America Semiconductor

MBR50045CT thru MBR500100CTR

Silicon Power Schottky Diode

V_{RRM} = 20 V - 100 V

I_F = 500 A

Features

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

Twin Tower Package

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

Parameter	Symbol	Conditions	MBR50045CT (R)	MBR50060CT (R)	MBR50080CT (R)	MBR500100CT (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	$T_C \leq 100$ °C	500	500	500	500	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	T_C = 25 °C, t_p = 8.3 ms	3500	3500	3500	3500	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	MBR50045CT (R)	MBR50060CT (R)	MBR50080CT (R)	MBR500100CT (R)	Unit
Diode forward voltage	V_F	I_F = 250 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}		0.12	0.12	0.12	0.12	°C/W

Figure .1-Typical Forward Characteristics

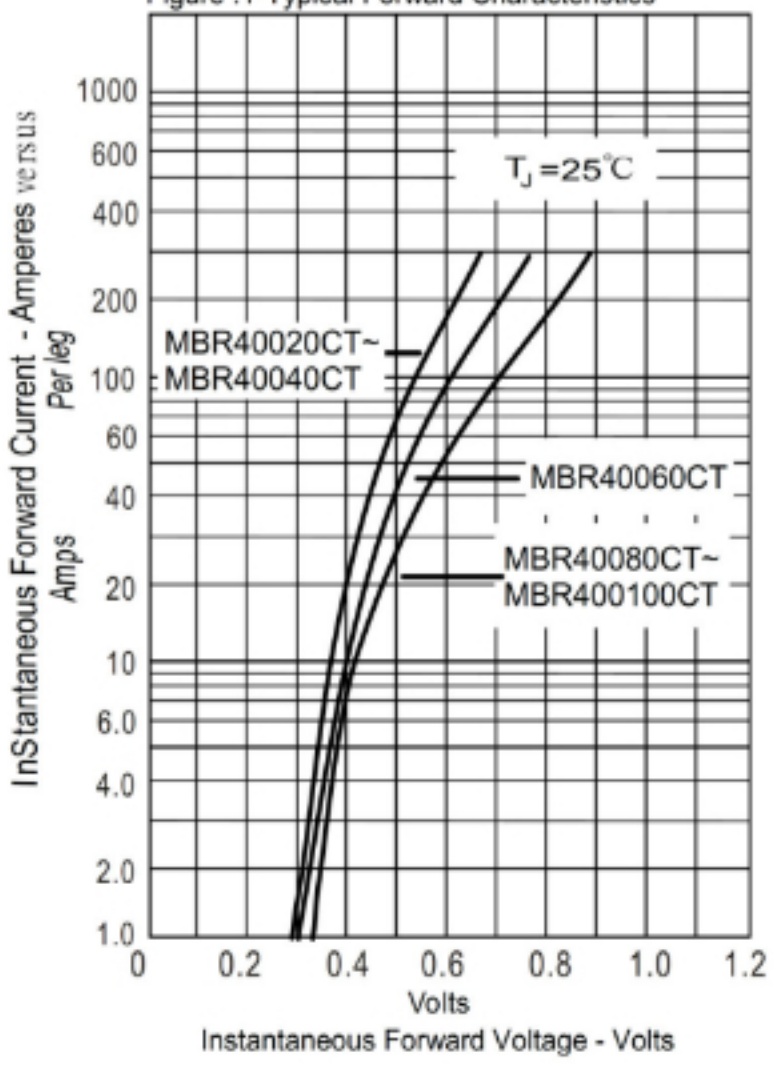

Figure .2- Forward Derating Curve

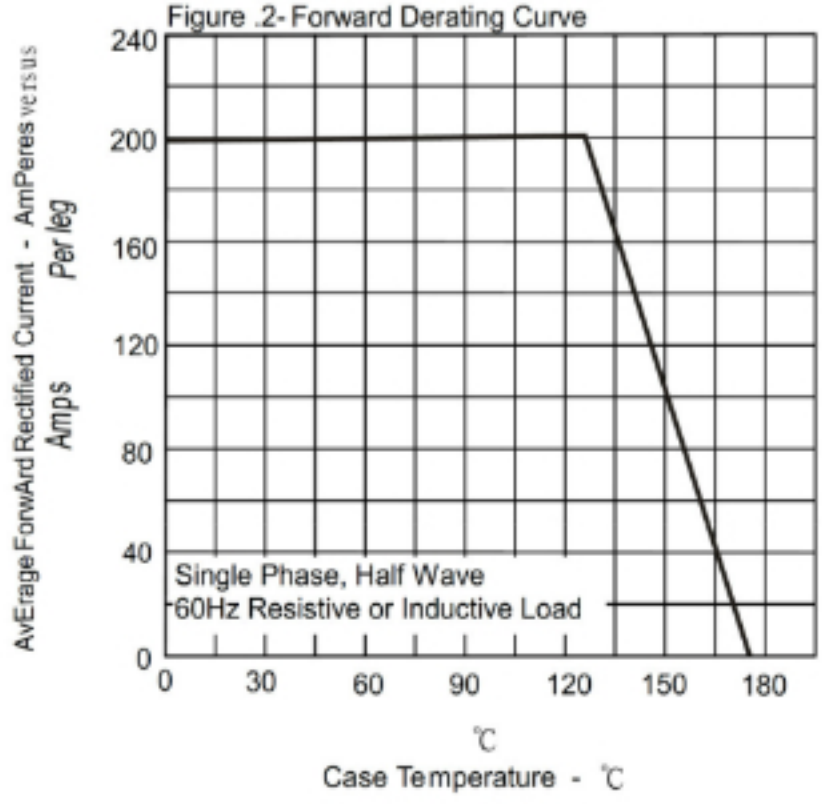

Figure .3- Peak Forward Surge Current

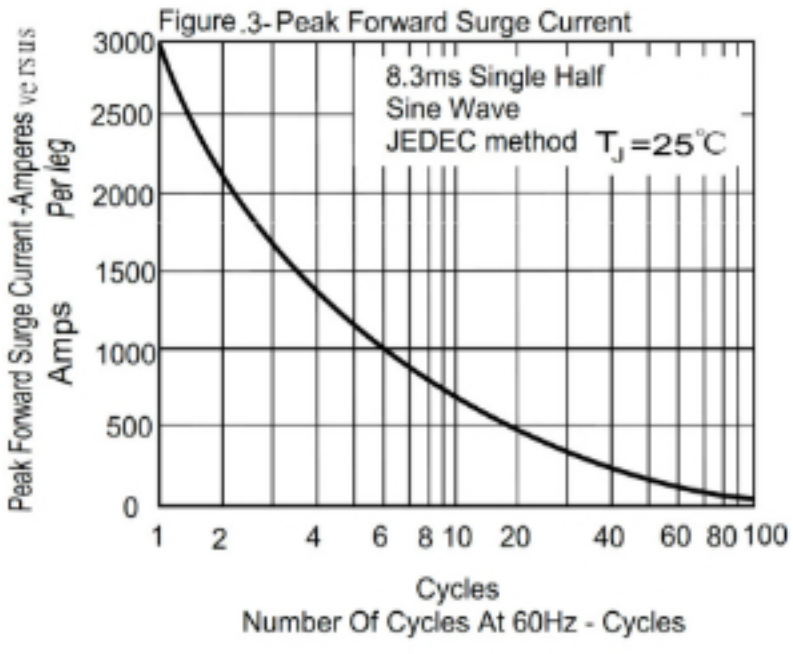

Figure .4- Typical Reverse Characteristics