

## Silicon Power Schottky Diode

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

$I_F = 120\text{ A}$

### 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                                   | MBR12045CT (R) | MBR12060CT (R) | MBR12080CT (R) | MBR120100CT (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                           | $I_F$      | $T_C \leq 140\text{ °C}$                     | 120            | 120            | 120            | 120             | A    |
| Surge non-repetitive forward current, Half Sine Wave | $I_{F,SM}$ | $T_C = 25\text{ °C}$ , $t_p = 8.3\text{ ms}$ | 800            | 800            | 800            | 800             | 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                                  | MBR12045CT (R) | MBR12060CT (R) | MBR12080CT (R) | MBR120100CT (R) | Unit |
|-----------------------|--------|---------------------------------------------|----------------|----------------|----------------|-----------------|------|
| Diode forward voltage | $V_F$  | $I_F = 60\text{ A}$ , $T_j = 25\text{ °C}$  | 0.65           | 0.75           | 0.84           | 0.84            | V    |
| Reverse current       | $I_R$  | $V_R = 20\text{ V}$ , $T_j = 25\text{ °C}$  | 3              | 3              | 3              | 3               | mA   |
|                       |        | $V_R = 20\text{ V}$ , $T_j = 125\text{ °C}$ | 200            | 200            | 200            | 200             |      |

### Thermal characteristics

|                                     |            |  |     |     |     |     |      |
|-------------------------------------|------------|--|-----|-----|-----|-----|------|
| Thermal resistance, junction - case | $R_{thJC}$ |  | 0.8 | 0.8 | 0.8 | 0.8 | °C/W |
|-------------------------------------|------------|--|-----|-----|-----|-----|------|

Figure .1-Typical Forward Characteristics

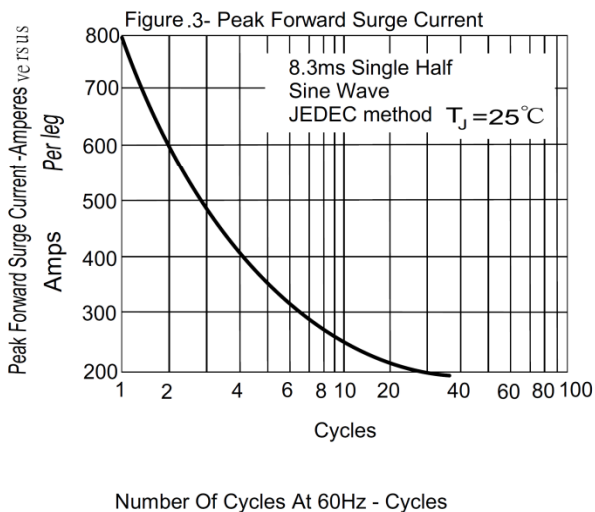
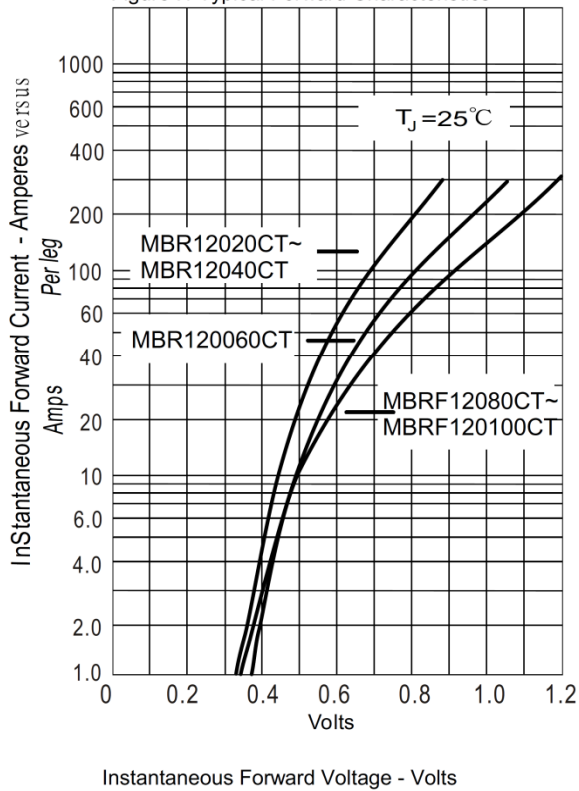


