

Silicon Power Schottky Diode

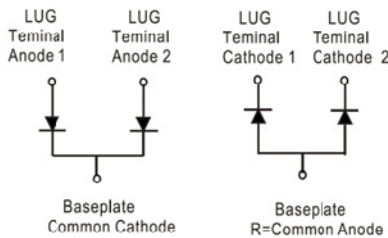
$$V_{RRM} = 20 \text{ V} - 40 \text{ V}$$

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

Features

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

TO-244AB Package



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

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

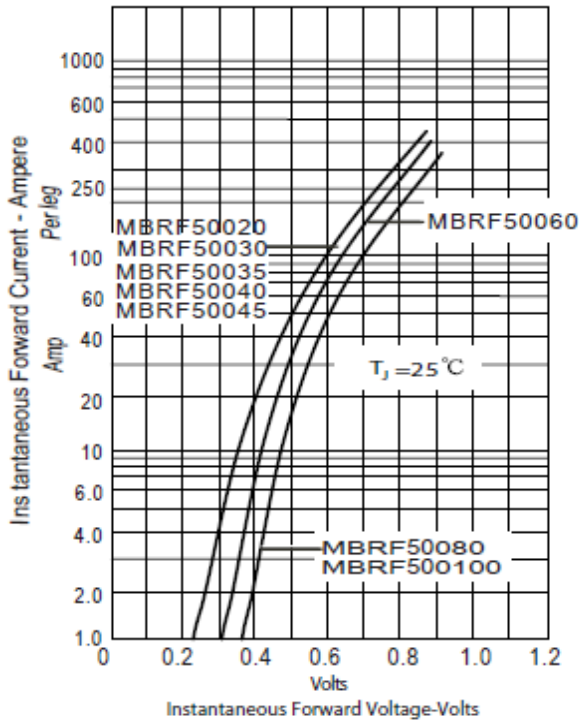


Figure .2- Forward Derating Curve

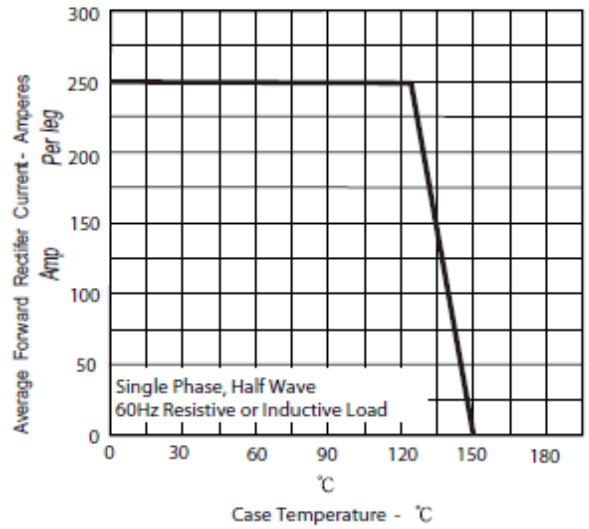


Figure.3-Peak Forward Surge Current

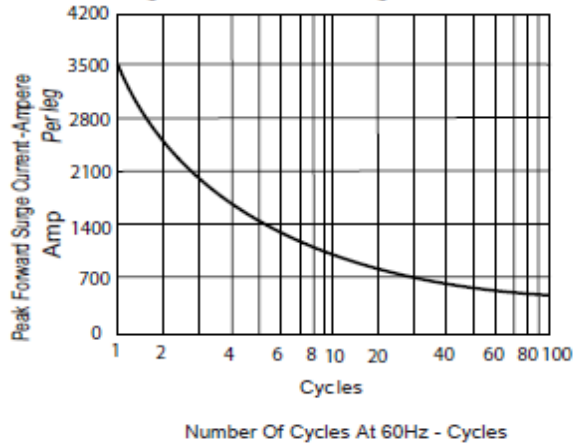
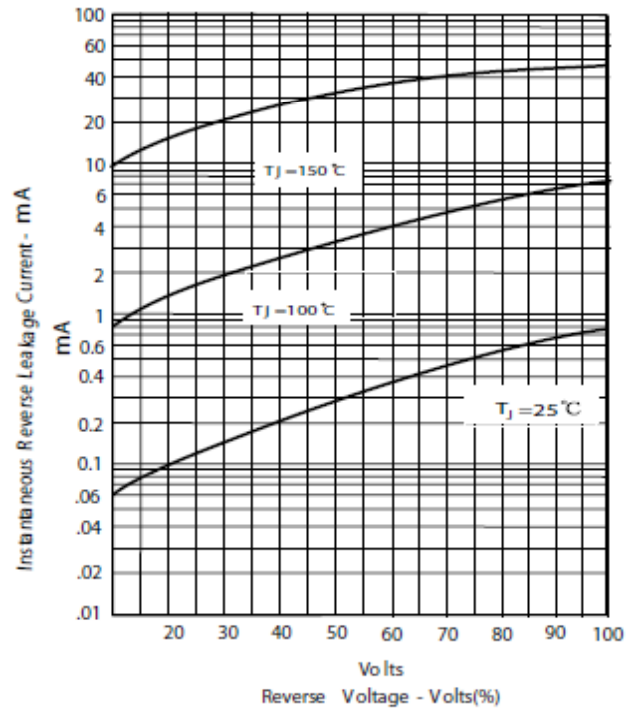
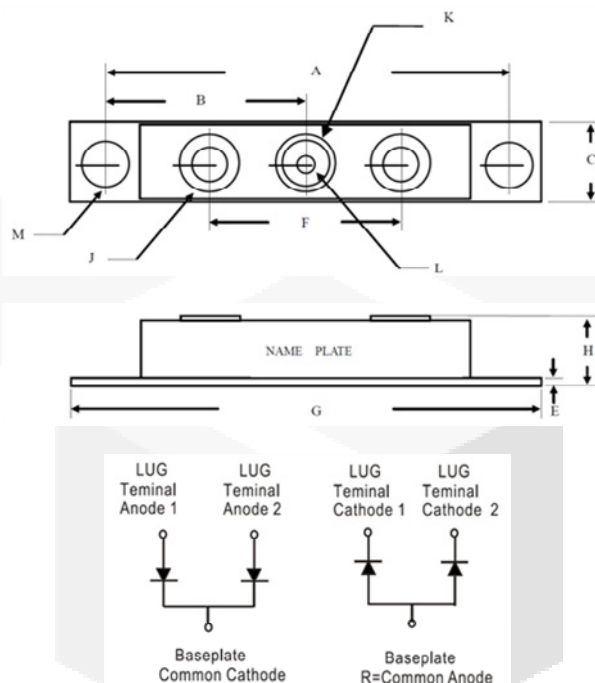


Figure .4- Typical Reverse Characteristics



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