

## Silicon Power Schottky Diode

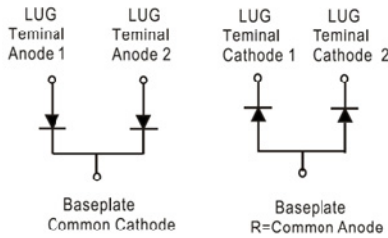
$V_{RRM} = 20\text{ V} - 40\text{ V}$

$I_{F(AV)} = 500\text{ A}$

### Features

- High Surge Capability
- Types from 20 V to 40 V  $V_R$
- Not ESD Sensitive

TO-244AB Package



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

Parameter	Symbol	Conditions	MBRF50020(R)	MBRF50030(R)	MBRF50035(R)	MBRF50040(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
Operating temperature	$T_j$		-55 to 150	-55 to 150	-55 to 150	-55 to 150	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-55 to 150	-55 to 150	-55 to 150	-55 to 150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	MBRF50020(R)	MBRF50030(R)	MBRF50035(R)	MBRF50040(R)	Unit
Average forward current (per pkg)	$I_{F(AV)}$	$T_C = 125\text{ }^\circ\text{C}$	500	500	500	500	A
Peak forward surge current (per leg)	$I_{FSM}$	$t_p = 8.3\text{ ms}$ , half sine	3500	3500	3500	3500	A
Maximum forward voltage (per leg)	$V_F$	$I_{FM} = 250\text{ A}$ , $T_j = 25\text{ }^\circ\text{C}$	0.75	0.75	0.75	0.75	V
Reverse current at rated DC blocking voltage (per leg)	$I_R$	$T_j = 25\text{ }^\circ\text{C}$	1	1	1	1	mA
		$T_j = 100\text{ }^\circ\text{C}$	10	10	10		
		$T_j = 150\text{ }^\circ\text{C}$	50	50	50		

### Thermal characteristics

Thermal resistance, junction-case (per leg)	$R_{\theta JC}$		0.30	0.30	0.30	0.30	$^\circ\text{C/W}$
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Figure .1- Typical Forward Characteristics

