

Silicon Power Schottky Diode

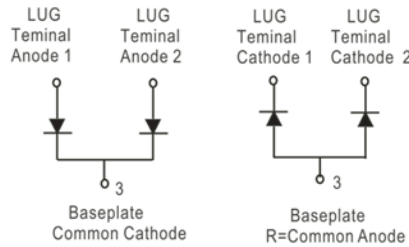
$V_{RRM} = 45\text{ V} - 100\text{ V}$

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

Features

- High Surge Capability
- Types from 45 V to 100 V V_{RRM}
- 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 | MBR30045CT(R) | MBR30060CT(R) | MBR30080CT(R) | MBR300100CT(R) | Unit |
|---------------------------------|-----------|------------|---------------|---------------|---------------|----------------|------------------|
| Repetitive peak reverse voltage | V_{RRM} | | 45 | 60 | 80 | 100 | V |
| RMS reverse voltage | V_{RMS} | | 32 | 42 | 57 | 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 | MBR30045CT(R) | MBR30060CT(R) | MBR30080CT(R) | MBR300100CT(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 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 |
| Reverse current at rated DC blocking voltage (per leg) | I_R | $T_j = 25\text{ }^\circ\text{C}$ $T_j = 100\text{ }^\circ\text{C}$ $T_j = 150\text{ }^\circ\text{C}$ | 1 10 50 | 1 10 50 | 1 10 50 | 1 10 50 | mA |

Thermal characteristics

| Parameter | Symbol | Conditions | MBR30045CT(R) | MBR30060CT(R) | MBR30080CT(R) | MBR300100CT(R) | Unit |
|--|-----------------|------------|---------------|---------------|---------------|----------------|--------------------|
| 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

