



## Silicon Power Schottky Diode

### Features

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

## MBR50020CT thru MBR50040CTR

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

$$I_F = 500 \text{ A}$$

Twin Tower Package



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

Parameter	Symbol	Conditions	MBR50020CT (R)	MBR50030CT (R)	MBR50035CT (R)	MBR50040CT (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	$I_F$	$T_C \leq 100^\circ\text{C}$	500	500	500	500	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	$T_C = 25^\circ\text{C}$ , $t_p = 8.3 \text{ ms}$	3500	3500	3500	3500	A
Operating temperature	$T_J$		-40 to 150	-40 to 150	-40 to 150	-40 to 150	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-40 to 175	-40 to 175	-40 to 175	-40 to 175	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	MBR50020CT (R)	MBR50030CT (R)	MBR50035CT (R)	MBR50040CT (R)	Unit
Diode forward voltage	$V_F$	$I_F = 250 \text{ A}$ , $T_J = 25^\circ\text{C}$	0.75	0.75	0.75	0.75	V
Reverse current	$I_R$	$V_R = 20 \text{ V}$ , $T_J = 25^\circ\text{C}$	1	1	1	1	mA
		$V_R = 20 \text{ V}$ , $T_J = 125^\circ\text{C}$	20	20	20	20	

### Thermal characteristics

Thermal resistance, junction - case	$R_{\theta JC}$		0.12	0.12	0.12	0.12	$^\circ\text{C/W}$
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Figure .1-Typical Forward Characteristics

