

## Silicon Super Fast Recovery Diode

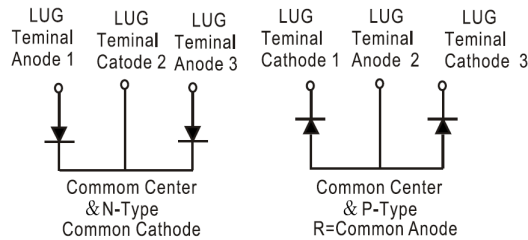
$V_{RRM} = 50\text{ V} - 200\text{ V}$

$I_{F(AV)} = 400\text{ A}$

### 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 | MURT40005(R) | MURT40010(R) | MURT40020(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  | MURT40005(R) | MURT40010(R) | MURT40020(R) | Unit          |
|--|-------------|---|--------------|--------------|--------------|---------------|
| Average forward current (per pkg)  | $I_{F(AV)}$ | $T_C = 125\text{ }^\circ\text{C}$   | 400          | 400          | 400          | A             |
| Peak forward surge current (per leg)   | $I_{FSM}$   | $t_p = 8.3\text{ ms}$ , half sine   | 3300         | 3300         | 3300         | A             |
| Maximum instantaneous forward voltage (per leg)                              | $V_F$       | $I_{FM} = 200\text{ A}$ , $T_j = 25\text{ }^\circ\text{C}$                | 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           | $\mu\text{A}$ |
|  |             | $T_j = 125\text{ }^\circ\text{C}$   | 3            | 3            | 3            | $\text{mA}$   |
| Maximum reverse recovery time (per leg)                                      | $T_{rr}$    | $I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ ,<br>$I_{RR} = 0.25\text{ A}$ | 150          | 150          | 150          | $\text{nS}$   |

### Thermal characteristics

|   |                 |  |      |      |      |                    |
|---|-----------------|--|------|------|------|--------------------|
| Thermal resistance, junction - case (per leg) | $R_{\theta JC}$ |  | 0.35 | 0.35 | 0.35 | $^\circ\text{C/W}$ |
|---|-----------------|--|------|------|------|--------------------|

