

Silicon Super Fast Recovery Diode

 $V_{RRM} = 50\text{ V} - 600\text{ V}$
 $I_F = 300\text{ A}$

Features

- High Surge Capability
- Types up to 600 V V_{RRM}

Three Tower Package


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

Parameter	Symbol	Conditions	MURT30005 (R)	MURT30010 (R)	MURT30020 (R)	Unit
Repetitive peak reverse voltage	V_{RRM}		50	100	200	V
RMS reverse voltage	V_{RMS}		35	71	141	V
DC blocking voltage	V_{DC}		50	100	200	V
Continuous forward current	I_F	$T_C \leq 125\text{ °C}$	300	300	300	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	$T_C = 25\text{ °C}$, $t_p = 8.3\text{ ms}$	2750	2750	2750	A
Operating temperature	T_j		-40 to 175	-40 to 175	-40 to 175	°C
Storage temperature	T_{stg}		-40 to 175	-40 to 175	-40 to 175	°C

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

Parameter	Symbol	Conditions	MURT30005 (R)	MURT30010 (R)	MURT30020 (R)	Unit
Diode forward voltage	V_F	$I_F = 150\text{ A}$, $T_j = 25\text{ °C}$	1.3	1.3	1.3	V
Reverse current	I_R	$V_R = 50\text{ V}$, $T_j = 25\text{ °C}$	25	25	25	μA
		$V_R = 50\text{ V}$, $T_j = 125\text{ °C}$	2	2	2	mA

Recovery Time

Maximum reverse recovery time	T_{RR}	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{RR} = 0.25\text{ A}$	100	100	100	nS
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Thermal characteristics

Thermal resistance, junction - case	R_{thJC}		0.16	0.16	0.16	°C/W
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Figure .1- Typical Forward Characteristics

