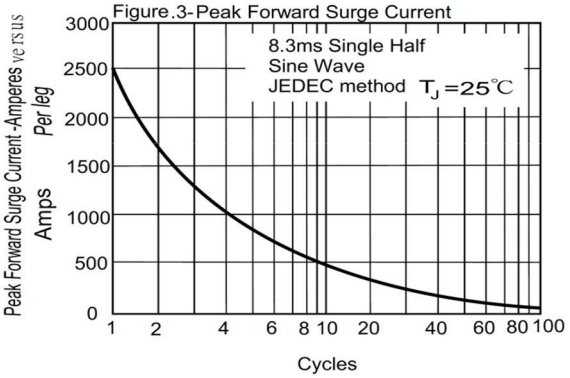
Instantaneous Forward Voltage - Volts

Figure .2- Forward Derating Curve



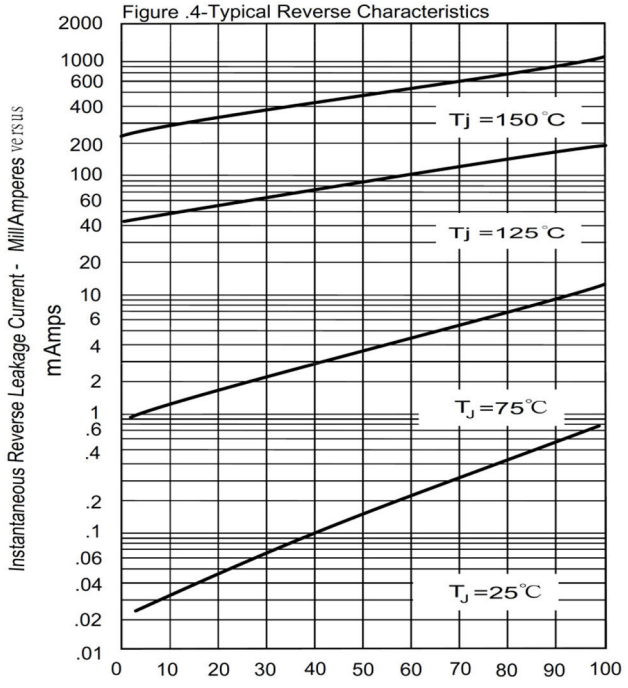
Case Temperature - ℃

Figure .3-Peak Forward Surge Current



Number Of Cycles At 60Hz - Cycles

Figure .4-Typical Reverse Characteristics



Reverse Voltage - Volts