

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}

MURT20005 thru MURT20020R

V_{RRM} = 50 V - 600 V

I_F = 200 A

Three Tower Package



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

Parameter	Symbol	Conditions	MURT20005 (R)	MURT20010 (R)	MURT20020 (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	$T_C \leq 140^\circ\text{C}$	200	200	200	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	$T_C = 25^\circ\text{C}$, $t_p = 8.3\text{ ms}$	2000	2000	2000	A
Operating temperature	T_J		-40 to 175	-40 to 175	-40 to 175	$^\circ\text{C}$
Storage temperature	T_{stg}		-40 to 175	-40 to 175	-40 to 175	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	MURT20005 (R)	MURT20010 (R)	MURT20020 (R)	Unit
Diode forward voltage	V _F	I _F = 100 A, T _J = 25 °C	1.3	1.3	1.3	V
Reverse current	I _R	V _R = 50 V, T _J = 25 °C	25	25	25	μA
		V _R = 50 V, T _J = 125 °C	1	1	1	mA
Recovery Time						
Maximum reverse recovery time	T _{RR}	I _F =0.5 A, I _R =1.0 A, I _{RR} = 0.25 A	75	75	75	nS
Thermal characteristics						
Thermal resistance, junction - case	R _{thJC}		0.18	0.18	0.18	°C/W



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MURT20005 thru MURT20020R

Figure .1- Typical Forward Characteristics

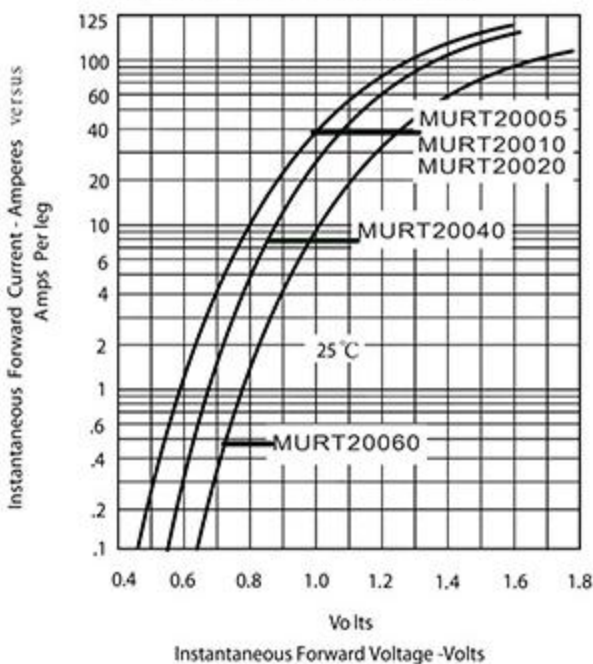


Figure .2- Forward Derating Curve

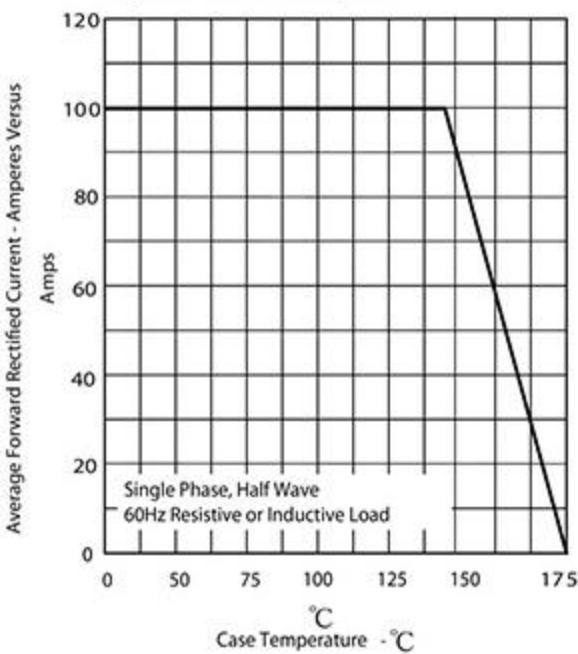


Figure.3- Peak Forward Surge Current

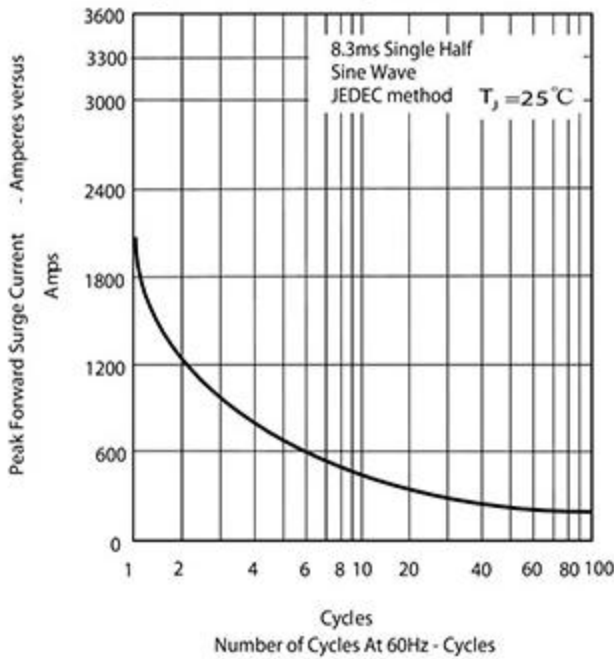
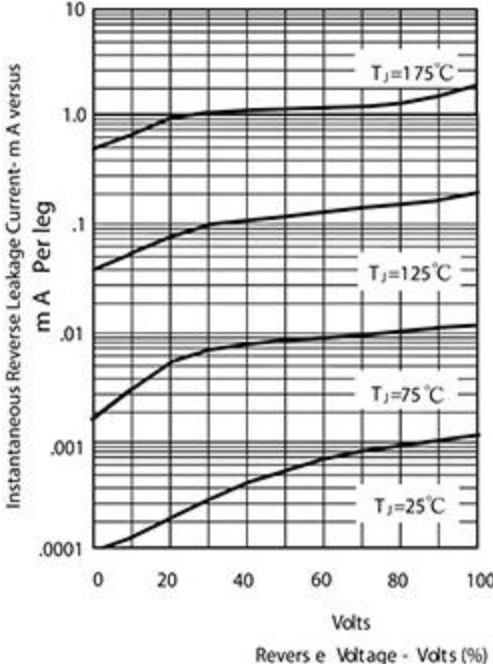


Figure.4- Typical Reverse Characteristics



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