Figure .1- Typical Forward Characteristics

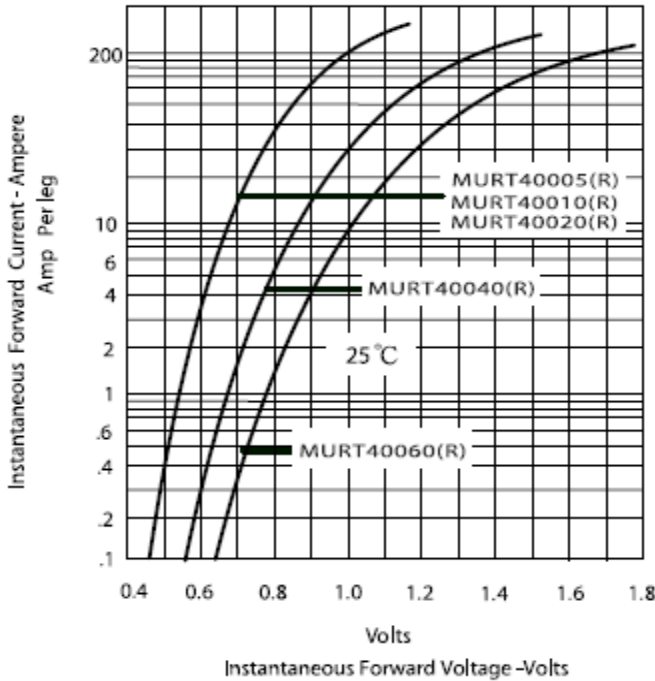


Figure .2- Forward Derating Curve

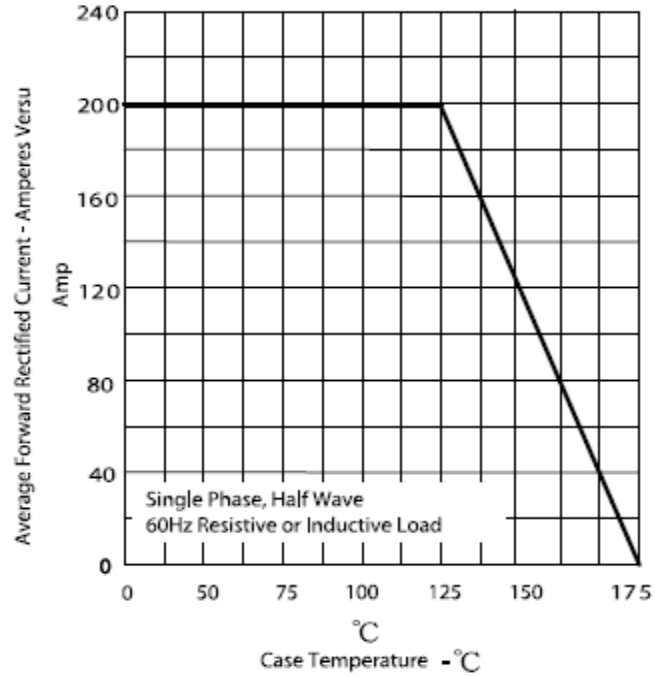


Figure.3- Peak Forward Surge Current

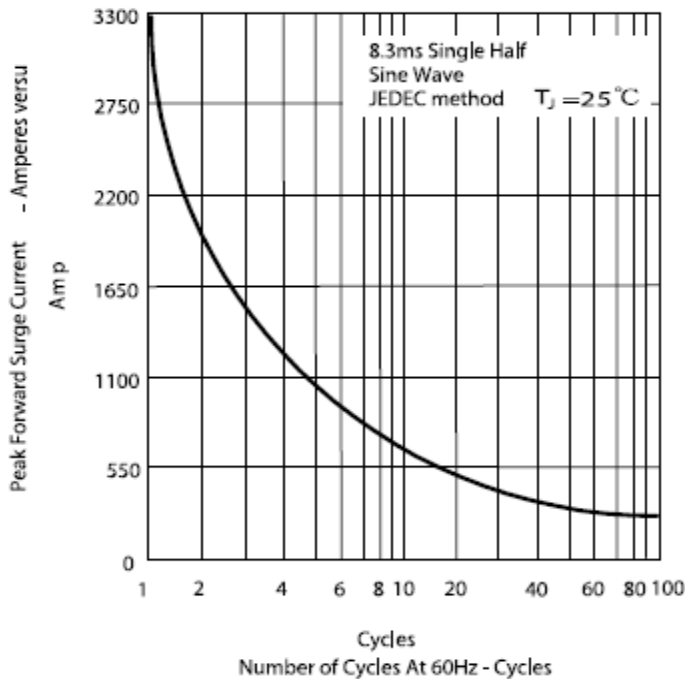
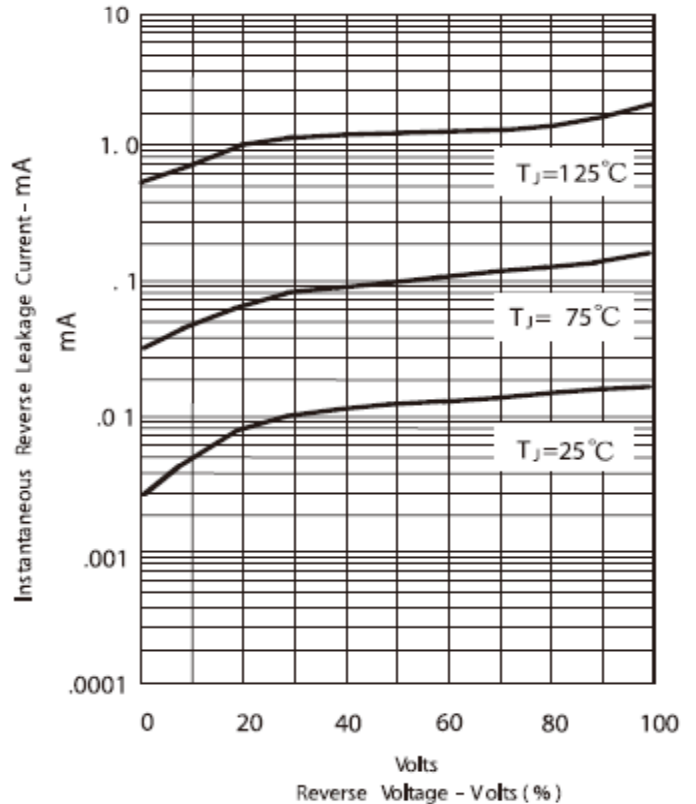
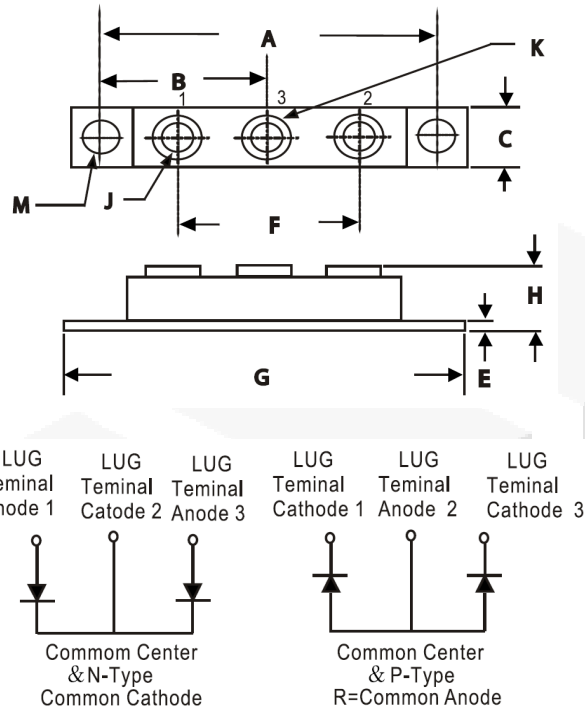


Figure .4 -Typical Reverse Characteristics



## 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   | .700            | .800  | 17.78       | 20.32 |
| E   | .119            | .132  | 3.02        | 3.35  |
| F   | 1.327           | REF   | 33.72       | REF   |
| G   | 3.550           | 3.65  | 90.17       | 92.71 |
| H   | —               | .73   | —           | 18.30 |
| J   | 1/4-20 UNC FULL |       |             |       |
| K   | .472            | .511  | 12.00       | 13.00 |
| M   | .275            | .295  | 6.99        | 7.49  |
| N   | 2.380           | 2.46  | 60.50       | 62.50 |