

## Silicon Super Fast Recovery Diode

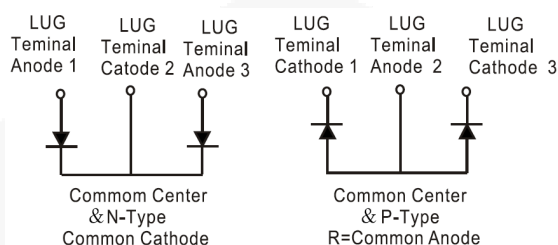
$V_{RRM} = 600\text{ V} - 1200\text{ V}$

$I_{F(AV)} = 300\text{ A}$

### Features

- High Surge Capability
- Types from 600 V to 1200 V  $V_{RRM}$
- Isolation Type Package
- Electrically Isolated Base Plate
- Not ESD Sensitive

### Heavy Three Tower Package



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

| Parameter                       | Symbol    | Conditions | MURTA30060(R) | MURTA300120(R) | Unit               |
|---------------------------------|-----------|------------|---------------|----------------|--------------------|
| Repetitive peak reverse voltage | $V_{RRM}$ |            | 600           | 1200           | V                  |
| RMS reverse voltage             | $V_{RMS}$ |            | 424           | ---            | V                  |
| DC blocking voltage             | $V_{DC}$  |            | 600           | 1200           | V                  |
| Operating temperature           | $T_j$     |            | -55 to 150    | -55 to 150     | $^{\circ}\text{C}$ |
| Storage temperature             | $T_{stg}$ |            | -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                                                             | MURTA30060(R) | MURTA300120(R) | Unit          |
|------------------------------------------------------------------------------|-------------|------------------------------------------------------------------------|---------------|----------------|---------------|
| Average forward current (per pkg)                                            | $I_{F(AV)}$ | $T_C = 100\text{ }^{\circ}\text{C}$                                    | 300           | 300            | A             |
| Peak forward surge current (per leg)                                         | $I_{FSM}$   | $t_p = 8.3\text{ ms}$ , half sine                                      | 2750          | 2750           | A             |
| Maximum instantaneous forward voltage (per leg)                              | $V_F$       | $I_{FM} = 150\text{ A}$ , $T_j = 25\text{ }^{\circ}\text{C}$           | 1.7           | 2.6            | V             |
| Maximum instantaneous reverse current at rated DC blocking voltage (per leg) | $I_R$       | $T_j = 25\text{ }^{\circ}\text{C}$                                     | 25            | 25             | $\mu\text{A}$ |
|                                                                              |             | $T_j = 125\text{ }^{\circ}\text{C}$                                    | 5             | 5              | mA            |
| Maximum reverse recovery time (per leg)                                      | $T_{rr}$    | $I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{RR} = 0.25\text{ A}$ | 150           | 150            | ns            |

### Thermal characteristics

|                                                       |                 |  |      |      |                      |
|-------------------------------------------------------|-----------------|--|------|------|----------------------|
| Maximum thermal resistance, junction - case (per leg) | $R_{\theta JC}$ |  | 0.40 | 0.40 | $^{\circ}\text{C/W}$ |
|-------------------------------------------------------|-----------------|--|------|------|----------------------|