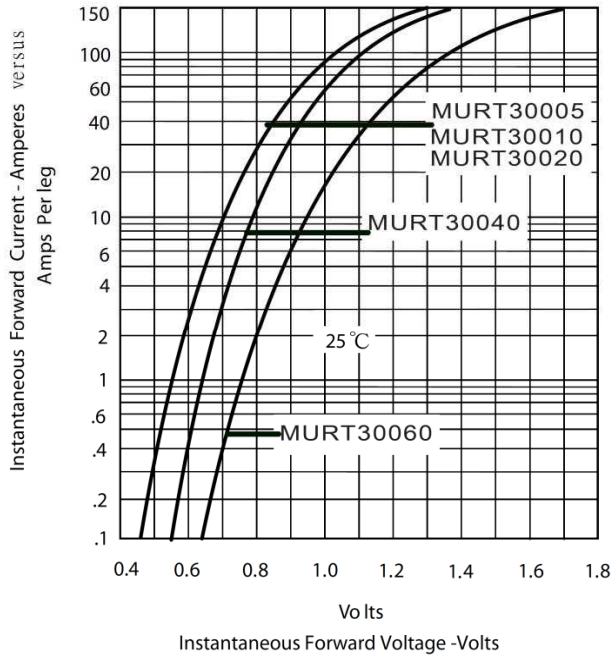


Figure .2- Forward Derating Curve

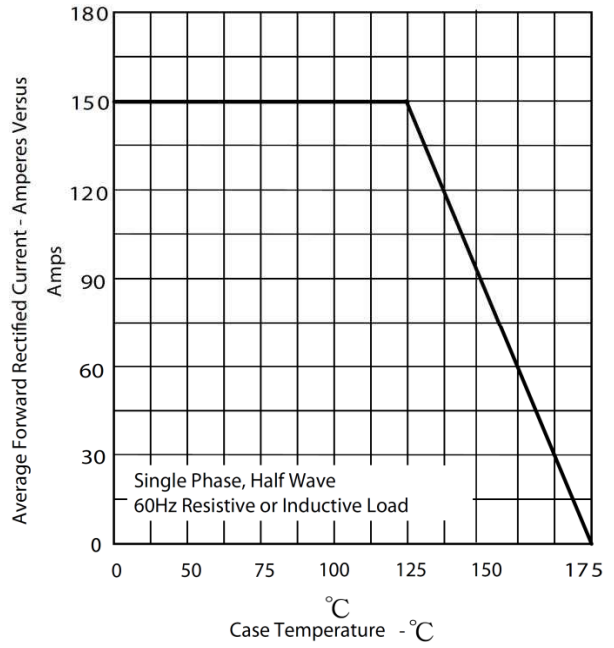


Figure.3- Peak Forward Surge Current

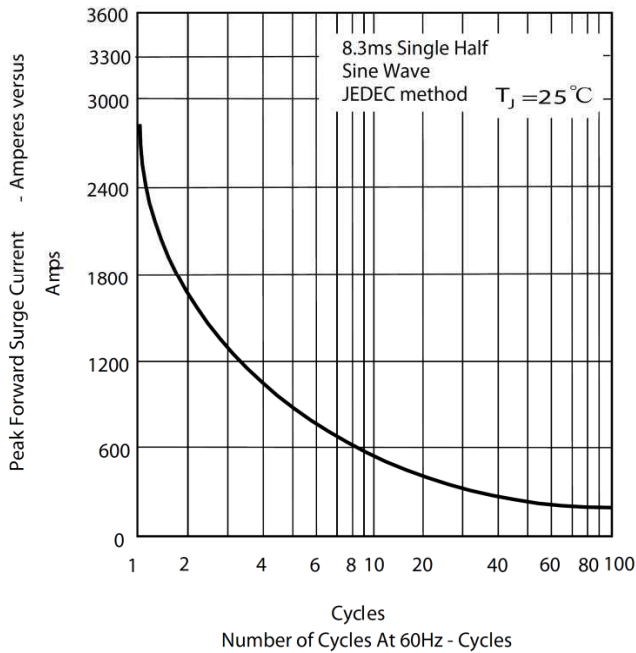
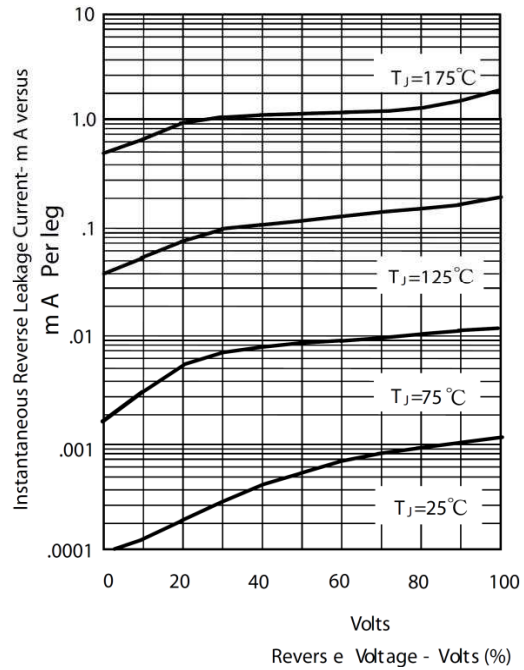
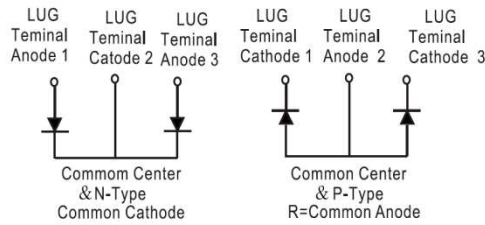
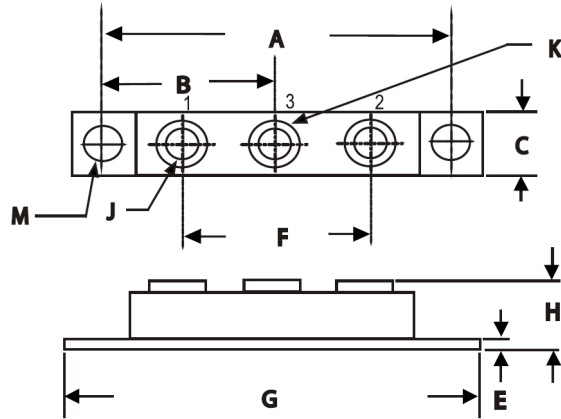


Figure.4- Typical Reverse Characteristics



Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



DIM	Inches		Millimeters	
	Min	Max	Min	Max
A	3.150	NOM	80.01	NOM
B	1.565	1.585	39.75	40.26
C	.700	.800	17.78	20.32
E	.119	.132	3.02	3.35
F	1.327	REF	33.72	REF
G	3.550	3.65	90.17	92.71
H	—	.73	—	18.30
J	1/4-20 UNC FULL			
K	.472	.511	12.00	13.00
M	.275	.295	6.99	7.49
N	2.380	2.46	60.50	62.50