America Semiconductor

Silicon Power Schottky Diode

MBRT30045 thru MBRT300100R

V_{RRM} = 20 V - 100 V

I_F = 300 A

Features

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

Three Tower Package

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

Parameter	Symbol	Conditions	MBRT30045 (R)	MBRT30060 (R)	MBRT30080 (R)	MBRT300100 (R)	Unit
Repetitive peak reverse voltage	V_{RRM}		45	60	80	100	V
RMS reverse voltage	V_{RMS}		32	42	57	70	V
DC blocking voltage	V_{DC}		45	60	80	100	V
Continuous forward current	I_F	$T_C \leq 125$ °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 150	-40 to 150	-40 to 150	-40 to 150	°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	MBRT30045 (R)	MBRT30060(R)	MBRT30080 (R)	MBRT300100 (R)	Unit
Diode forward voltage	V_F	I_F = 150 A, T_j = 25 °C	0.75	0.8	0.88	0.88	V
Reverse current	I_R	V_R = 20 V, T_j = 25 °C	1	1	1	1	mA
		V_R = 20 V, T_j = 125 °C	20	20	20	20	
Thermal characteristics							
Thermal resistance, junction - case	R_{thJC}		0.16	0.16	0.16	0.16	°C/W

Figure .1- Typical Forward Characteristics

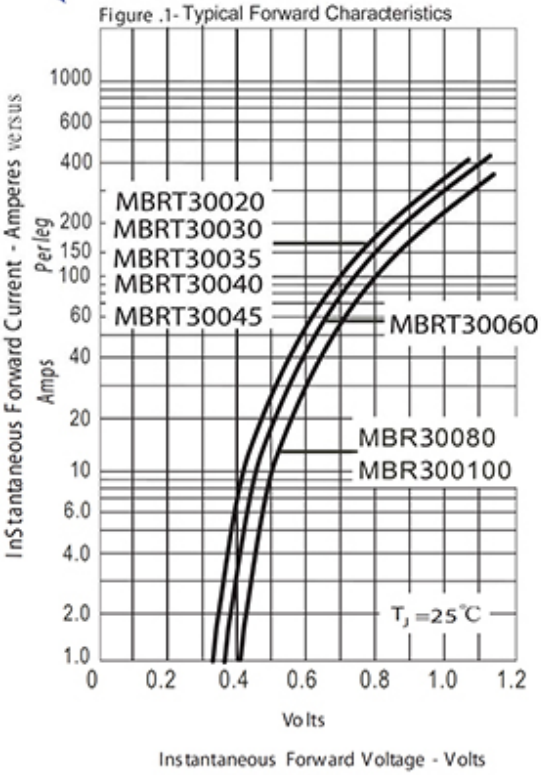

Figure .2- Forward Derating Curve

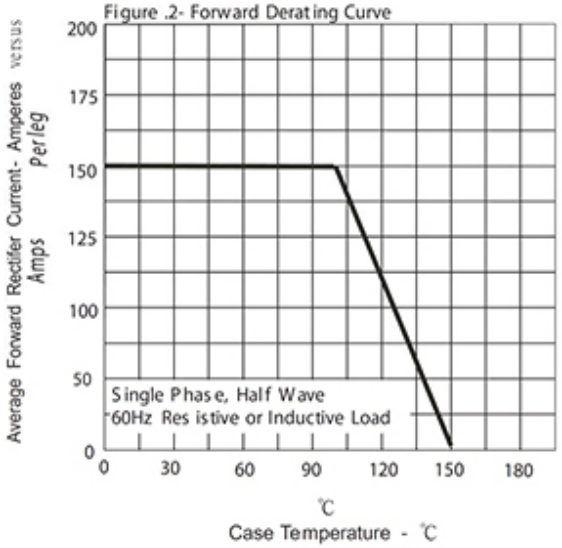

Figure.3-Peak Forward Surge Current

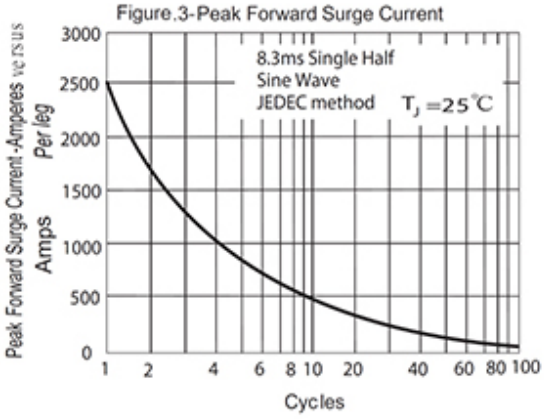

Figure .4- Typical Reverse Characteristics