**MURTA30060(R) Figures:**

Figure .1- Typical Forward Characteristics

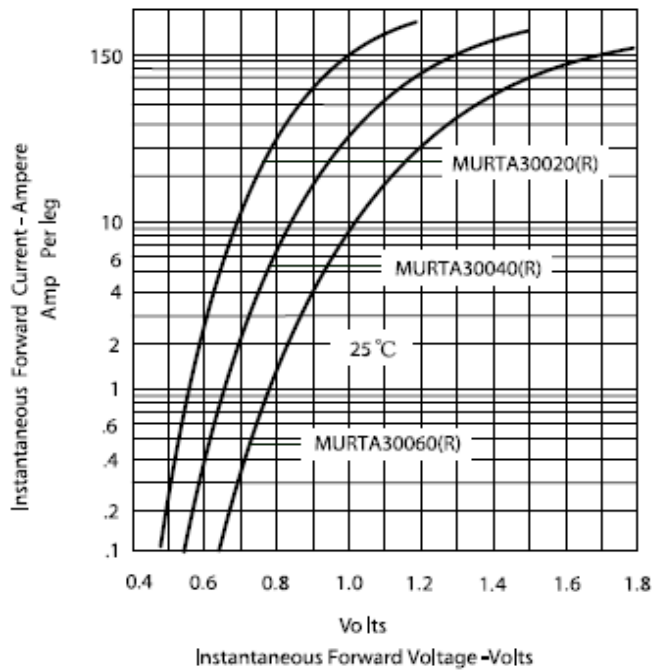


Figure .2- Forward Derating Curve

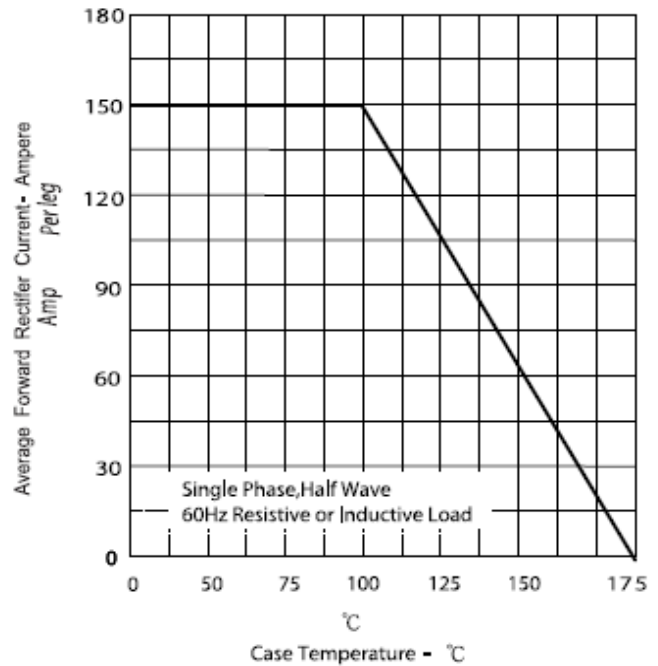


Figure .3- Peak Forward Surge Current

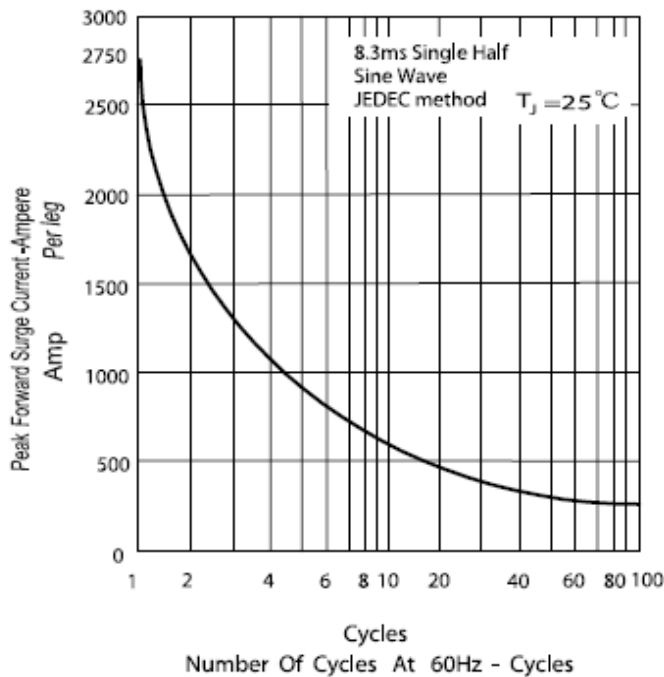
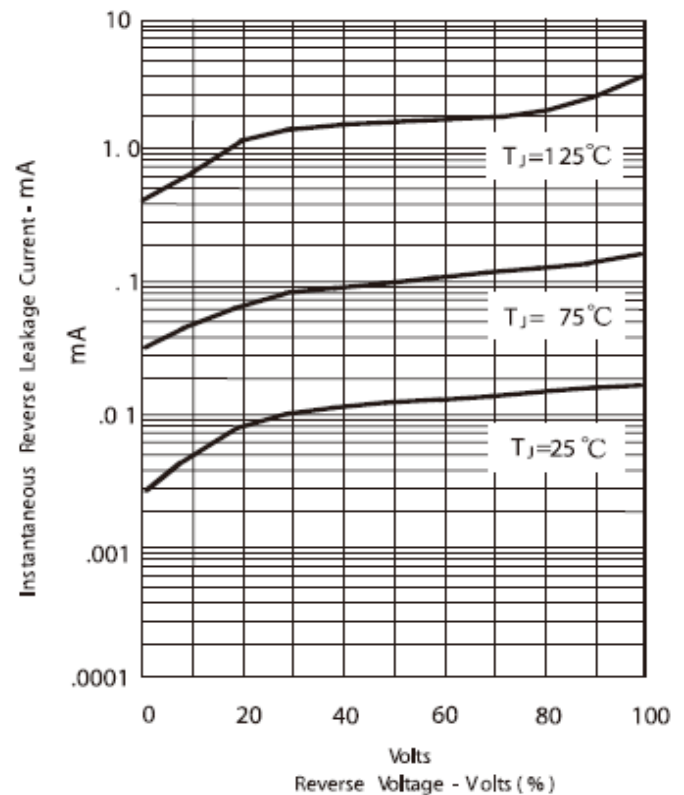


