

## Silicon Super Fast Recovery Diode

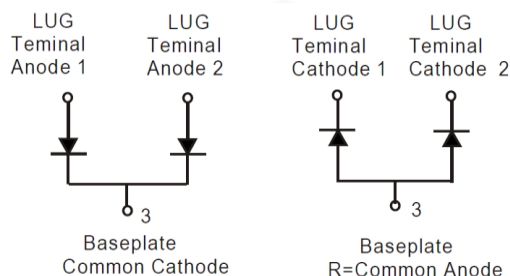
$V_{RRM} = 50 \text{ V} - 200 \text{ V}$

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

### Features

- High Surge Capability
- Types from 50 V to 200 V  $V_{RRM}$
- Not ESD Sensitive

### Twin Tower Package



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

| Parameter                       | Symbol    | Conditions | MUR10005CT(R) | MUR10010CT(R) | MUR10020CT(R) | Unit               |
|---------------------------------|-----------|------------|---------------|---------------|---------------|--------------------|
| Repetitive peak reverse voltage | $V_{RRM}$ |            | 50            | 100           | 200           | V                  |
| RMS reverse voltage             | $V_{RMS}$ |            | 35            | 70            | 140           | V                  |
| DC blocking voltage             | $V_{DC}$  |            | 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                                                                | MUR10005CT(R) | MUR10010CT(R) | MUR10020CT(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 reverse current at rated DC blocking voltage (per leg) | $I_R$       | $T_j = 25 \text{ }^{\circ}\text{C}$                                       | 25            | 25            | 25            | $\mu\text{A}$ |
|                                                                |             | $T_j = 125 \text{ }^{\circ}\text{C}$                                      | 3             | 3             | 3             | 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

|                                                       |                 |  |     |     |     |                      |
|-------------------------------------------------------|-----------------|--|-----|-----|-----|----------------------|
| Maximum thermal resistance, junction - case (per leg) | $R_{\theta JC}$ |  | 1.0 | 1.0 | 1.0 | $^{\circ}\text{C/W}$ |
|-------------------------------------------------------|-----------------|--|-----|-----|-----|----------------------|

