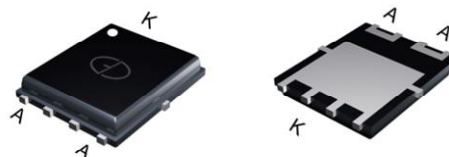


# MBRP10100CT

Schottky Barrier Rectifier  
Reverse Voltage 100 V Forward Current 10 A

## Features

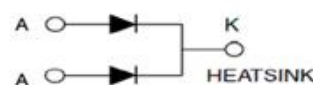
- Halogen-free package has underwriters Laboratory Flammability Classification 94V-0
- Thin package: thickness 1.0mm
- Low forward voltage, high efficiency



Package: POWER QFN5x6

## Mechanical Data

- Case: epoxy, molded
- Weight: 0.1grams (approximately)
- Finish: all external surfaces corrosion resistant and terminal leads readily solderable
- Lead temperature for soldering purpose: 260°C max. for 10 sec
- 3000 pcs/reel



Schematic Diagram

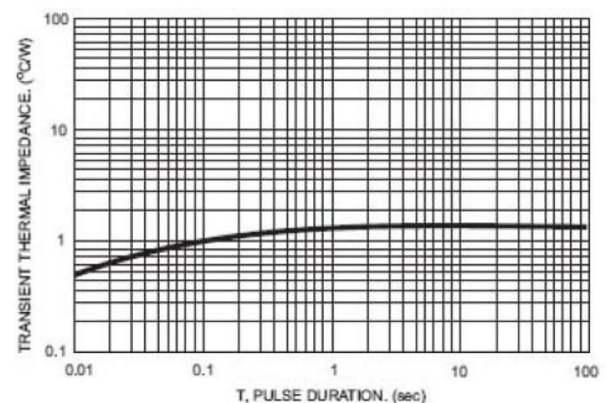
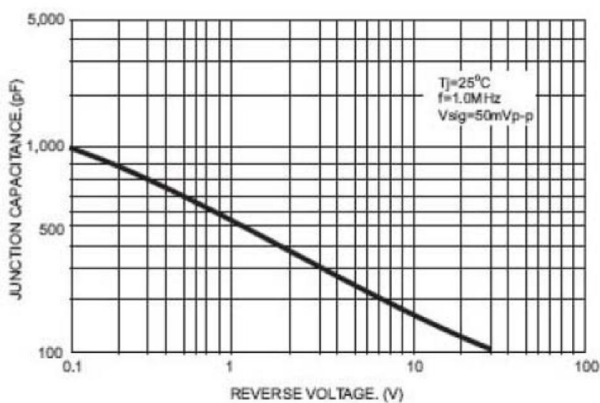
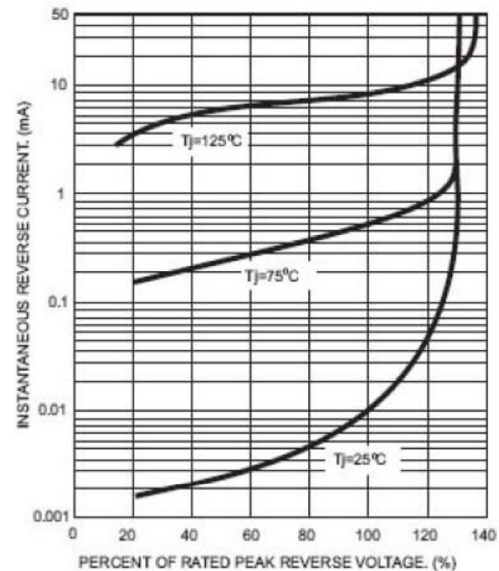
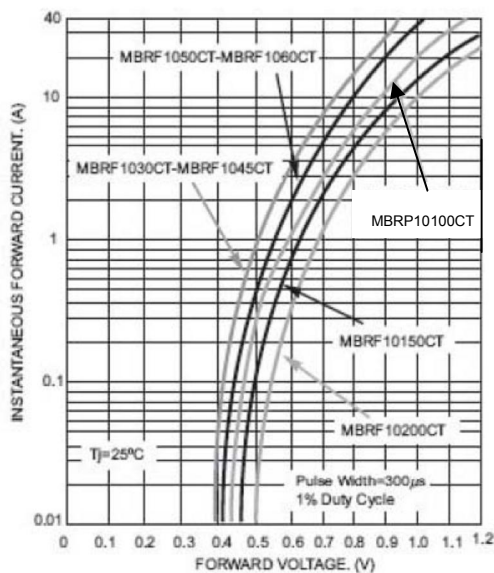
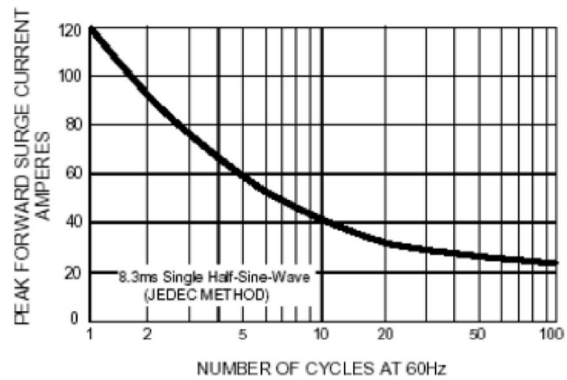
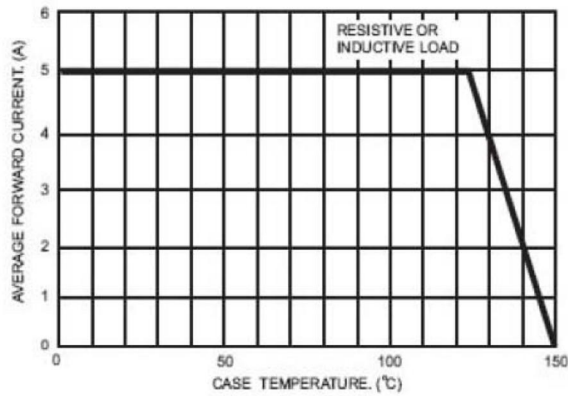
## Maximum Ratings & Electrical Characteristics

