

## Silicon Power Schottky Diode

Twin Tower Package

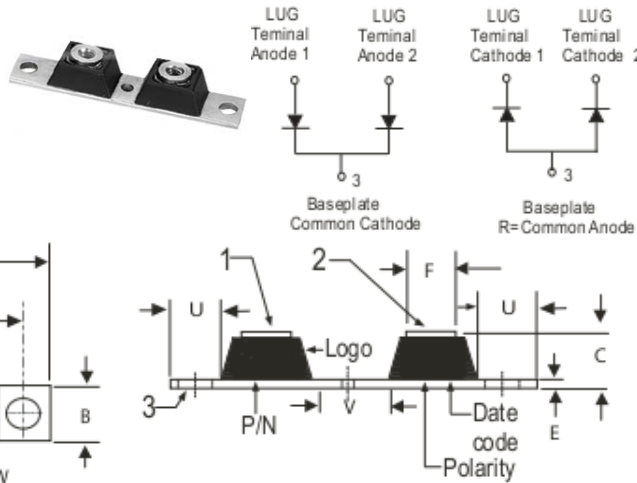
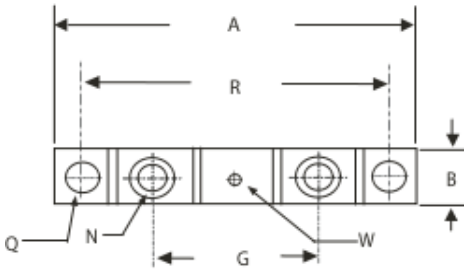
$V_{RRM} = 20\text{ V} - 100\text{ V}$

$I_F = 500\text{ A}$

### Features

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

### TWIN TOWER



| DIMA | 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    | 1.35            | 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  |

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

| Parameter  | Symbol     | Conditions   | MBR50045CT (R) | MBR50060CT (R) | MBR50080CT (R) | MBR500100CT (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                           | $I_F$      | $T_C \leq 100\text{ }^\circ\text{C}$                     | 500            | 500            | 500            | 500             | A                |
| Surge non-repetitive forward current, Half Sine Wave | $I_{F,SM}$ | $T_C = 25\text{ }^\circ\text{C}$ , $t_p = 8.3\text{ ms}$ | 3500           | 3500           | 3500           | 3500            | A                |
| Operating temperature                                | $T_j$      |  | -40 to 150     | -40 to 150     | -40 to 150     | -40 to 150      | $^\circ\text{C}$ |
| Storage temperature                                  | $T_{stg}$  |  | -40 to 175     | -40 to 175     | -40 to 175     | -40 to 175      | $^\circ\text{C}$ |

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

| Parameter             | Symbol | Conditions  | MBR50045CT (R) | MBR50060CT (R) | MBR50080CT (R) | MBR500100CT (R) | Unit |
|-----------------------|--------|---|----------------|----------------|----------------|-----------------|------|
| Diode forward voltage | $V_F$  | $I_F = 250\text{ A}$ , $T_j = 25\text{ }^\circ\text{C}$ | 0.75           | 0.8            | 0.88           | 0.88            | V    |
| Reverse current       | $I_R$  | $V_R = 20\text{ V}$ , $T_j = 25\text{ }^\circ\text{C}$  | 1              | 1              | 1              | 1               | mA   |
|                       |        | $V_R = 20\text{ V}$ , $T_j = 125\text{ }^\circ\text{C}$ | 20             | 20             | 20             | 20              |      |

### Thermal characteristics

| Parameter                           | Symbol     | Conditions | MBR50045CT (R) | MBR50060CT (R) | MBR50080CT (R) | MBR500100CT (R) | Unit               |
|-------------------------------------|------------|------------|----------------|----------------|----------------|-----------------|--------------------|
| Thermal resistance, junction - case | $R_{thJC}$ |            | 0.12           | 0.12           | 0.12           | 0.12            | $^\circ\text{C/W}$ |

Figure .1-Typical Forward Characteristics

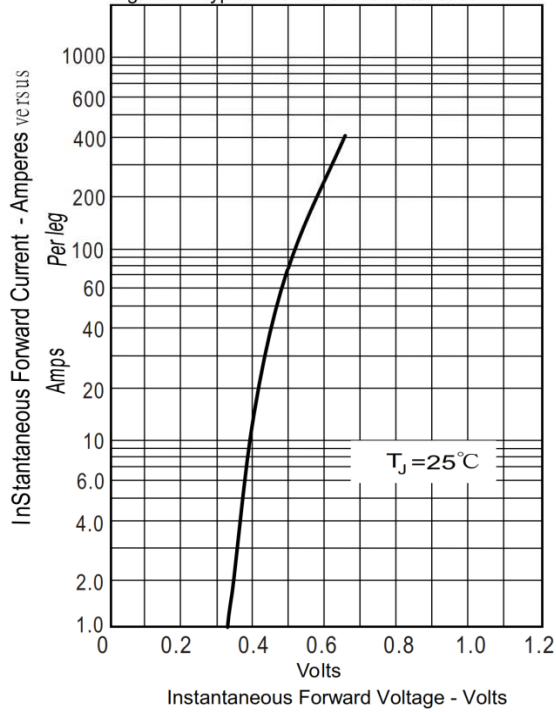


Figure .2-Forward Derating Curve

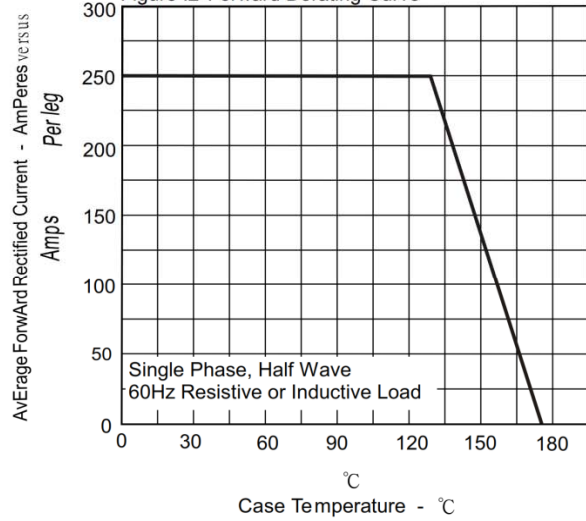


Figure .3-Peak Forward Surge Current

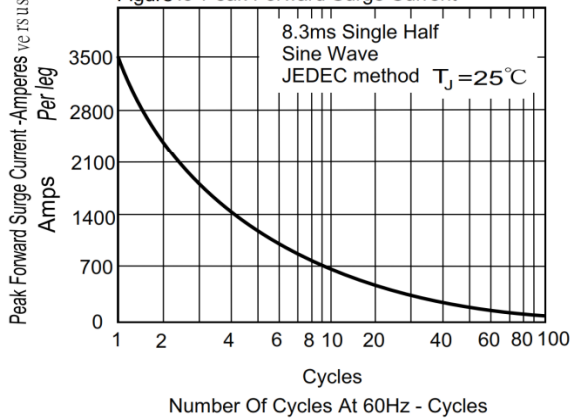


Figure .4-Typical Reverse Characteristics

