

Silicon Super Fast Recovery Diode

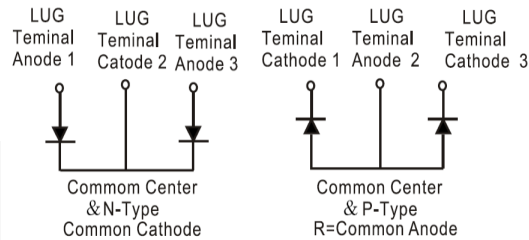
$V_{RRM} = 50\text{ V} - 200\text{ V}$

$I_{F(AV)} = 100\text{ A}$

Features

- High Surge Capability
- Types from 50 V to 200 V V_{RRM}
- Isolation Type Package
- Electrically Isolated base plate
- Not ESD Sensitive

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 |
| Operating temperature | T_j | | -55 to 150 | -55 to 150 | -55 to 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | | -55 to 150 | -55 to 150 | -55 to 150 | $^\circ\text{C}$ |

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

| Parameter | Symbol | Conditions | MURT10005(R) | MURT10010(R) | MURT10020(R) | Unit |
|--|-------------|---|--------------|--------------|--------------|---------------|
| Average forward current (per pkg) | $I_{F(AV)}$ | $T_C = 140\text{ }^\circ\text{C}$ | 100 | 100 | 100 | A |
| Peak forward surge current (per leg) | I_{FSM} | $t_p = 8.3\text{ ms}$, half sine | 1500 | 1500 | 1500 | A |
| Maximum instantaneous forward voltage (per leg) | V_F | $I_{FM} = 50\text{ A}$, $T_j = 25\text{ }^\circ\text{C}$ | 1.0 | 1.0 | 1.0 | V |
| Maximum instantaneous reverse current at rated DC blocking voltage (per leg) | I_R | $T_j = 25\text{ }^\circ\text{C}$ | 25 | 25 | 25 | μA |
| | | $T_j = 125\text{ }^\circ\text{C}$ | 1 | 1 | 1 | mA |
| Maximum reverse recovery time (per leg) | 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 (per leg) | $R_{\theta JC}$ | | 1.0 | 1.0 | 1.0 | $^\circ\text{C/W}$ |
|---|-----------------|--|-----|-----|-----|--------------------|

