



**America Semiconductor**

**Silicon Super Fast Recovery Diode**

**MURT10005 thru MURT10020R**

**$V_{RRM} = 50\text{ V} - 600\text{ V}$**

**$I_F = 100\text{ A}$**

**Features**

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

**Three Tower Package**



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

Parameter	Symbol	Conditions	MURT10005 (R)	MURT10010 (R)	MURT10020 (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	$I_F$	$T_C \leq 140\text{ }^\circ\text{C}$	100	100	100	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	$T_C = 25\text{ }^\circ\text{C}$ , $t_p = 8.3\text{ ms}$	400	400	400	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  $T_j = 25\text{ }^\circ\text{C}$ , unless otherwise specified**

Parameter	Symbol	Conditions	MURT10005 (R)	MURT10010 (R)	MURT10020 (R)	Unit
Diode forward voltage	$V_F$	$I_F = 50\text{ A}$ , $T_j = 25\text{ }^\circ\text{C}$	1.3	1.3	1.3	V
Reverse current	$I_R$	$V_R = 50\text{ V}$ , $T_j = 25\text{ }^\circ\text{C}$	25	25	25	$\mu\text{A}$
		$V_R = 50\text{ V}$ , $T_j = 125\text{ }^\circ\text{C}$	1	1	1	mA
<b>Recovery Time</b>						
Maximum reverse recovery time	$T_{RR}$	$I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{RR} = 0.25\text{ A}$	75	75	75	nS
<b>Thermal characteristics</b>						
Thermal resistance, junction - case	$R_{thJC}$		0.21	0.21	0.21	$^\circ\text{C/W}$





Figure .1- Typical Forward Characteristics

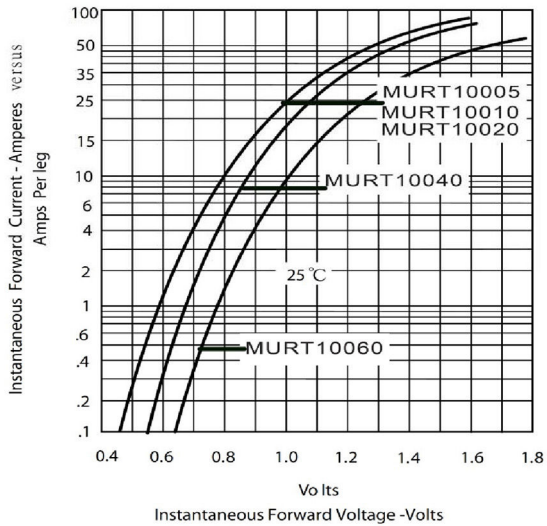


Figure .2- Forward Derating Curve

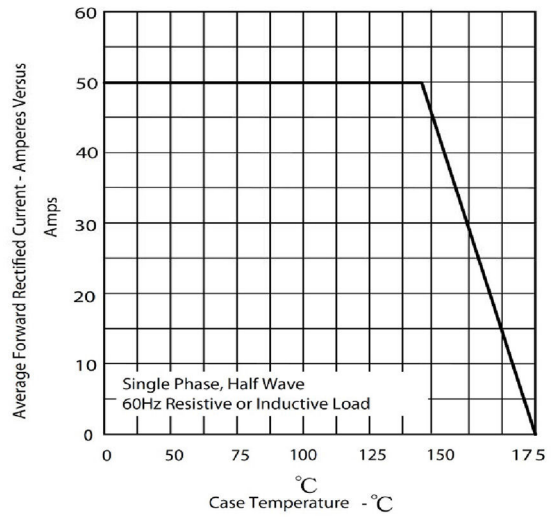


Figure.3- Peak Forward Surge Current

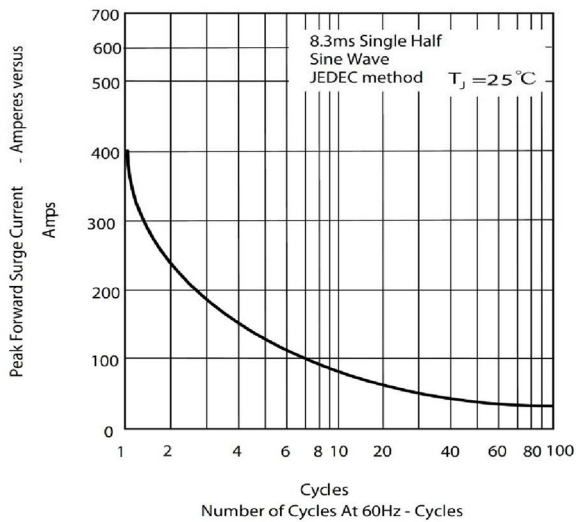


Figure.4- Typical Reverse Characteristics