Figure .1- Typical Forward Characteristics

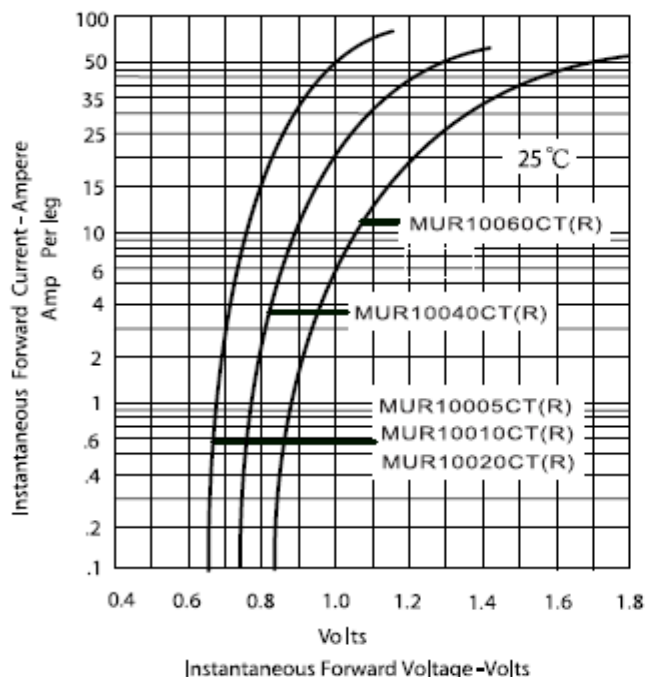


Figure .2- Forward Derating Curve

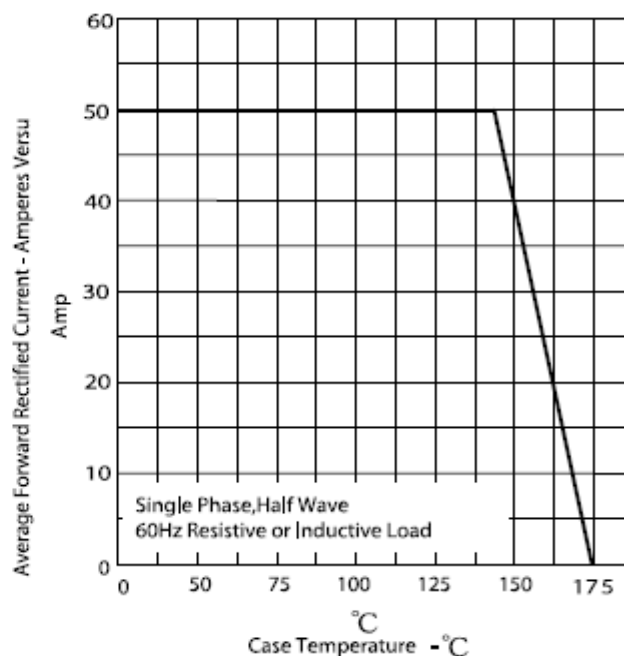


Figure.3- Peak Forward Surge Current

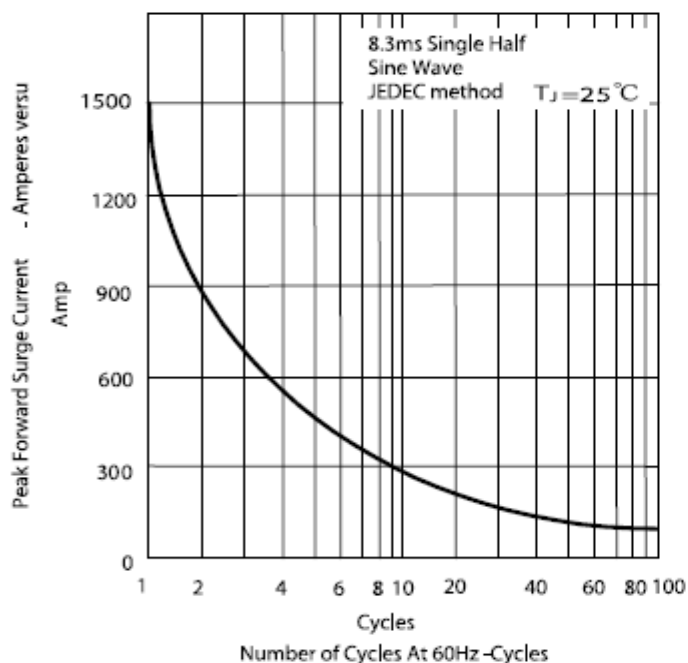
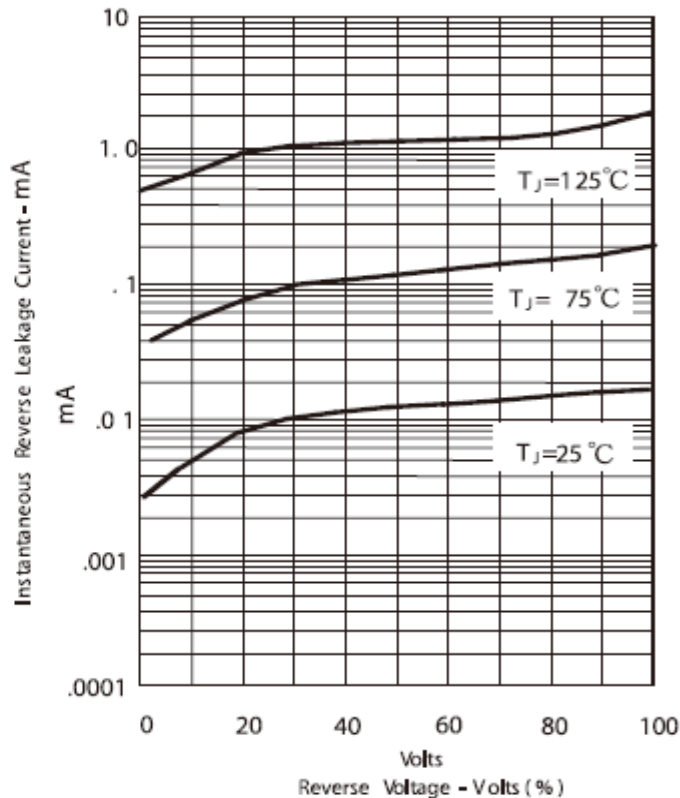
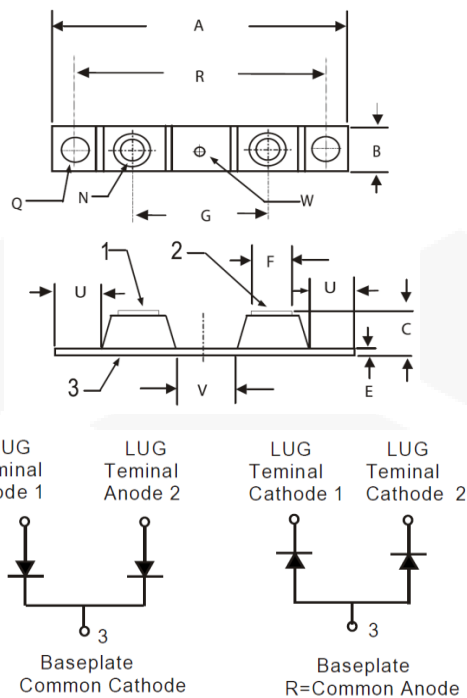


Figure .4 -Typical Reverse Characteristics



## Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



| DIM | Inches          |       | Millimeters |       |
|-----|-----------------|-------|-------------|-------|
|     | Min             | Max   | Min         | Max   |
| A   | ----            | 3.630 | ----        | 92.40 |
| B   | 0.700           | 0.800 | 17.78       | 20.32 |
| C   | ----            | 0.650 | ----        | 16.51 |
| E   | 0.130           | 0.141 | 3.30        | 3.60  |
| F   | 0.482           | 0.490 | 12.25       | 12.45 |
| G   | 1.368           | BSC   | 34.75       | BSC   |
| N   | 1/4-20 UNC FULL |       |             |       |
| Q   | 0.275           | 0.290 | 6.99        | 7.37  |
| R   | 3.150           | BSC   | 80.01       | BSC   |
| U   | 0.600           | ----  | 15.24       | ----  |
| V   | 0.312           | 0.370 | 7.92        | 9.40  |
| W   | 0.180           | 0.195 | 4.57        | 4.95  |