Figure .1- Typical Forward Characteristics

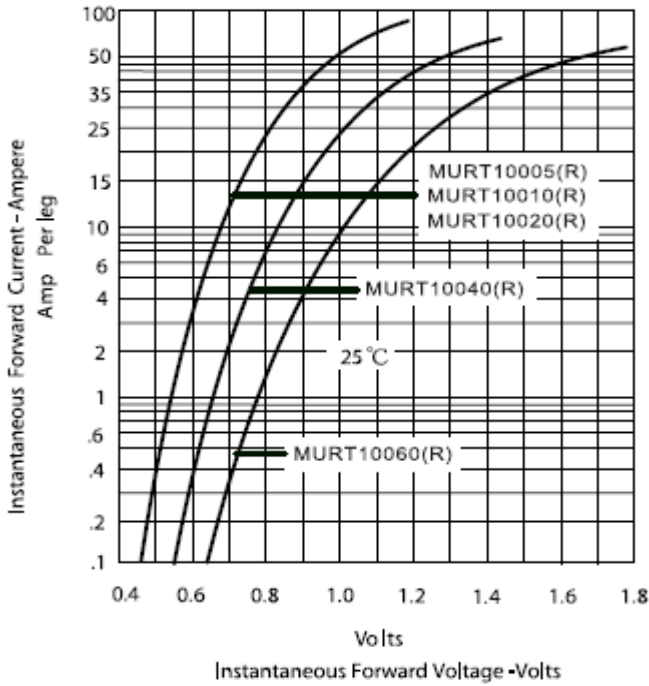


Figure .2- Forward Derating Curve

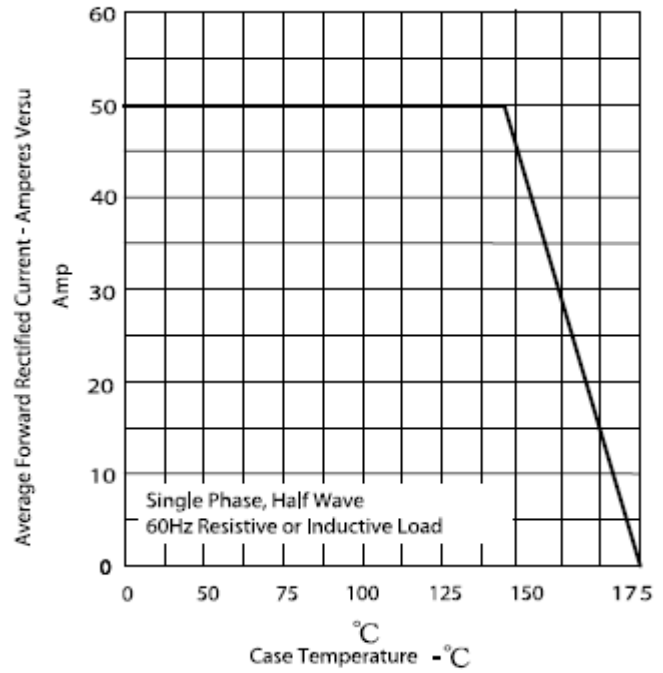


Figure.3- Peak Forward Surge Current

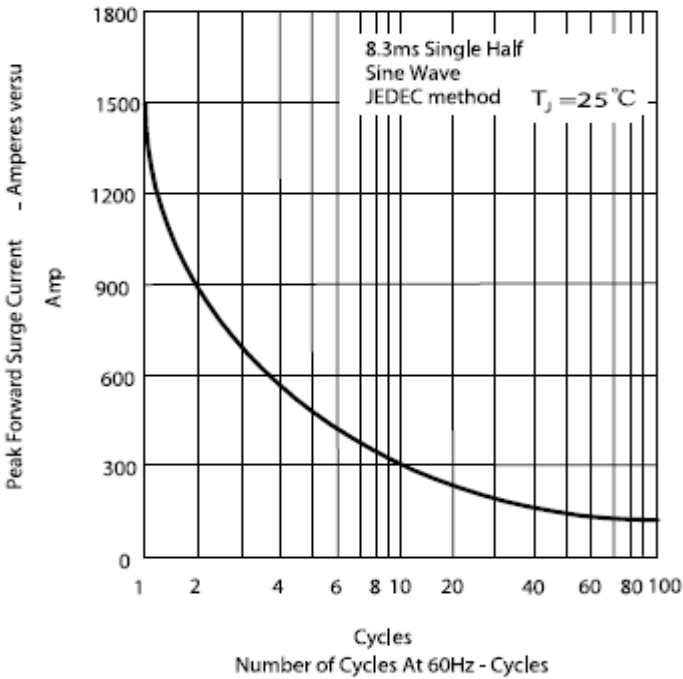
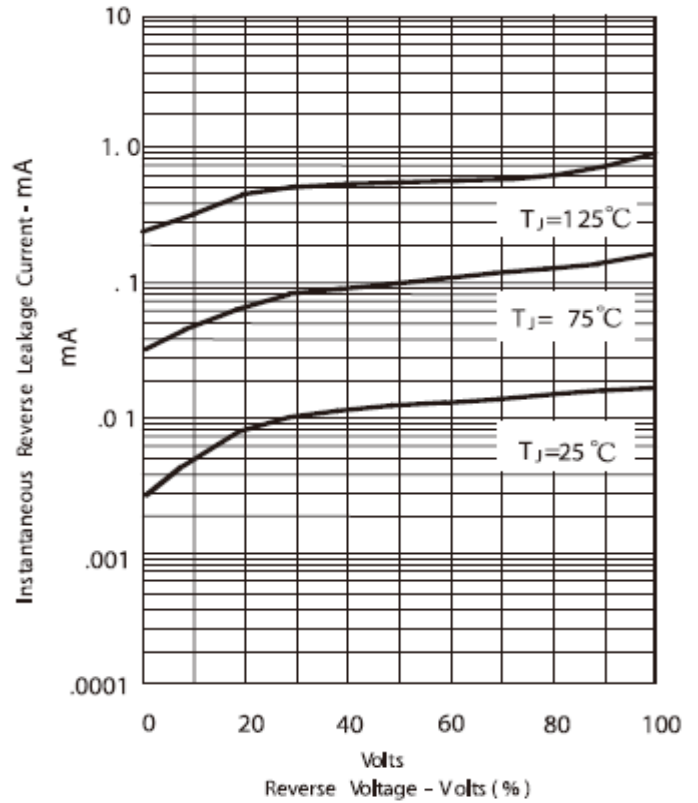
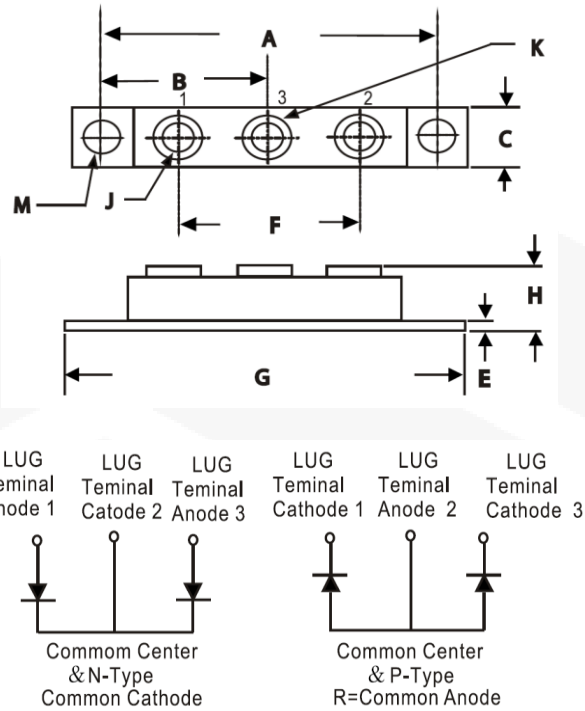


Figure .4-Typical Reverse Characteristics



Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



| DIM | Inches | | Millimeters | |
|-----|------------------|-------|-------------|-------|
| | Min | Max | Min | Max |
| A | 3.150 | NOM | 80.01 | NOM |
| B | 1.565 | 1.585 | 39.75 | 40.26 |
| C | 0.700 | 0.800 | 17.78 | 20.32 |
| E | 0.119 | 0.132 | 3.02 | 3.35 |
| F | 1.327 | ---- | 33.72 | ---- |
| G | 3.550 | 3.650 | 90.17 | 92.71 |
| H | 0.677 | 0.720 | 17.20 | 18.30 |
| J | 1/4 -20 UNC FULL | | | |
| K | 0.472 | 0.511 | 12 | 13 |
| M | 0.275 | 0.295 | 6.99 | 7.49 |
| N | 2.380 | 2.460 | 60.5 | 62.5 |