



Silicon Super Fast Recovery Diode

**MUR5005 thru
MUR5020R**

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

$I_F = 50\text{ A}$

Features

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

DO-5 Package

Note:

1. Standard polarity: Stud is cathode.
2. Reverse polarity (R): Stud is anode.
3. Stud is base.



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

Parameter	Symbol	Conditions	MUR5005 (R)	MUR5010 (R)	MUR5020 (R)	Unit
Repetitive peak reverse voltage	V_{RRM}		50	100	200	V
RMS reverse voltage	V_{RMS}		35	70	140	V
DC blocking voltage	V_{OC}		50	100	200	V
Continuous forward current	I_F	$T_C \leq 125\text{ }^{\circ}\text{C}$	50	50	50	A
Surge non-repetitive forward current, Half Sine Wave	I_{FSM}	$T_C = 25\text{ }^{\circ}\text{C}$, $t_p = 8.3\text{ ms}$	600	600	600	A
Operating temperature	T_J		-65 to 175	-65 to 175	-65 to 175	$^{\circ}\text{C}$
Storage temperature	T_{stg}		-65 to 175	-65 to 175	-65 to 175	$^{\circ}\text{C}$

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

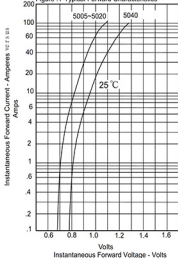
Parameter	Symbol	Conditions	MUR5005 (R)	MUR5010 (R)	MUR5020 (R)	Unit
Diode forward voltage	V_F	$I_F = 50\text{ A}$, $T_J = 25\text{ }^{\circ}\text{C}$	1	1	1	V
Reverse current	I_R	$V_R = 50\text{ V}$, $T_J = 25\text{ }^{\circ}\text{C}$	10	10	10	μA
		$V_R = 50\text{ V}$, $T_J = 125\text{ }^{\circ}\text{C}$	3	3	3	mA

Recovery Time

Maximum reverse recovery time	T_{RR}	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{RR} = 0.25\text{ A}$	75	75	75	nS
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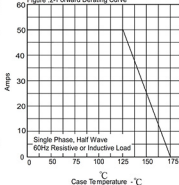


Figure 1-Typical Forward Characteristics



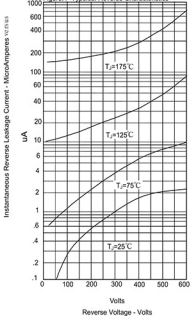
Instantaneous Forward Current - Amperes (0.1 to 200)

Figure 2-Forward Derating Curve



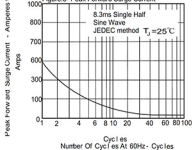
Average Forward Rectified Current - Amperes (0 to 60)

Figure 4- Typical Reverse Characteristics



Instantaneous Reverse Leakage Current - MicroAmperes (0.1 to 1000)

Figure 3- Peak Forward Surge Current



Peak Forward Surge Current - Amperes (0 to 1000)