

Silicon Power Schottky Diode

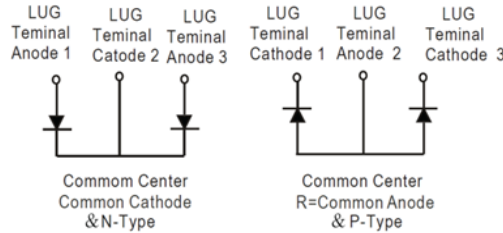
$V_{RRM} = 45\text{ V} - 100\text{ V}$

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

Features

- High Surge Capability
- Types from 45 V to 100 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 | MBRT30045(R) | MBRT30060(R) | MBRT30080(R) | MBRT300100(R) | Unit |
|---------------------------------|-----------|------------|--------------|--------------|--------------|---------------|------------------|
| Repetitive peak reverse voltage | V_{RRM} | | 45 | 60 | 80 | 100 | V |
| RMS reverse voltage | V_{RMS} | | 32 | 42 | 56 | 70 | V |
| DC blocking voltage | V_{DC} | | 45 | 60 | 80 | 100 | V |
| Operating temperature | T_j | | -55 to 150 | -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 | -55 to 150 | $^\circ\text{C}$ |

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

| Parameter | Symbol | Conditions | MBRT30045(R) | MBRT30060(R) | MBRT30080(R) | MBRT300100(R) | Unit |
|--|-------------|--|--------------|--------------|--------------|---------------|------|
| Average forward current (per pkg) | $I_{F(AV)}$ | $T_C = 125\text{ }^\circ\text{C}$ | 300 | 300 | 300 | 300 | A |
| Peak forward surge current (per leg) | I_{FSM} | $t_p = 8.3\text{ ms}$, half sine | 2000 | 2000 | 2000 | 2000 | A |
| Maximum instantaneous forward voltage (per leg) | V_F | $I_{FM} = 150\text{ A}$, $T_j = 25\text{ }^\circ\text{C}$ | 0.70 | 0.75 | 0.84 | 0.84 | V |
| Maximum instantaneous reverse current at rated DC blocking voltage (per leg) | I_R | $T_j = 25\text{ }^\circ\text{C}$ | 1 | 1 | 1 | 1 | mA |
| | | $T_j = 100\text{ }^\circ\text{C}$ | 10 | 10 | 10 | | |
| | | $T_j = 150\text{ }^\circ\text{C}$ | 30 | 30 | 30 | | |