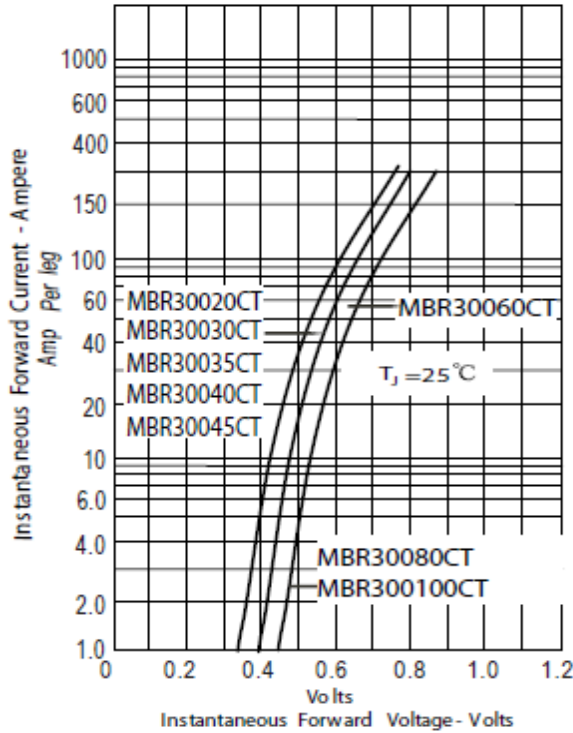


Figure .2- Forward Derating Curve

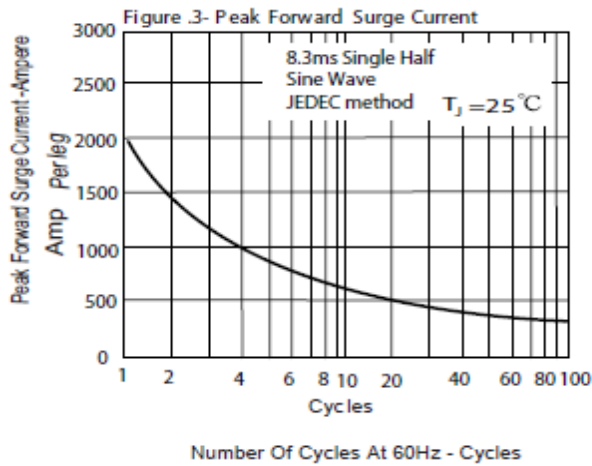
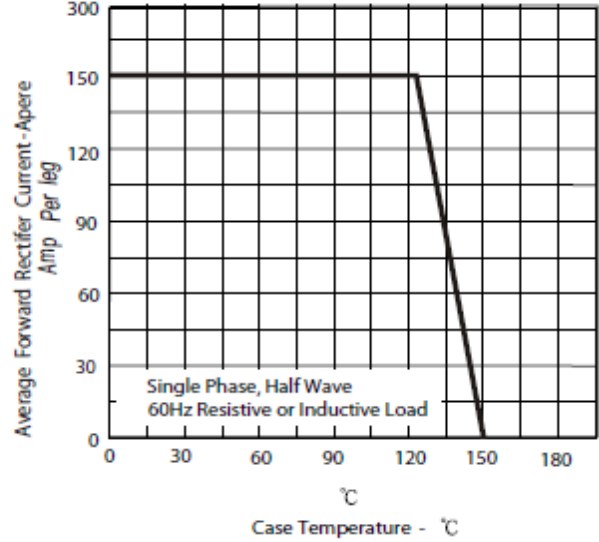
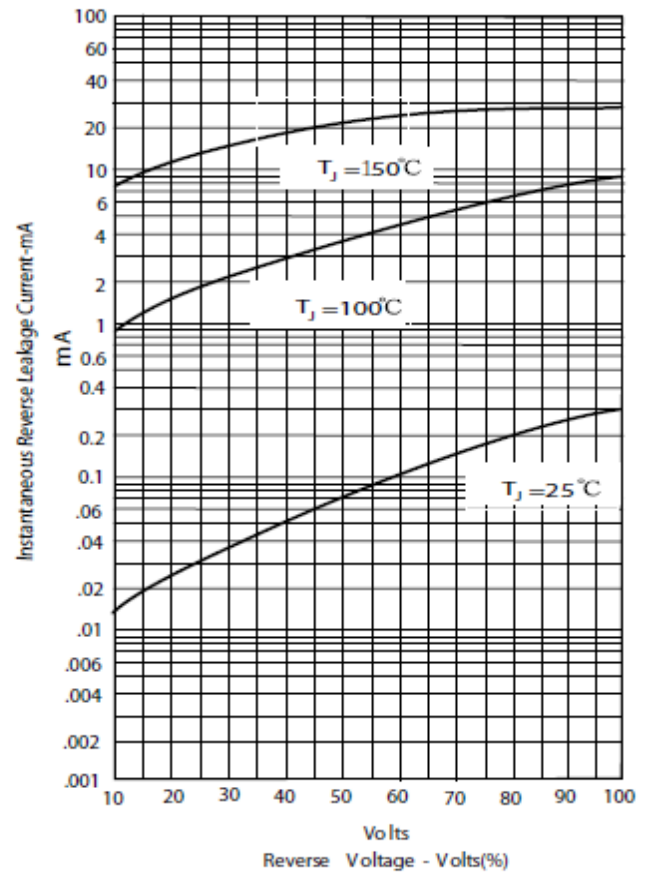
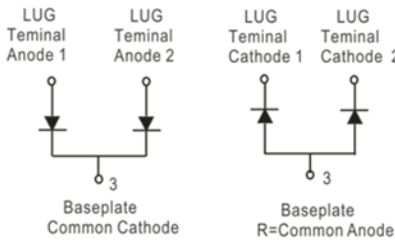
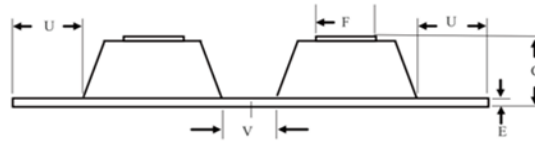
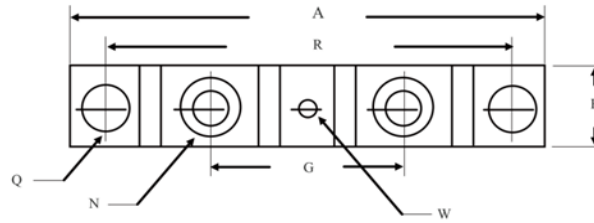


Figure .4- Typical Reverse Characteristics



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 |