

America Semiconductor



"In America Semi We Trust"

MANUFACTURER OF WORLD CLASS HIGH POWER SEMICONDUCTORS

America Semiconductor

Silicon Super Fast Recovery Diode

Features

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

MURT40040 thru MURT40060R

$V_{RRM} = 50 \text{ V} - 600 \text{ V}$
 $I_F = 400 \text{ A}$

Three Tower Package



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

Parameter	Symbol	Conditions	MURT40040 (R)	MURT40060 (R)	Unit
Repetitive peak reverse voltage	V_{RRM}		400	600	V
RMS reverse voltage	V_{RMS}		283	424	V
DC blocking voltage	V_{DC}		400	600	V
Continuous forward current	I_F	$T_C \leq 125^\circ\text{C}$	400	400	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	$T_C = 25^\circ\text{C}, t_p = 8.3 \text{ ms}$	3300	3300	A
Operating temperature	T_j		-40 to 175	-40 to 175	$^\circ\text{C}$
Storage temperature	T_{stg}		-40 to 175	-40 to 175	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	MURT40040 (R)	MURT40060 (R)	Unit
Diode forward voltage	V_F	$I_F = 200 \text{ A}, T_j = 25^\circ\text{C}$	1.35	1.7	V
Reverse current	I_R	$V_R = 50 \text{ V}, T_j = 25^\circ\text{C}$	25	25	μA
		$V_R = 50 \text{ V}, T_j = 125^\circ\text{C}$	3	3	mA
Recovery Time					
Maximum reverse recovery time	T_{RR}	$I_F = 0.5 \text{ A}, I_R = 1.0 \text{ A}, I_{RR} = 0.25 \text{ A}$	180	240	nS
Thermal characteristics					
Thermal resistance, junction - case	R_{thJC}		0.14	0.14	$^\circ\text{C/W}$



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MURT40040 thru MURT40060R

Figure .1- Typical Forward Characteristics

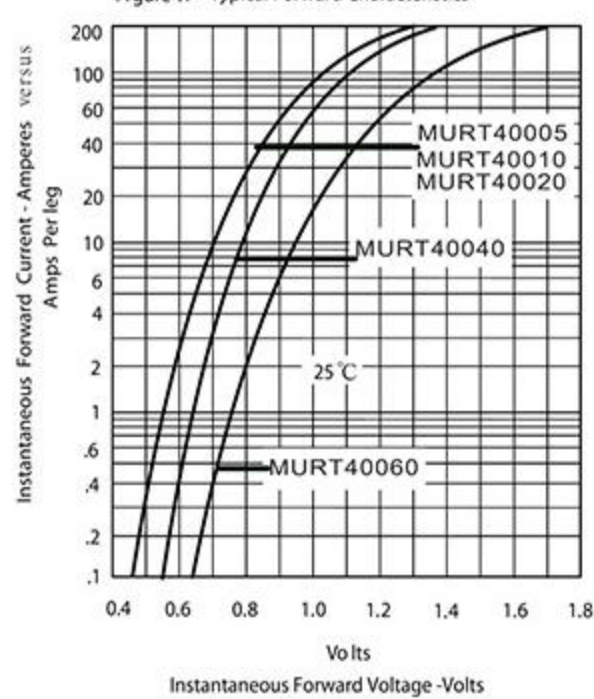


Figure .2- Forward Derating Curve

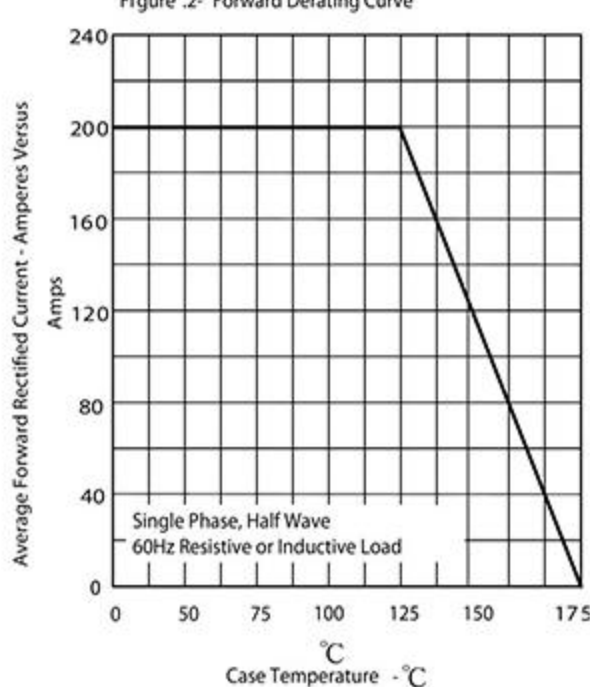


Figure.3- Peak Forward Surge Current

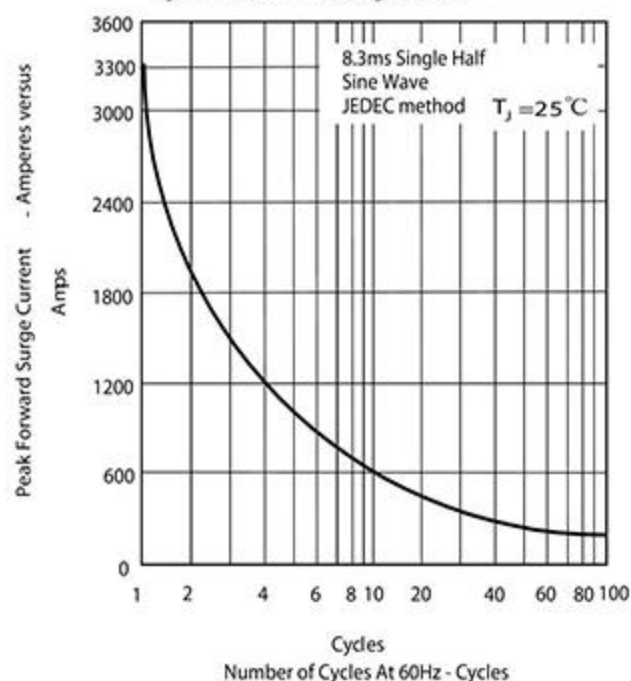
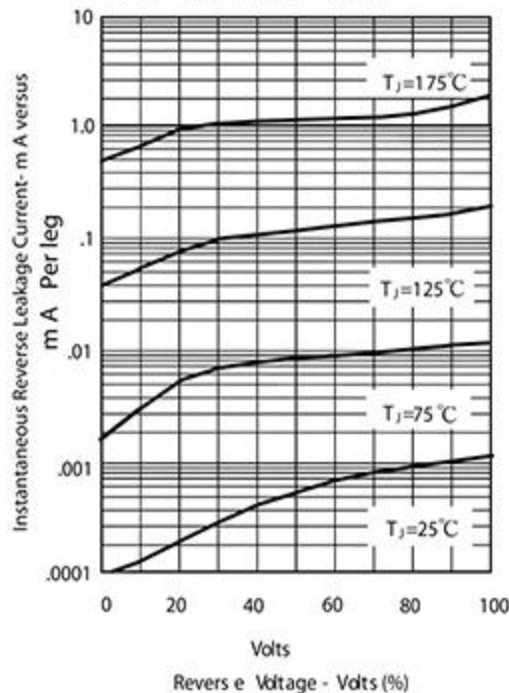


Figure.4- Typical Reverse Characteristics



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