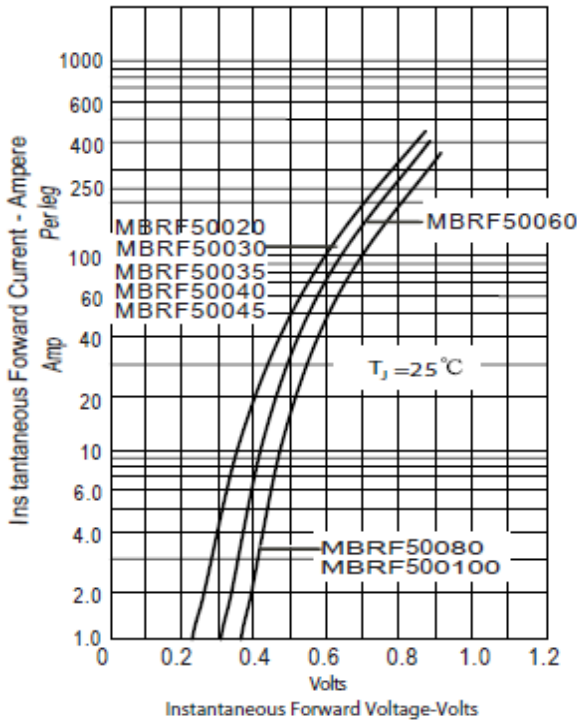


Figure .2- Forward Derating Curve

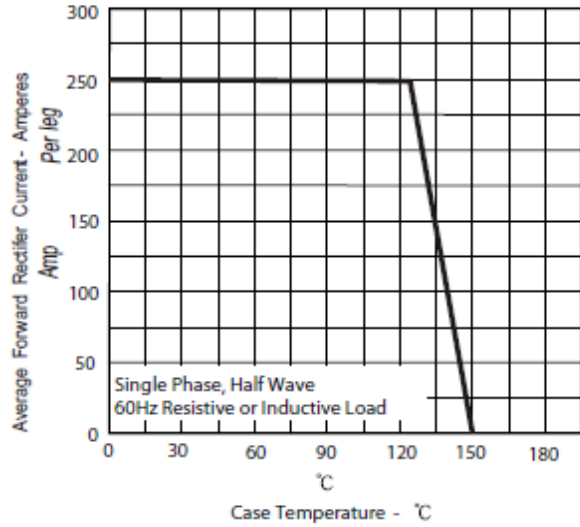


Figure.3-Peak Forward Surge Current

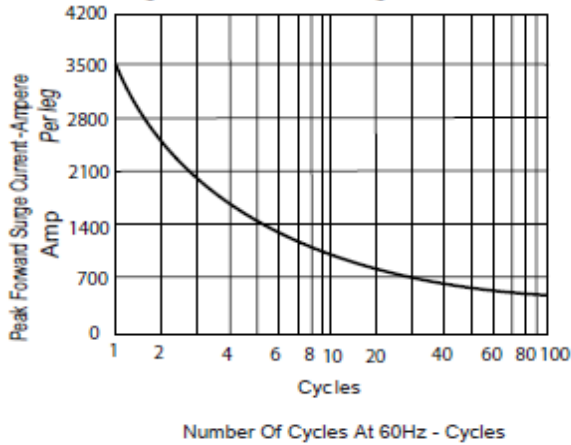
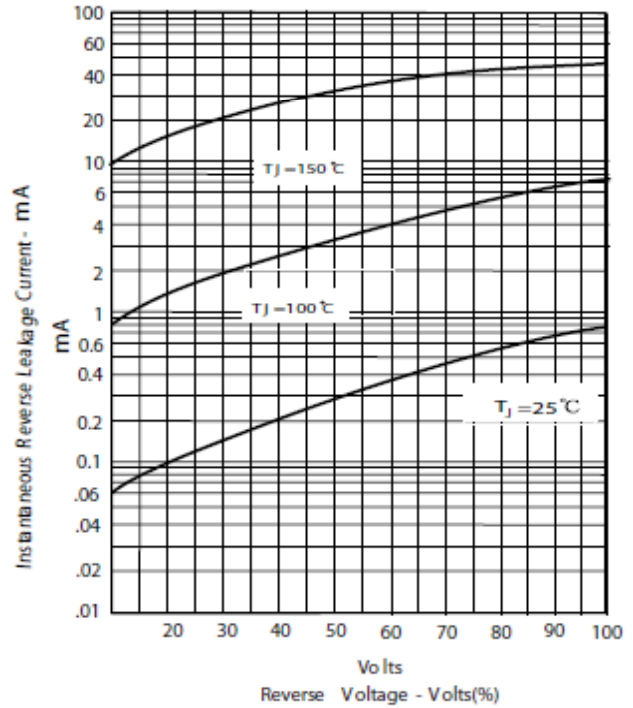
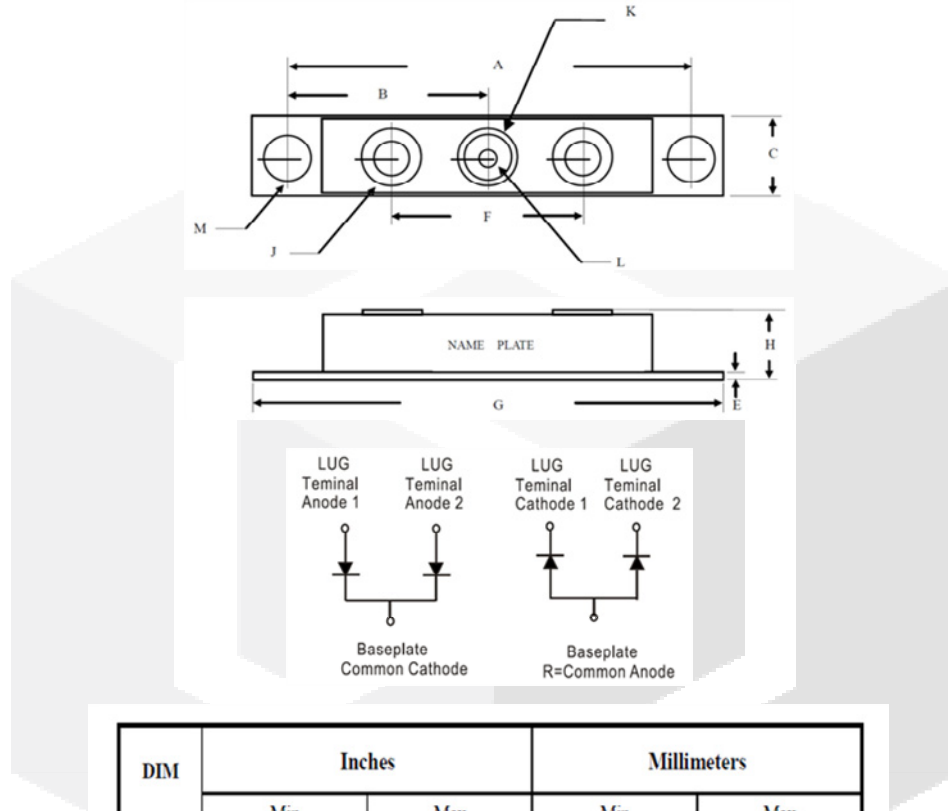


Figure .4- Typical Reverse Characteristics



## Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



DIM	Inches		Millimeters	
	Min	Max	Min	Max
A	3.144	NOM	79.85	NOM
B	1.565	1.585	39.75	40.26
C	0.700	0.800	17.78	20.32
E	0.119	0.14	3.02	3.50
F	1.358	REF.	34.50	REF.
G	3.55	3.65	90.17	92.71
H	0.604	0.65	15.35	16.51
J	1/4-20 UNC FULL			
K	0.380	0.410	9.65	10.41
L	0.185	0.195	4.70	4.95
M	0.275	0.295	6.99	7.49