Figure .4- Typical Reverse Characteristics



## MURTA300120(R) Figures:

Figure .1- Typical Forward Characteristics

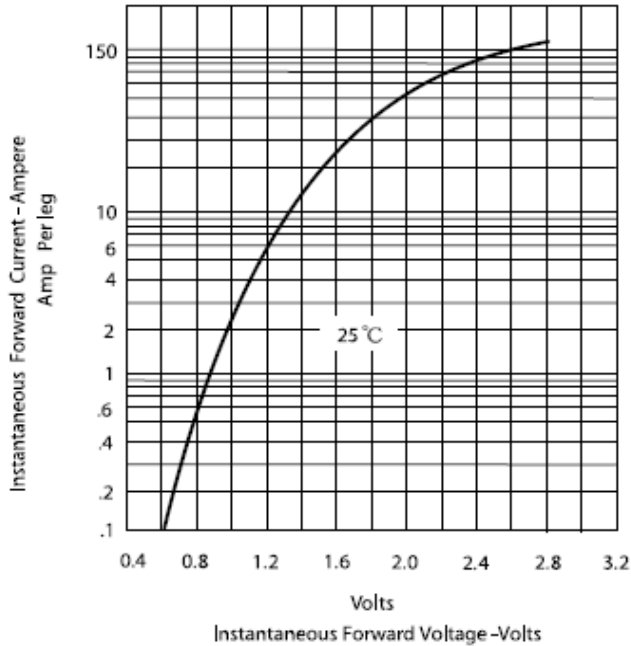


Figure .2- Forward Derating Curve

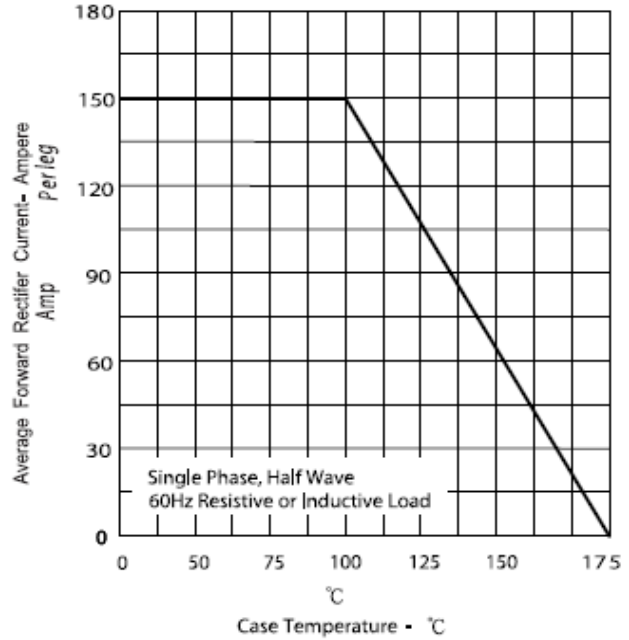


Figure .3- Peak Forward Surge Current

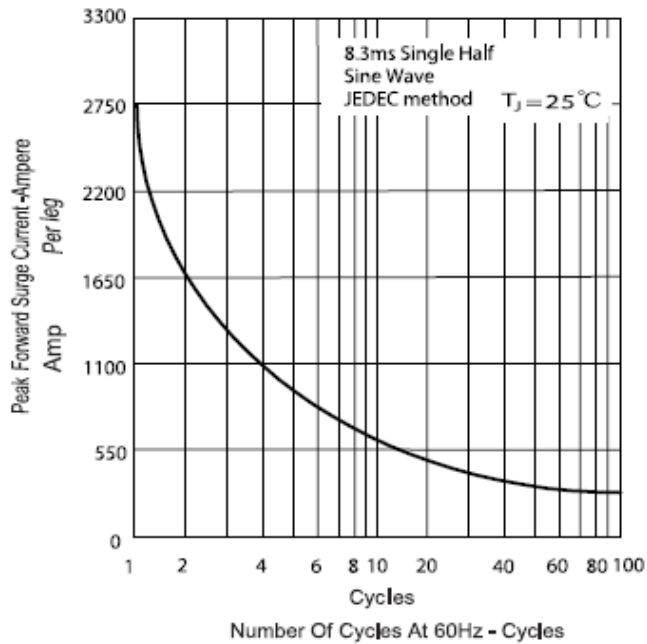
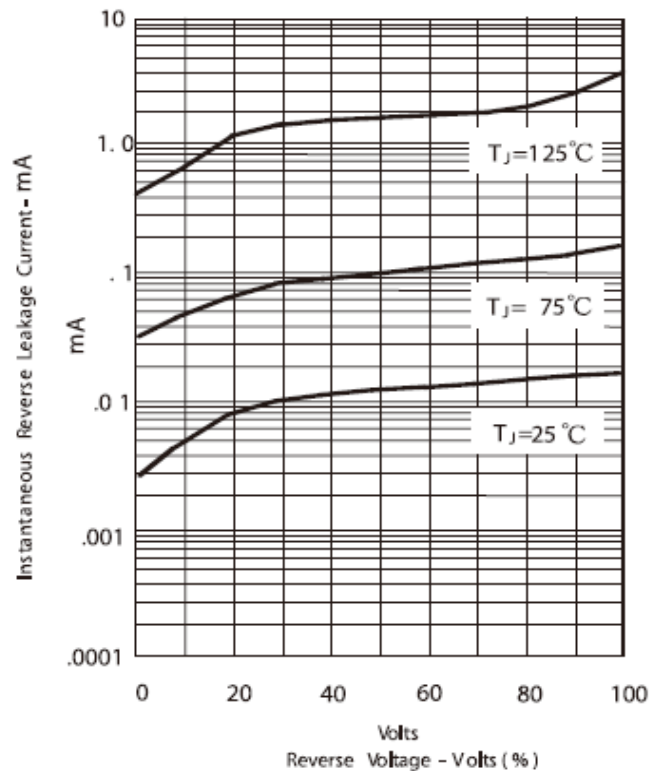
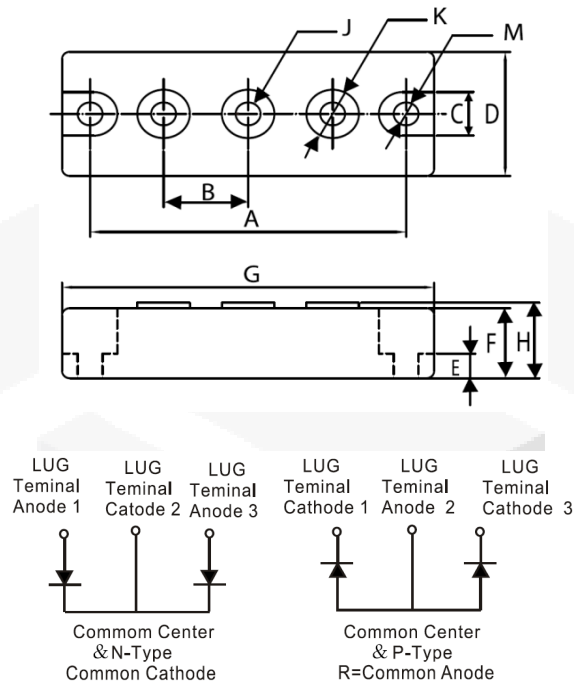


Figure .4-Typical Reverse Characteristics



## Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



| DIMENSIONS |                 |       |             |       |
|------------|-----------------|-------|-------------|-------|
| DIM        | Inches          |       | Millimeters |       |
|            | Min             | Max   | Min         | Max   |
| A          | 3.150           | NOM   | 80.01       | NOM   |
| B          | .872            | .892  | 22.15       | 22.65 |
| C          | .465            | .479  | 11.82       | 12.18 |
| D          | 1.337           | 1.356 | 33.95       | 34.45 |
| E          | .230            | .234  | 5.84        | 6.16  |
| F          | .725            | REF   | 18.42       | REF   |
| G          | 3.668           | 3.768 | 93.17       | 95.71 |
| H          | —               | .791  | —           | 20.10 |
| J          | 1/4-20 UNC FULL |       |             |       |
| K          | .509            | .538  | 12.92       | 13.68 |
| M          | .238            | .258  | 6.05        | 6.55  |