Thermal characteristics

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

Figure.1-Typical Forward Characteristics

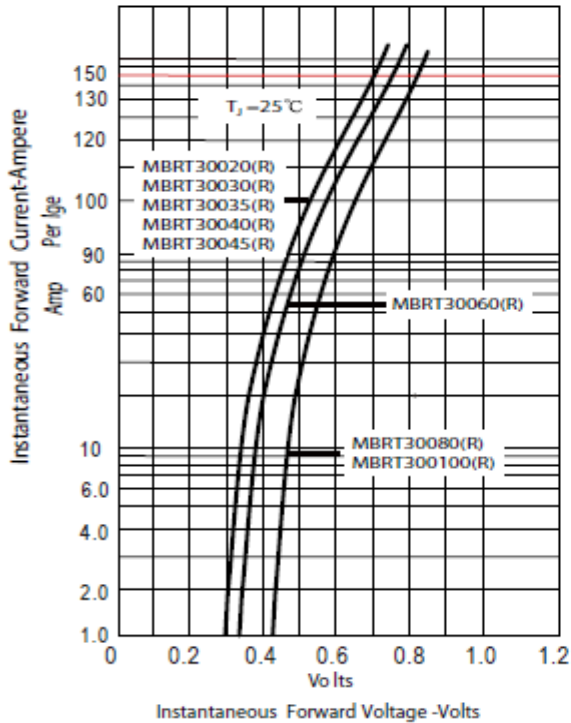


Figure.2-Forward Derating Curve

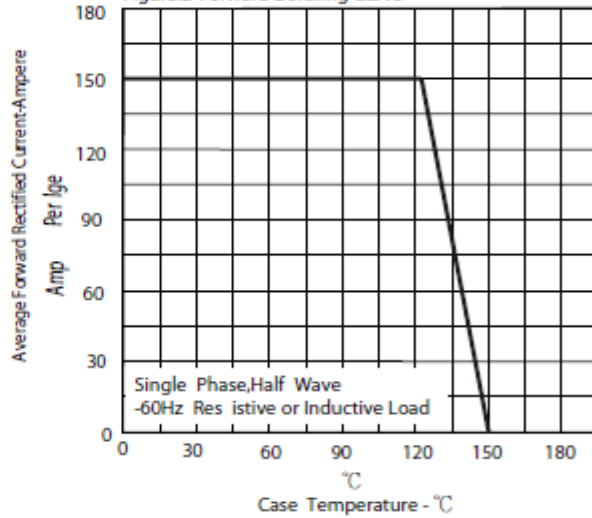


Figure.3-Peak Forward Surge Current

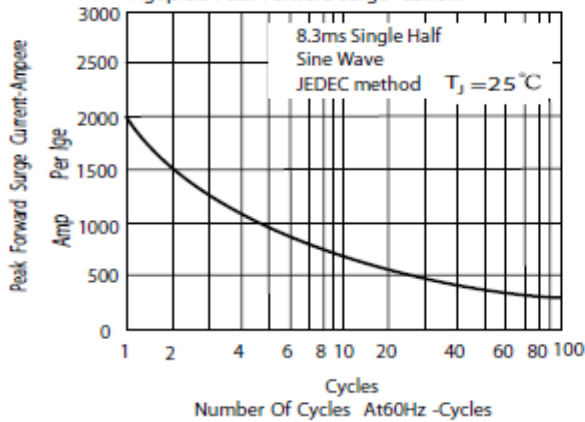
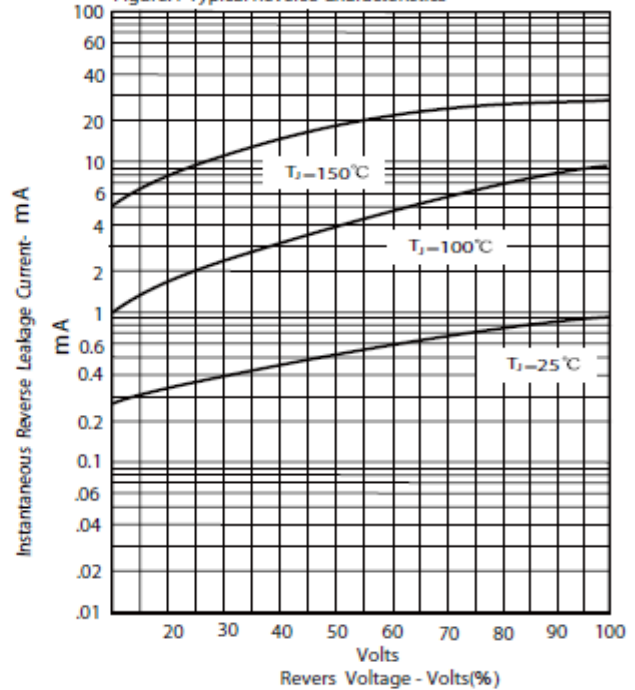
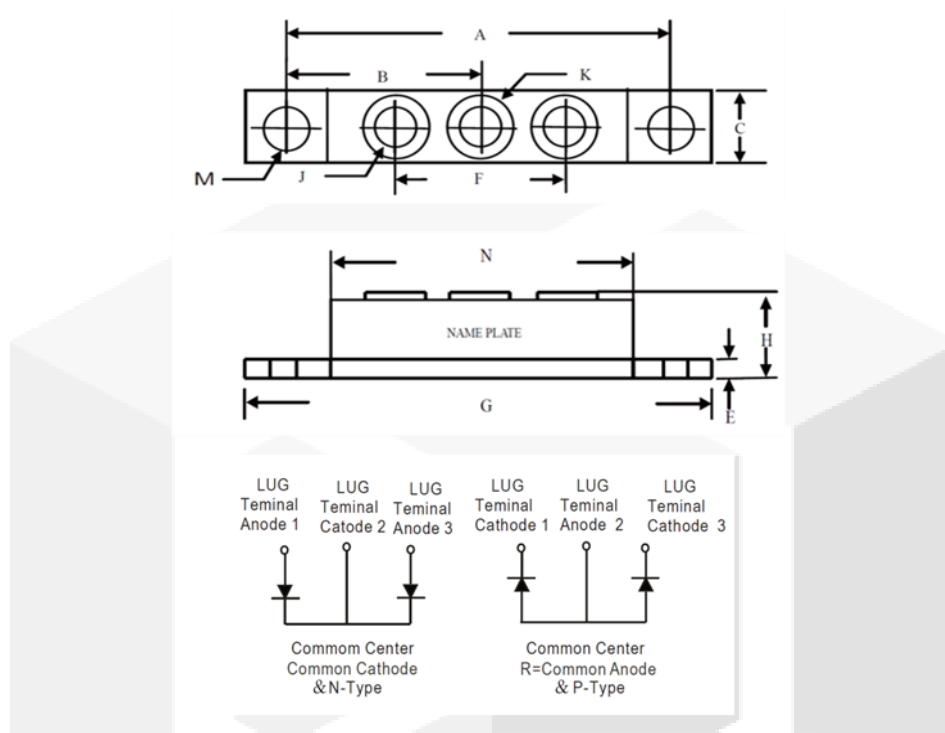


Figure.4-Typical Reverse Characteristics



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 |