



MBR50020CT thru MBR50040CTR

Silicon Power Schottky Diode

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

$I_F = 500\text{ A}$

Features

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

Twin Tower Package



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

| Parameter | Symbol | Conditions | MBR50020CT (R) | MBR50030CT (R) | MBR50035CT (R) | MBR50040CT (R) | Unit |
|--|------------|--|----------------|----------------|----------------|----------------|------------------|
| Repetitive peak reverse voltage | V_{RRM} | | 20 | 30 | 35 | 40 | V |
| RMS reverse voltage | V_{RMS} | | 14 | 21 | 25 | 28 | V |
| DC blocking voltage | V_{DC} | | 20 | 30 | 35 | 40 | 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 | MBR50020CT (R) | MBR50030CT (R) | MBR50035CT (R) | MBR50040CT (R) | Unit |
|-----------------------|--------|---|----------------|----------------|----------------|----------------|------|
| Diode forward voltage | V_F | $I_F = 250\text{ A}$, $T_j = 25\text{ }^\circ\text{C}$ | 0.75 | 0.75 | 0.75 | 0.75 | 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

| | | | | | | | |
|-------------------------------------|------------|--|------|------|------|------|--------------------|
| Thermal resistance, junction - case | R_{thJC} | | 0.12 | 0.12 | 0.12 | 0.12 | $^\circ\text{C/W}$ |
|-------------------------------------|------------|--|------|------|------|------|--------------------|

Figure .1-Typical Forward Characteristics

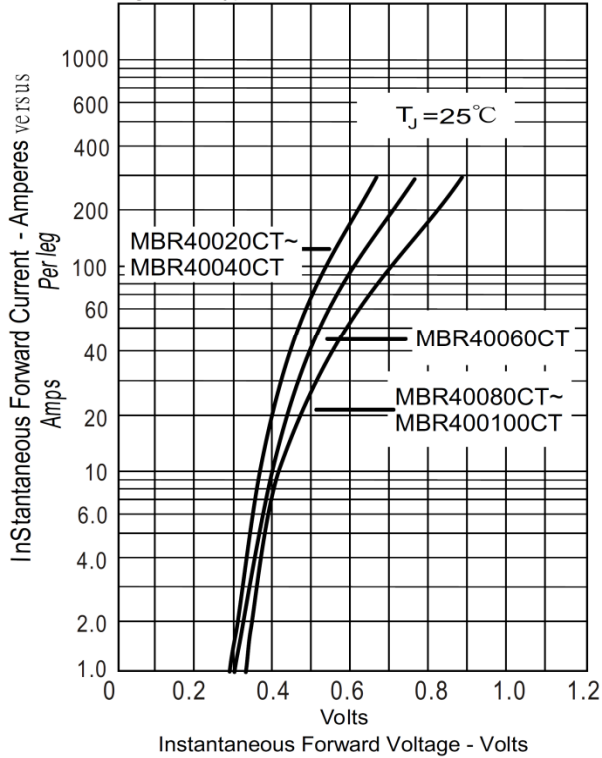


Figure .2- Forward Derating Curve

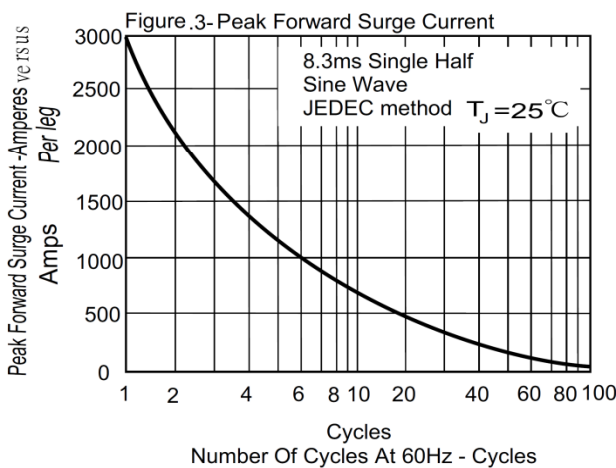
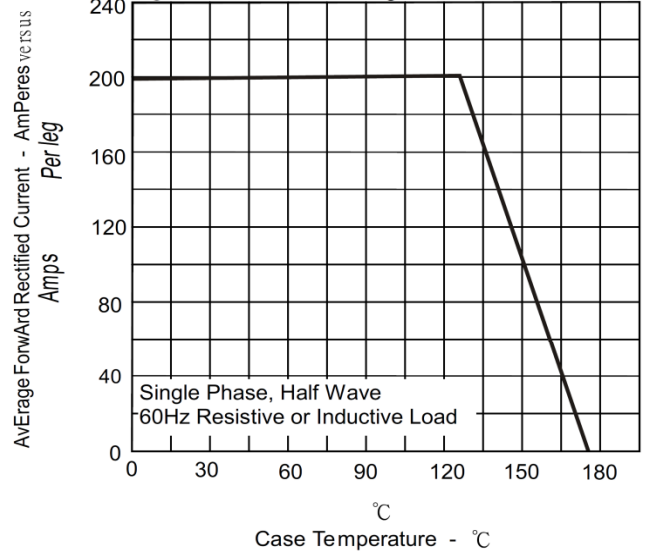


Figure .4- Typical Reverse Characteristics

