

Silicon Power Schottky Diode

$V_{RRM} = 20\text{ V} - 100\text{ V}$

$I_F = 300\text{ A}$

Features

- High Surge Capability
- Types up to 100 V V_{RRM}

Twin Tower Package



Maximum ratings, at $T_j = 25\text{ °C}$, 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 | 56 | 70 | V |
| DC blocking voltage | V_{DC} | | 45 | 60 | 80 | 100 | V |
| Continuous forward current | I_F | $T_C \leq 140\text{ °C}$ | 300 | 300 | 300 | 300 | A |
| Surge non-repetitive forward current, Half Sine Wave | $I_{F,SM}$ | $T_C = 25\text{ °C}$, $t_p = 8.3\text{ ms}$ | 2500 | 2500 | 2500 | 2500 | A |
| Operating temperature | T_j | | -40 to 175 | -40 to 175 | -40 to 175 | -40 to 175 | °C |
| Storage temperature | T_{stg} | | -40 to 175 | -40 to 175 | -40 to 175 | -40 to 175 | °C |

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

| Parameter | Symbol | Conditions | MBR30045CT (R) | MBR30060CT (R) | MBR30080CT (R) | MBR300100CT (R) | Unit |
|-----------------------|--------|---|----------------|----------------|----------------|-----------------|------|
| Diode forward voltage | V_F | $I_F = 150\text{ A}$, $T_j = 25\text{ °C}$ | 0.65 | 0.75 | 0.84 | 0.84 | V |
| Reverse current | I_R | $V_R = 20\text{ V}$, $T_j = 25\text{ °C}$ | 8 | 8 | 8 | 8 | mA |
| | | $V_R = 20\text{ V}$, $T_j = 125\text{ °C}$ | 200 | 200 | 200 | 200 | |

Thermal characteristics

| | | | | | | | |
|-------------------------------------|------------|--|-----|-----|-----|-----|------|
| Thermal resistance, junction - case | R_{thJC} | | 0.4 | 0.4 | 0.4 | 0.4 | °C/W |
|-------------------------------------|------------|--|-----|-----|-----|-----|------|

