

Silicon Power Schottky Diode

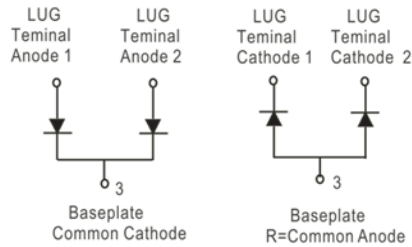
$V_{RRM} = 45\text{ V} - 100\text{ V}$

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

Features

- High Surge Capability
- Types from 45 to 100 V V_{RRM}
- Not ESD Sensitive

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	57	70	V
DC blocking voltage	V_{DC}		45	60	80	100	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	MBR50045CT(R)	MBR50060CT(R)	MBR50080CT(R)	MBR500100CT(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	0.78	0.84	0.84	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	10	
		$T_j = 150\text{ }^{\circ}\text{C}$	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

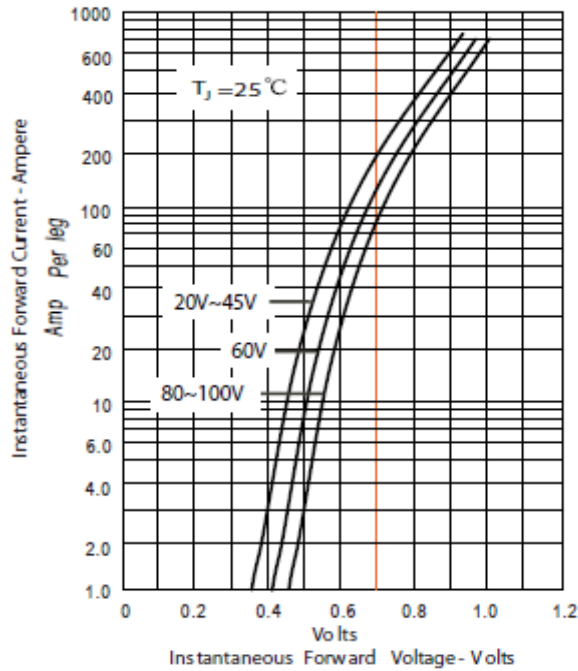


Figure .2- Forward Derating Curve

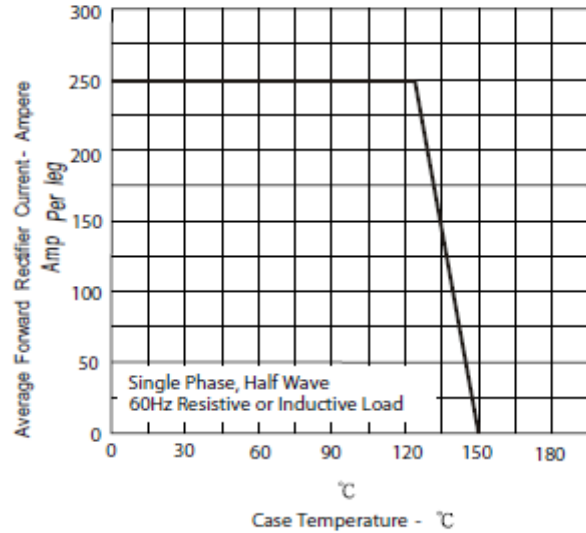


Figure .3- Peak Forward Surge Current

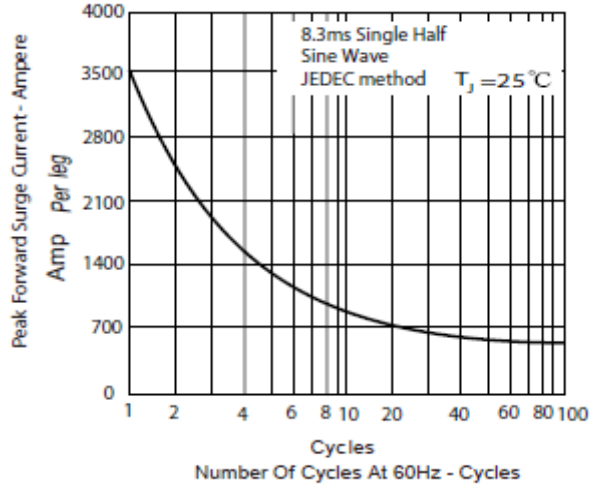
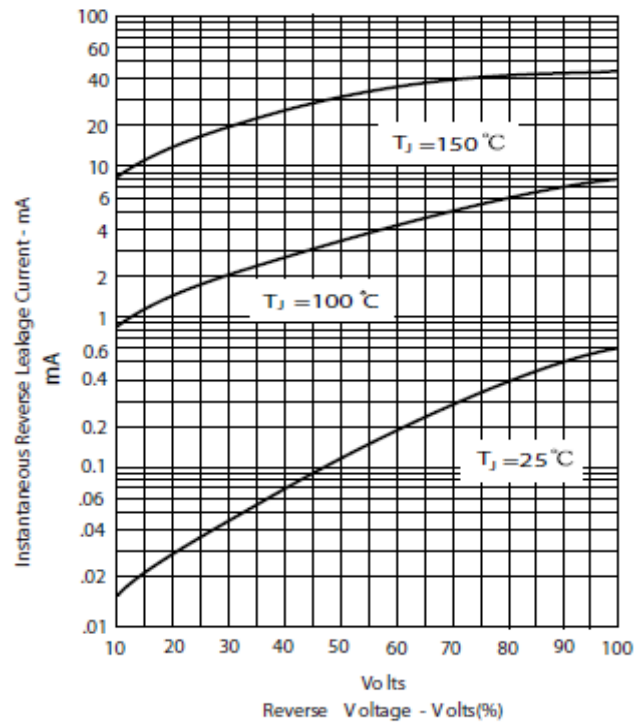
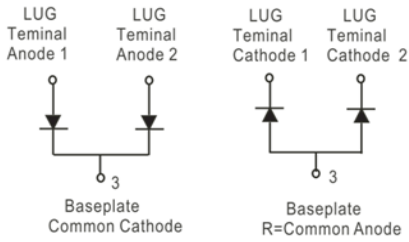
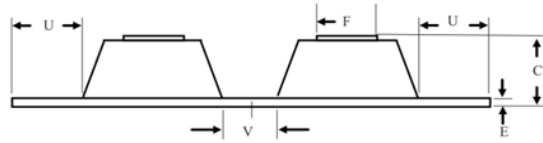
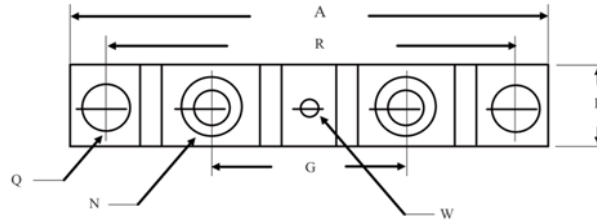


Figure .4- Typical Reverse Characteristics



Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



DIM	Inches		Millimeters	
	Min	Max	Min	Max
A	-----	3.630	-----	92.40
B	0.700	0.800	17.78	20.32
C	-----	0.650	-----	16.51
E	0.130	0.141	3.30	3.60
F	0.482	0.490	12.25	12.45
G	1.368	BSC	34.75	BSC
N	1/4-20 UNC FULL			
Q	0.275	0.290	6.99	7.37
R	3.150	BSC	80.01	BSC
U	0.600	-----	15.24	-----
V	0.312	0.370	7.92	9.40
W	0.180	0.195	4.57	4.95