

**Silicon Super Fast  
Recovery Diode**
**MURTA50020 thru  
MURTA50060R**
 $V_{RRM} = 200\text{ V} - 600\text{ V}$ 
 $I_F = 500\text{ A}$ 
**Features**

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

**Heavy Three Tower Package**

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

Parameter	Symbol	Conditions	MURTA50020 (R)	MURTA50040 (R)	MURTA50060 (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	$I_F$	$T_C \leq 100\text{ }^\circ\text{C}$	500	500	500	A
Surge non-repetitive forward current, Half Sine Wave	$I_{FSM}$	$T_C = 25\text{ }^\circ\text{C}$ , $t_p = 8.3\text{ ms}$	3800	3800	3800	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	MURTA50020 (R)	MURTA50040 (R)	MURTA50060 (R)	Unit
Diode forward voltage	$V_F$	$I_F = 250\text{ A}$ , $T_J = 25\text{ }^\circ\text{C}$	1.3	1.5	1.7	V
Reverse current	$I_R$	$V_R = 50\text{ V}$ , $T_J = 25\text{ }^\circ\text{C}$	25	25	25	$\mu\text{A}$
		$V_R = 50\text{ V}$ , $T_J = 125\text{ }^\circ\text{C}$	5	5	5	mA

**Recovery Time**

Maximum reverse recovery time	$T_{RR}$	$I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{RR} = 0.25\text{ A}$	150	200	250	nS
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**Thermal characteristics**

Thermal resistance, junction - case	$R_{\theta JC}$		0.12	0.12	0.12	$^\circ\text{C/W}$
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Figure 1- Typical Forward Characteristics

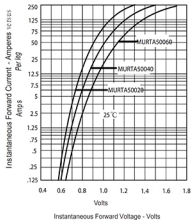


Figure 2- Forward Derating Curve

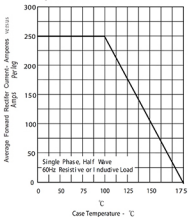


Figure 3- Peak Forward Surge Current

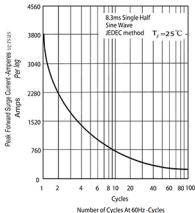


Figure 4- Typical Reverse Characteristics