(T<sub>A</sub>=25°C unless otherwise noted)

| Parameter                                                                                      |                                                 | Test Conditions                          |                                               | Symbol             | Value        | Unit     |
|------------------------------------------------------------------------------------------------|-------------------------------------------------|------------------------------------------|-----------------------------------------------|--------------------|--------------|----------|
| Maximum Repetitive Peak Reverse Voltage                                                        |                                                 |                                          |                                               | V <sub>RRM</sub>   | 100          | V        |
| Working Peak Reverse Voltage                                                                   |                                                 |                                          |                                               | V <sub>RWM</sub>   | 100          | V        |
| Maximum DC Blocking Voltage                                                                    |                                                 |                                          |                                               | V <sub>DC</sub>    | 100          | V        |
| Maximum Average Forward Rectified Current<br>@ T <sub>c</sub> =105°C                           | Total Device<br>Per Diode                       |                                          |                                               | I <sub>F(AV)</sub> | 10<br>5      | A        |
| Peak Forward Surge Current 8.3ms Single Half Sine-wave<br>Superimposed on Rated Load per Diode |                                                 |                                          |                                               | I <sub>FSM</sub>   | 120          | A        |
| Peak repetitive Reverse Current Per Leg at tp=2.0μs , 1KHz                                     |                                                 |                                          |                                               | I <sub>RRM</sub>   | 1.0          | A        |
| Operating Junction Temperature Range                                                           |                                                 |                                          |                                               | T <sub>J</sub>     | - 55 to+150  | °C       |
| Storage Temperature Range                                                                      |                                                 |                                          |                                               | T <sub>STG</sub>   | - 55 to+150  | °C       |
| Maximum Instantaneous Forward Voltage per Leg                                                  |                                                 | I <sub>F</sub> =5A<br>I <sub>F</sub> =5A | T <sub>C</sub> =25°C<br>T <sub>C</sub> =125°C | V <sub>F</sub>     | 0.85<br>0.76 | V        |
| Maximum Reverse Current per Leg at Working<br>Peak Reverse Voltage                             |                                                 |                                          | T <sub>J</sub> =25°C<br>T <sub>J</sub> =100°C | I <sub>R</sub>     | 200<br>15    | μA<br>mA |
| Thermal Characteristics (T <sub>A</sub> =25°C unless otherwise noted)                          |                                                 |                                          |                                               |                    |              |          |
| Symbol                                                                                         | Parameter                                       | Typ. (POWER QFN5x6)                      |                                               |                    |              | Unit     |
| R <sub>θJC</sub>                                                                               | Thermal Resistance, Junction to Case per Leg    | 2.5                                      |                                               |                    |              | °C/W     |
| R <sub>θJA</sub>                                                                               | Thermal Resistance, Junction to Ambient per Leg | 50                                       |                                               |                    |              | °C/W     |

**Note:** Pulse test:300us pulse width, duty cycle=2%

## Ratings and Characteristics Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)



## Package Outline Dimensions

in millimeters

POWER QFN5x6

