



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 | μA |
| | | $V_R = 50\text{ V}$, $T_j = 125\text{ }^\circ\text{C}$ | 1 | 1 | 1 | 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 |
| Thermal characteristics | | | | | | |
| Thermal resistance, junction - case | R_{thJC} | | 0.21 | 0.21 | 0.21 | $^\circ\text{C/W}$ |





Figure .1- Typical Forward Characteristics

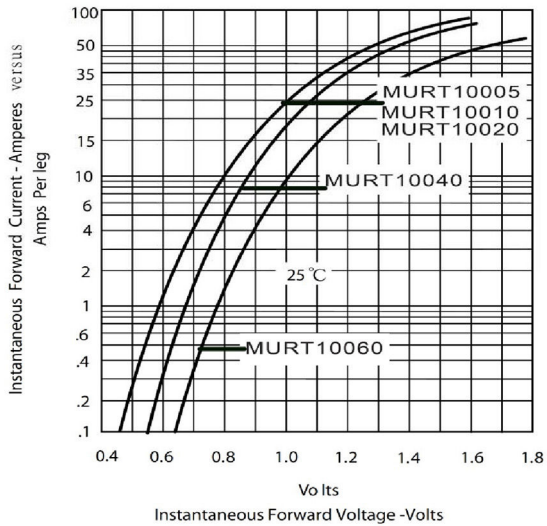


Figure .2- Forward Derating Curve

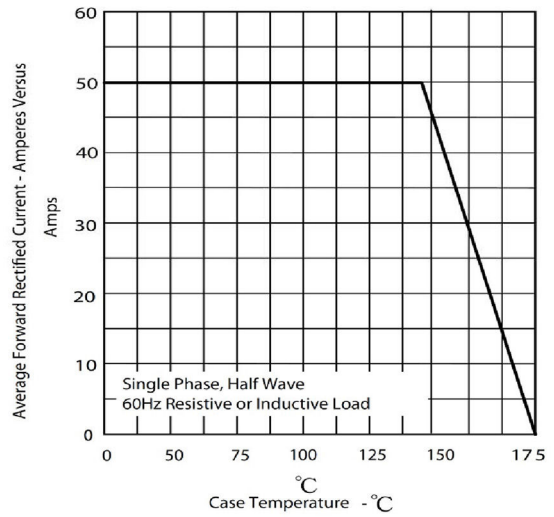


Figure.3- Peak Forward Surge Current

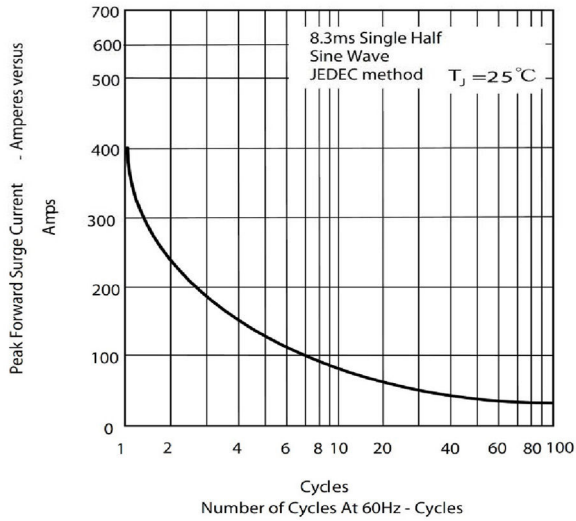


Figure.4- Typical Reverse Characteristics

