

# MBRD1040CT-MBRD10200CT

## 10A SCHOTTKY BARRIER RECTIFIER



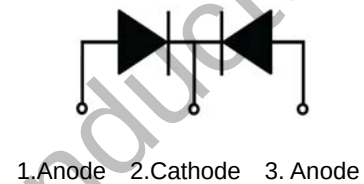
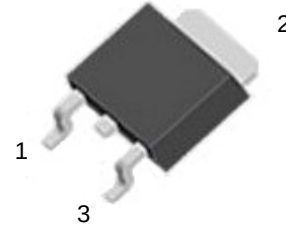
### MBRD1040CT-MBRD10200CT

#### Features:

- ☐ Low power loss,high efficiency.  
High surge capacity
- ☐ For use in low voltage,high frequency inverters,  
free wheeling,and polarity protection applications.
- ☐ Metal silicon junction,majority carrier conduction.
- ☐ High current Capability,low forward voltage drop.
- ☐ Guard ring for over voltage protection.



TO-252



#### Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

| Parameter                                                                                              | Symbol               | MBRD<br>1040<br>CT | MBRD<br>1045<br>CT | MBRD<br>1050<br>CT | MBRD<br>1060<br>CT | MBRD<br>1080<br>CT | MBRD<br>1090<br>CT | MBRD<br>10100<br>CT | MBRD<br>10150<br>CT | MBRD<br>10200<br>CT | Unit |
|--------------------------------------------------------------------------------------------------------|----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|---------------------|---------------------|------|
| Maximum Recurrent Peak Reverse Voltage                                                                 | V <sub>RRM</sub>     | 40                 | 45                 | 50                 | 60                 | 80                 | 90                 | 100                 | 150                 | 200                 | V    |
| Maximum RMS Voltage                                                                                    | V <sub>RMS</sub>     | 28                 | 31.5               | 35                 | 42                 | 56                 | 63                 | 70                  | 105                 | 140                 |      |
| Maximum DC Blocking Voltage                                                                            | V <sub>R(DC)</sub>   | 40                 | 45                 | 50                 | 60                 | 80                 | 90                 | 100                 | 150                 | 200                 |      |
| Maximum Average Forward Current                                                                        | I <sub>F(AV)</sub>   | 10                 |                    |                    |                    |                    |                    |                     |                     |                     | A    |
| Peak Forward Surge Current:8.3ms<br>single half sine-wave superimposed on<br>rated load (JEDEC method) | I <sub>FSM</sub>     | 150                |                    |                    |                    |                    |                    |                     |                     |                     |      |
| Maximum Forward Voltage at 5A per leg                                                                  | V <sub>F</sub>       | 0.65               |                    | 0.72               |                    | 0.85               |                    |                     | 0.92                |                     | V    |
| Maximum DC Reverse<br>Current at Rated DC<br>Blocking Voltage                                          | T <sub>j</sub> =25℃  | I <sub>R</sub>     | 0.1                |                    |                    |                    |                    |                     |                     |                     | mA   |
|                                                                                                        | T <sub>j</sub> =125℃ |                    | 20                 |                    |                    |                    |                    |                     |                     |                     |      |
| Maximum Operating Junction<br>Temperature                                                              | T <sub>j</sub>       | 150                |                    |                    |                    | 175                |                    |                     |                     |                     | ℃    |
| Storage Temperature                                                                                    | T <sub>stg</sub>     | -55~+150           |                    |                    |                    | -65~+175           |                    |                     |                     |                     |      |
| Typical Thermal Resistance                                                                             | R <sub>θJC</sub>     | 1.4                |                    |                    |                    |                    |                    |                     |                     |                     | ℃/W  |

