



# America Semiconductor

## Silicon Power Schottky Diode

### MBRF20020 thru MBRF20040R

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

$I_F = 200\text{ A}$

#### Features

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

TO-244AB Package



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

Parameter	Symbol	Conditions	MBRF20020 (R)	MBRF20030 (R)	MBRF20035 (R)	MBRF20040 (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	$I_F$	$T_C \leq 140\text{ }^\circ\text{C}$	200	200	200	200	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	$T_C = 25\text{ }^\circ\text{C}$ , $t_p = 8.3\text{ ms}$	1500	1500	1500	1500	A
Operating temperature	$T_j$		-40 to 175	-40 to 175	-40 to 175	-40 to 175	$^\circ\text{C}$
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	MBRF20020 (R)	MBRF20030 (R)	MBRF20035 (R)	MBRF20040 (R)	Unit
Diode forward voltage	$V_F$	$I_F = 100\text{ A}$ , $T_j = 25\text{ }^\circ\text{C}$	0.65	0.65	0.65	0.65	V
Reverse current	$I_R$	$V_R = 20\text{ V}$ , $T_j = 25\text{ }^\circ\text{C}$	5	5	5	5	mA
		$V_R = 20\text{ V}$ , $T_j = 125\text{ }^\circ\text{C}$	200	200	200	200	

#### Thermal characteristics

Thermal resistance, junction - case	$R_{thJC}$		0.5	0.5	0.5	0.5	$^\circ\text{C/W}$
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Figure .1-Typical Forward Characteristics

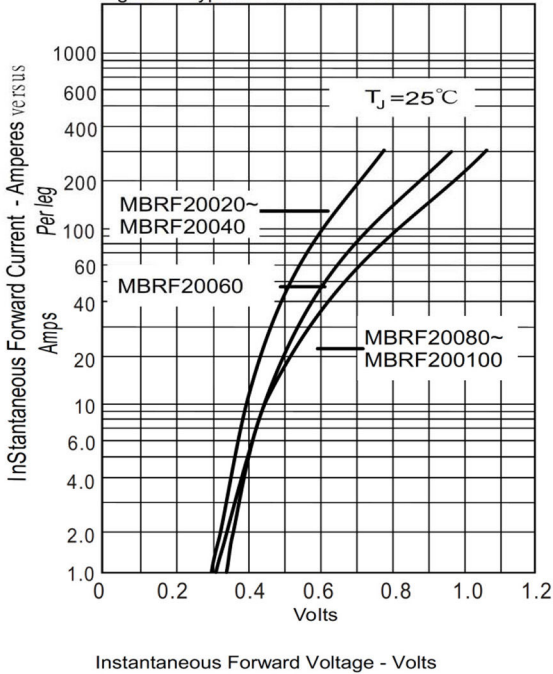
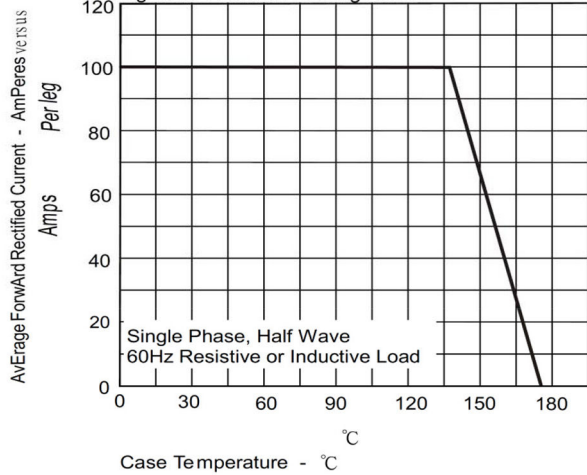


Figure .2-Forward Derating Curve



Instantaneous Forward Voltage - Volts

Figure.3-Peak Forward Surge Current

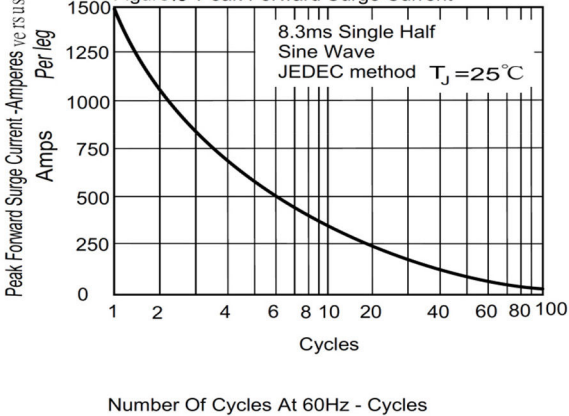


Figure .4-Typical Reverse Characteristics

