



America Semiconductor

**Silicon Power
Schottky Diode**

**MBR50045CT thru
MBR500100CTR**

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

$I_F = 500\text{ A}$

Features

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

Twin Tower Package



Maximum ratings, at $T_j = 25\text{ }^\circ\text{C}$, 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	$T_C \leq 100\text{ }^\circ\text{C}$	500	500	500	500	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	$T_C = 25\text{ }^\circ\text{C}$, $t_p = 8.3\text{ ms}$	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 $T_j = 25\text{ }^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Conditions	MBR50045CT (R)	MBR50060CT (R)	MBR50080CT (R)	MBR500100CT (R)	Unit
Diode forward voltage	V_F	$I_F = 250\text{ A}$, $T_j = 25\text{ }^\circ\text{C}$	0.75	0.8	0.88	0.88	V
Reverse current	I_R	$V_R = 20\text{ V}$, $T_j = 25\text{ }^\circ\text{C}$	1	1	1	1	mA
		$V_R = 20\text{ V}$, $T_j = 125\text{ }^\circ\text{C}$	20	20	20	20	

Thermal characteristics

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

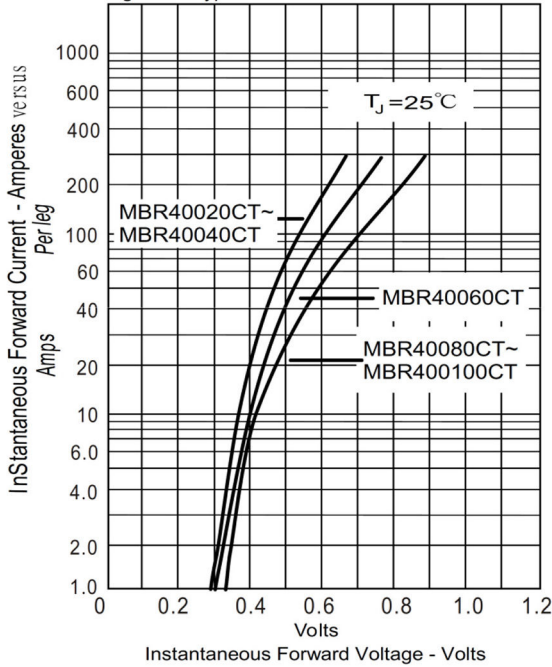


Figure .2- Forward Derating Curve

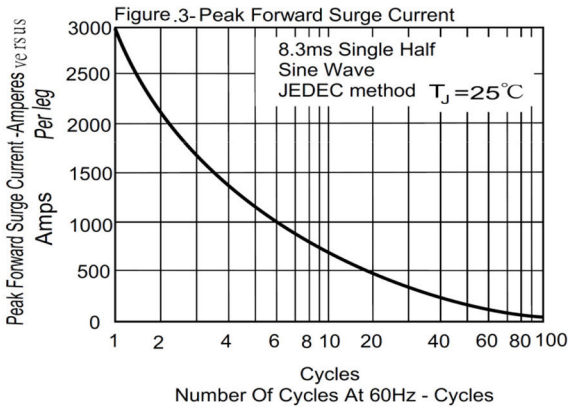
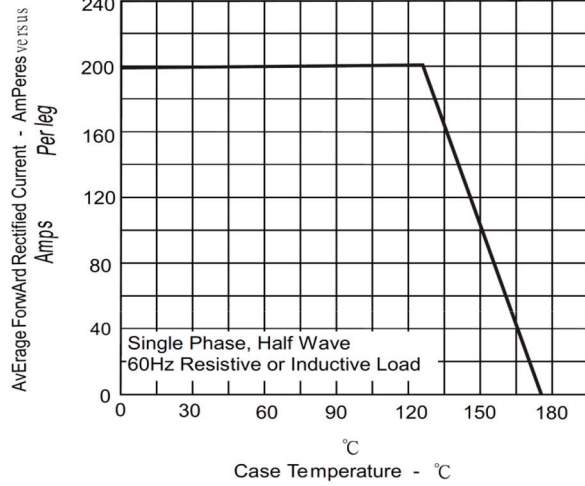


Figure .4- Typical Reverse Characteristics