## Typical Characteristics

### RATING AND CHARACTERISTIC CURVES

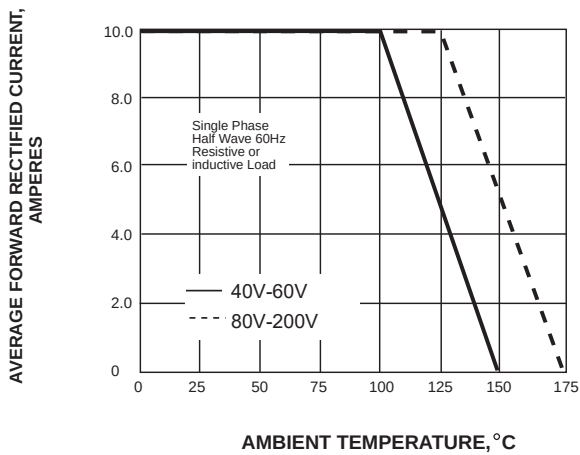


Fig.1 FORWARD CURRENT ERATING CURVE

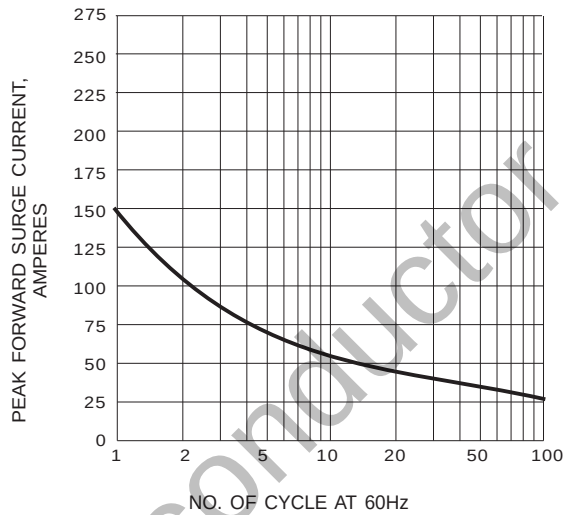


Fig.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

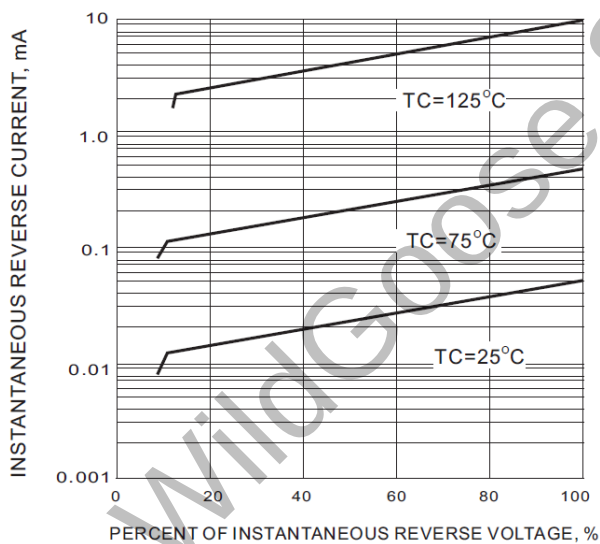


Fig.3 TYPICAL REVERSE CHARACTERISTIC

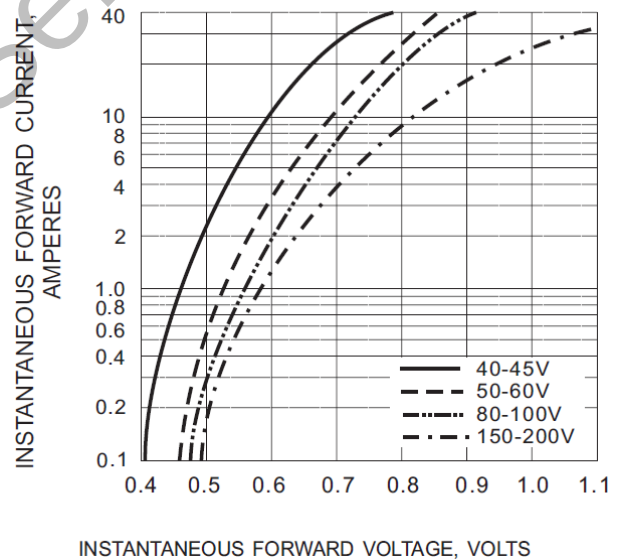
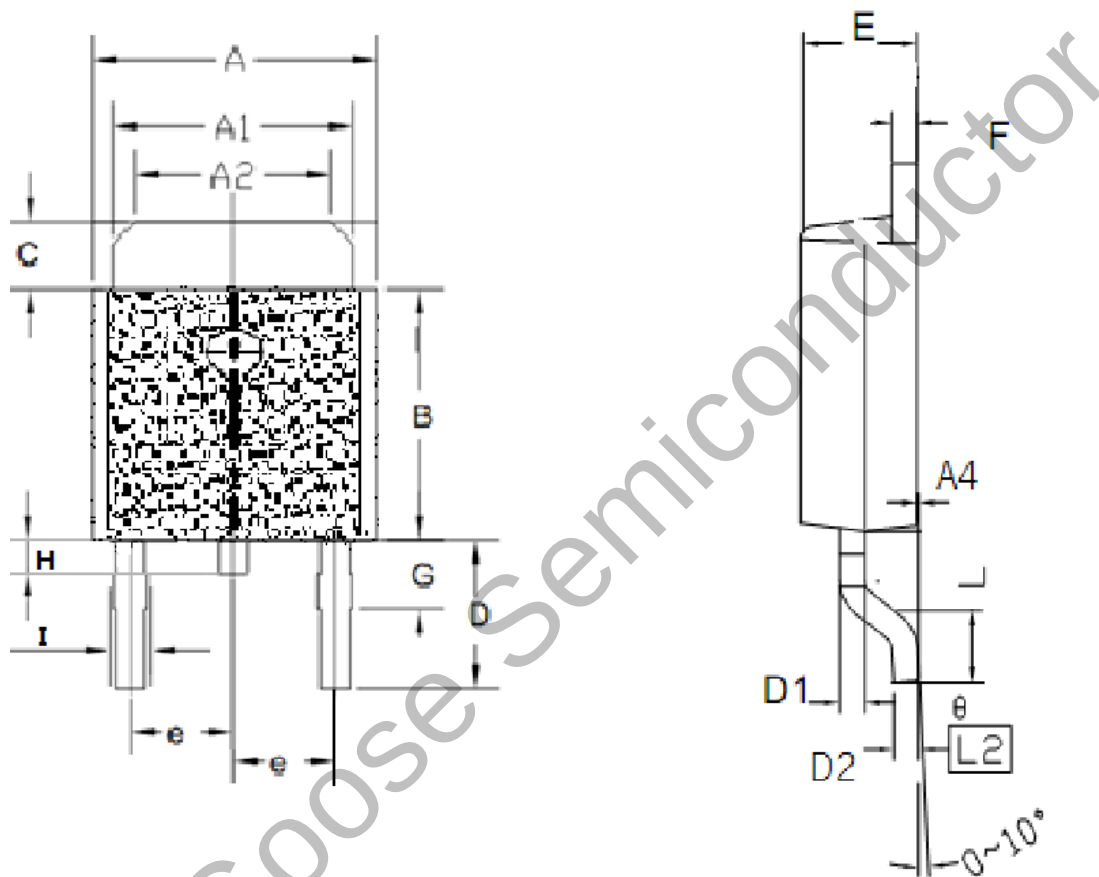


Fig.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

**Package Dimension**

**TO-252**



UNIT: mm

| Symbol | Min  | Max  | Symbol | Min  | Max   |
|--------|------|------|--------|------|-------|
| A      | 6.40 | 6.60 | D      | 2.90 | 3.10  |
| A1     | 5.20 | 5.40 | D1     | 0.45 | 0.55  |
| A2     | 4.40 | 4.60 | D2     | 0.45 | 0.55  |
| A3     | 4.40 | 4.60 | e      | 2.30 |       |
| A4     | 0.00 | 0.15 | E      | 2.20 | 2.40  |
| A5     | 4.65 | 4.95 | F      | 0.49 | 0.59  |
| B      | 6.00 | 6.20 | G      | 1.70 |       |
| B1     | 1.57 | 1.77 | L      | 1.40 | 1.60  |
| C      | 0.90 | 0.96 | θ (度)  | 0.00 | 10.00 |
| I      | 0.60 | 0.90 | H      | 0.49 | 0.52  |