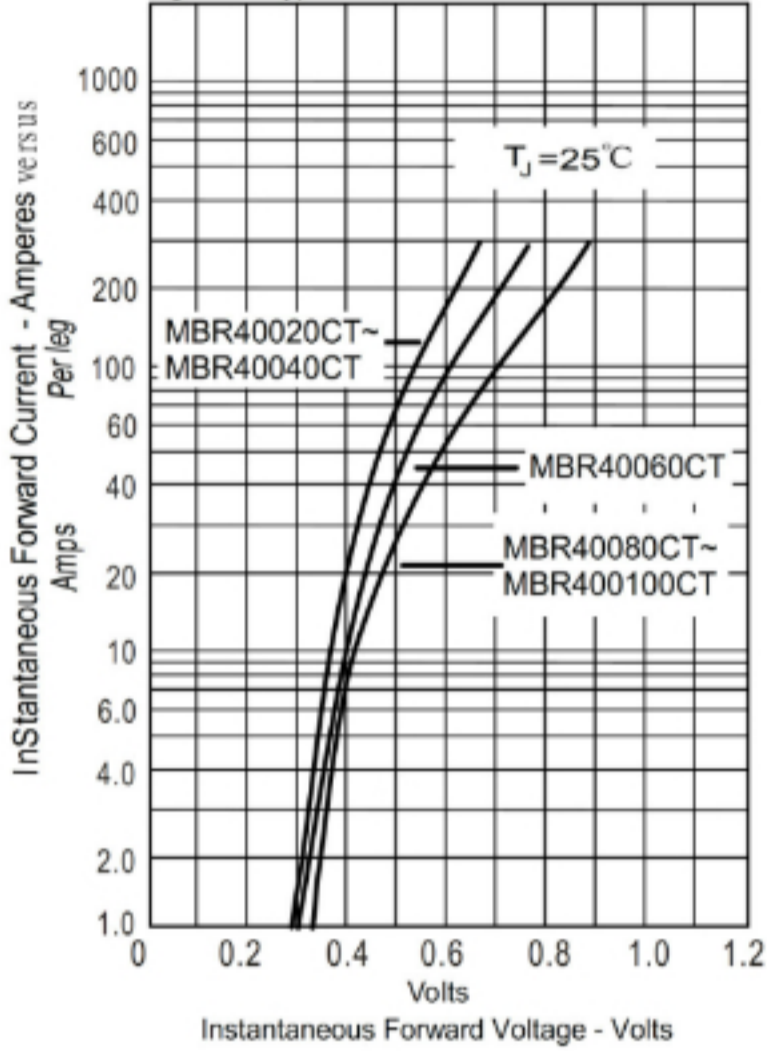


Figure .2- Forward Derating Curve

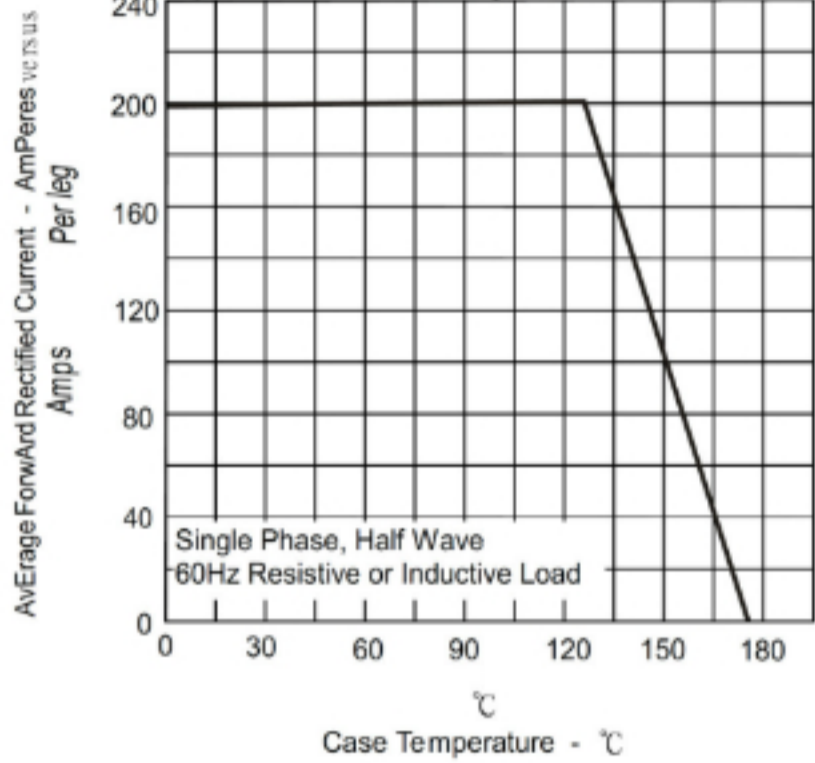


Figure .3-Peak Forward Surge Current

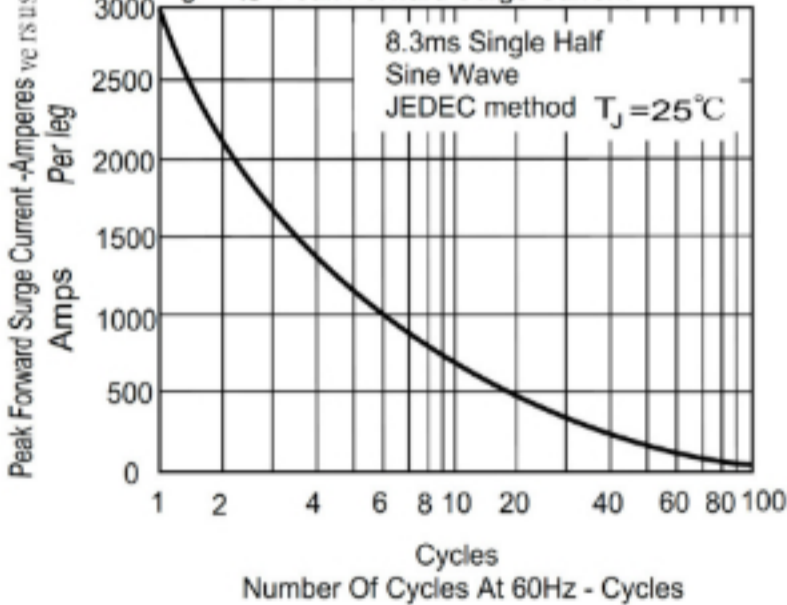


Figure .4- Typical Reverse Characteristics