Figure .1-Typical Forward Characteristics

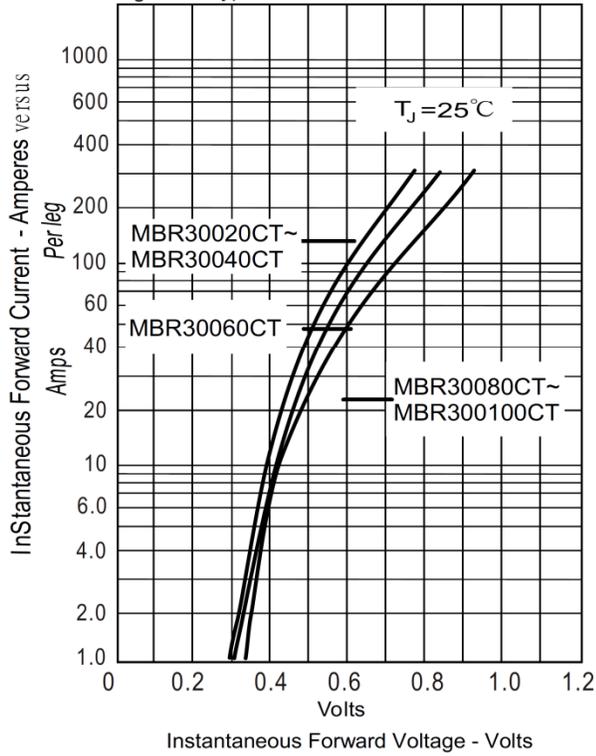


Figure .2-Forward Derating Curve

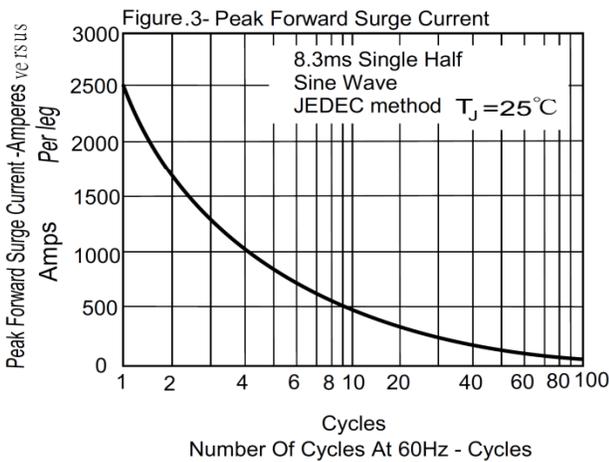
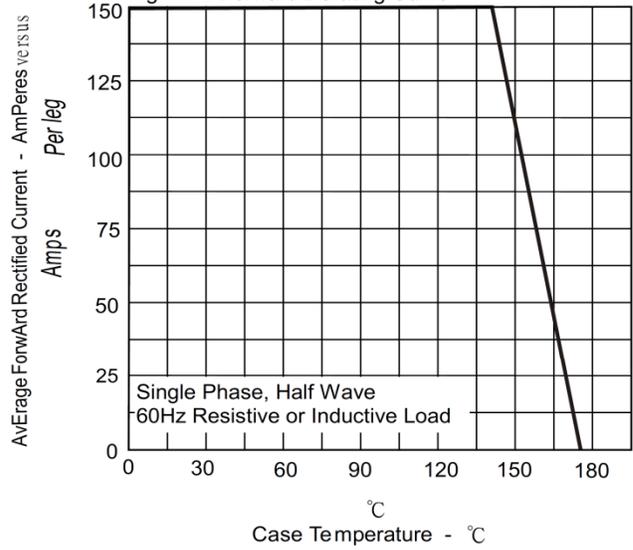
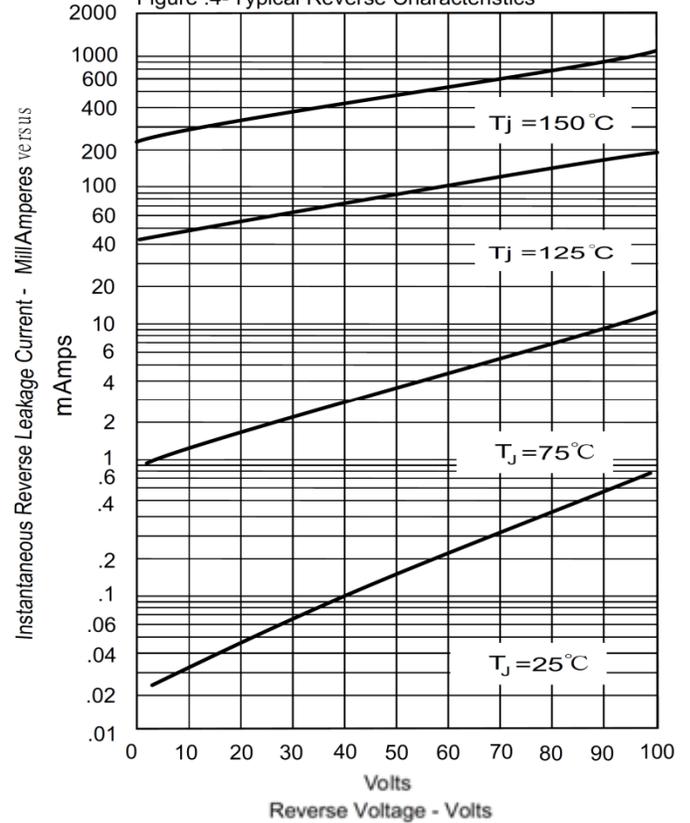
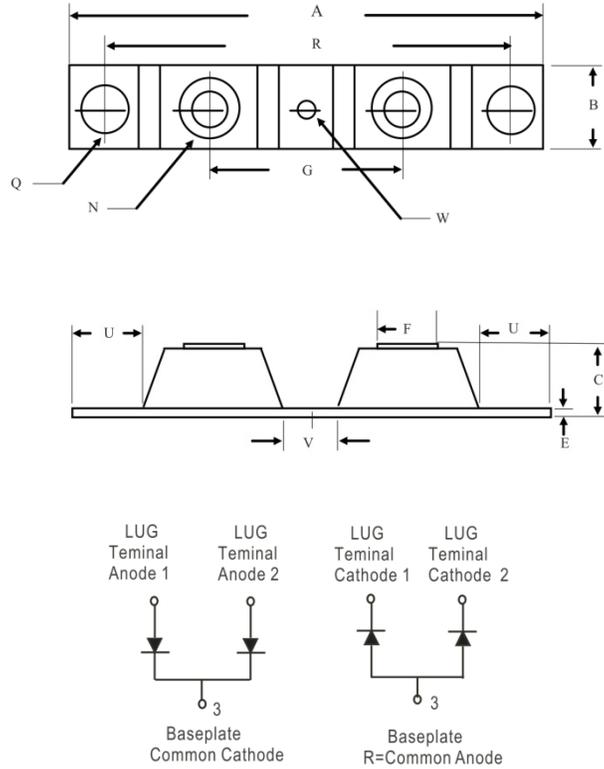


Figure .4-Typical Reverse Characteristics



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 |