



America Semiconductor

Silicon Super Fast Recovery Diode

**MURT40005 thru
MURT40020R**

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

$I_F = 400\text{ A}$

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	MURT40005 (R)	MURT40010 (R)	MURT40020 (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	$T_C \leq 125\text{ }^{\circ}\text{C}$	400	400	400	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	$T_C = 25\text{ }^{\circ}\text{C}$, $t_p = 8.3\text{ ms}$	3300	3300	3300	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	MURT40005 (R)	MURT40010 (R)	MURT40020 (R)	Unit
Diode forward voltage	V _F	I _F = 200 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	3	3	3	mA
Recovery Time						
Maximum reverse recovery time	T _{RR}	I _F =0.5 A, I _R =1.0 A, I _{RR} = 0.25 A	125	125	125	nS
Thermal characteristics						
Thermal resistance, junction - case	R _{thJC}		0.14	0.14	0.14	°C/W





Figure .1- Typical Forward Characteristics

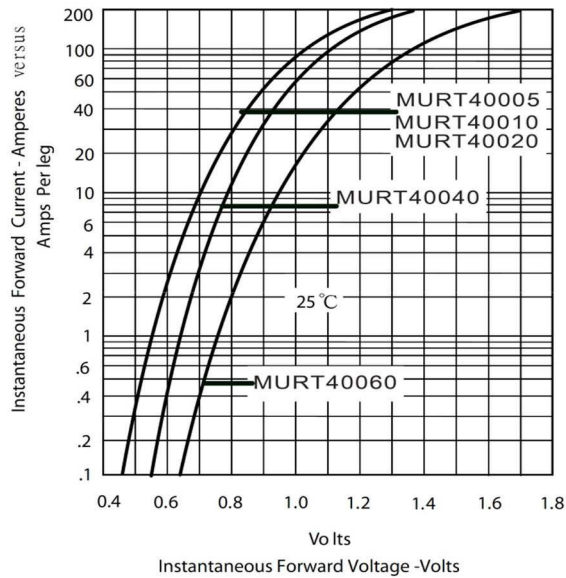


Figure .2- Forward Derating Curve

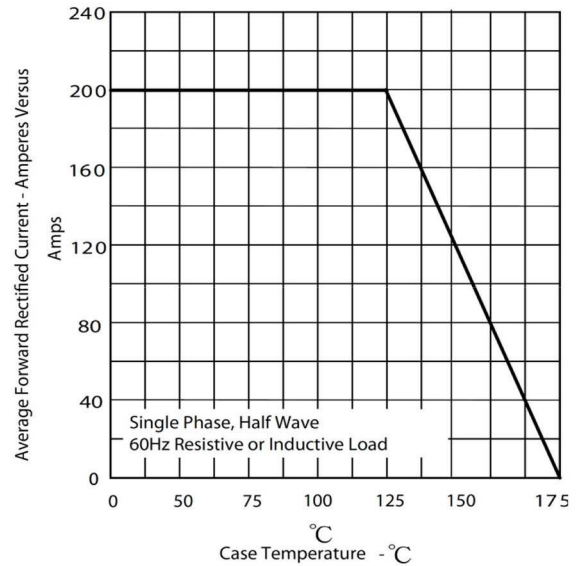


Figure.3- Peak Forward Surge Current

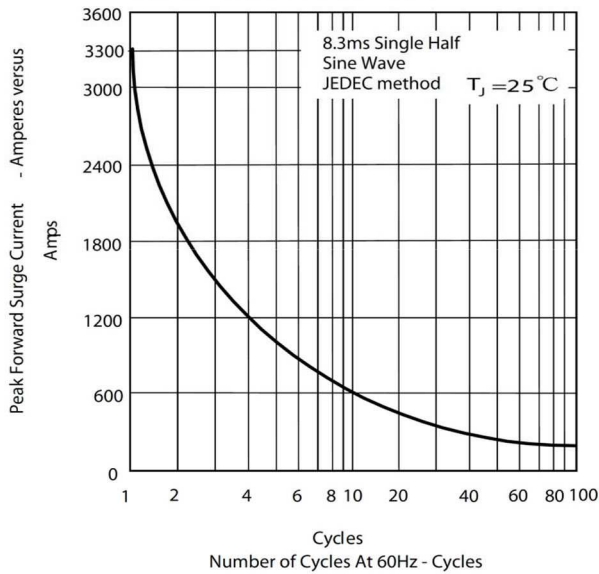


Figure.4- Typical Reverse Characteristics