Figure .2-Forward Derating Curve

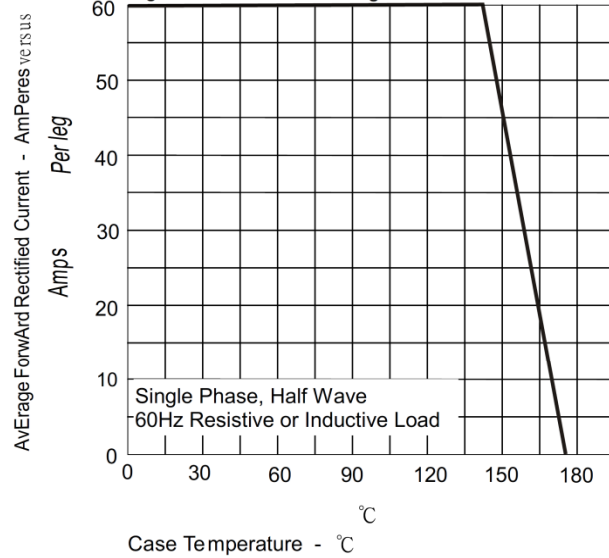
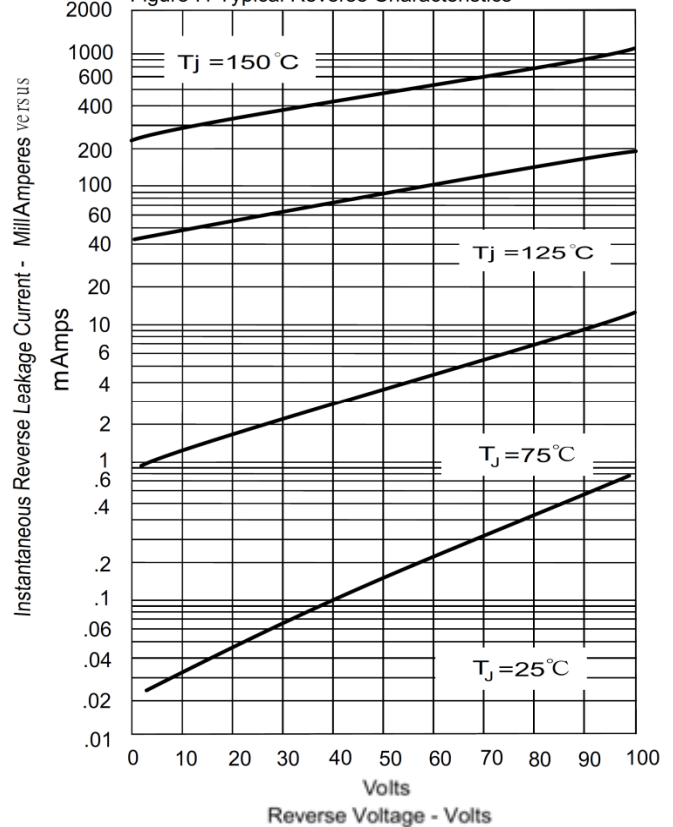
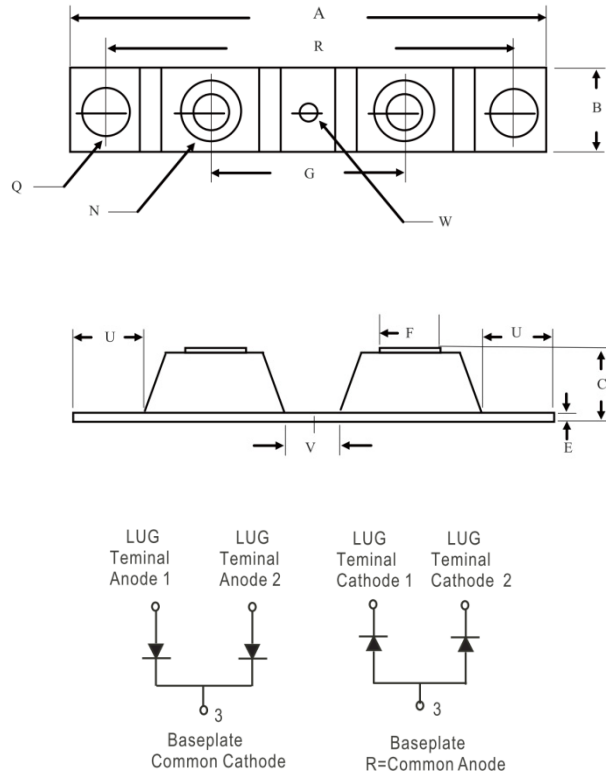


Figure .4-Typical Reverse Characteristics



## 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  |