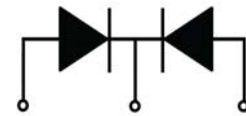
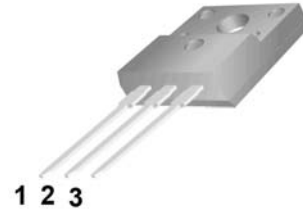


**MBRF4040CT-MBRF40200CT**
**Features:**

- 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-220F



1.Anode 2.Cathode 3. Anode

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

| Parameter  | Symbol                  | MBRF 4040 CT | MBRF 4045 CT | MBRF 4050 CT | MBRF 4060 CT | MBRF 4080 CT | MBRF 4090 CT | MBRF 40100 CT | MBRF 40150 CT | MBRF 40200 CT | Unit |
|--|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|------|
| Maximum Recurrent Peak Reverse Voltage   | $V_{RRM}$               | 40           | 45           | 50           | 60           | 80           | 90           | 100           | 150           | 200           | V    |
| Maximum RMS Voltage  | $V_{RMS}$               | 28           | 31.5         | 35           | 42           | 56           | 63           | 70            | 105           | 140           |      |
| Maximum DC Blocking Voltage  | $V_{R(DC)}$             | 40           | 45           | 50           | 60           | 80           | 90           | 100           | 150           | 200           |      |
| Maximum Average Forward Current  | $I_{F(AV)}$             | 40           |              |              |              |              |              |               |               |               | A    |
| Peak Forward Surge Current:8.3ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$               | 350          |              |              |              |              |              |               |               |               |      |
| Maximum Forward Voltage at 20A per leg   | $V_F$                   | 0.65         |              | 0.72         |              |              | 0.82         |               | 0.92          |               | V    |
| Maximum DC Reverse Current at Rated DC Blocking Voltage  | $T_j=25^\circ\text{C}$  | 0.1          |              |              |              |              |              |               | 0.05          |               | mA   |
|  | $T_j=125^\circ\text{C}$ | 20           |              |              |              |              |              |               |               |               |      |
| Maximum Operating Junction Temperature   | $T_j$                   | 150          |              |              |              | 175          |              |               |               |               | °C   |
| Storage Temperature  | $T_{stg}$               | -55~+150     |              |              |              | -65~+175     |              |               |               |               |      |
| Typical Thermal Resistance   | $R_{\theta JC}$         | 1.3          |              |              |              |              |              |               |               |               | °C/W |

Typical Characteristics

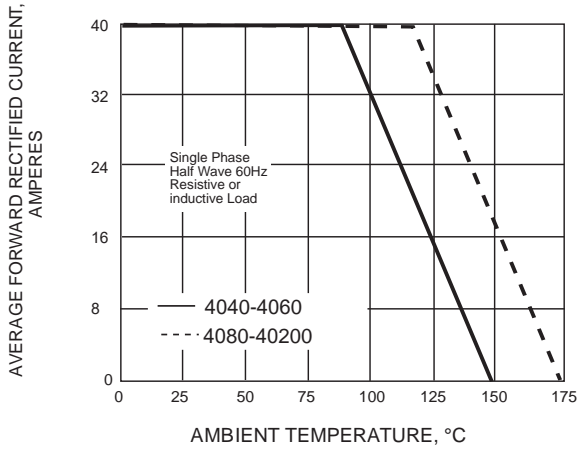


Fig.1 FORWARD CURRENT DERATING CURVE

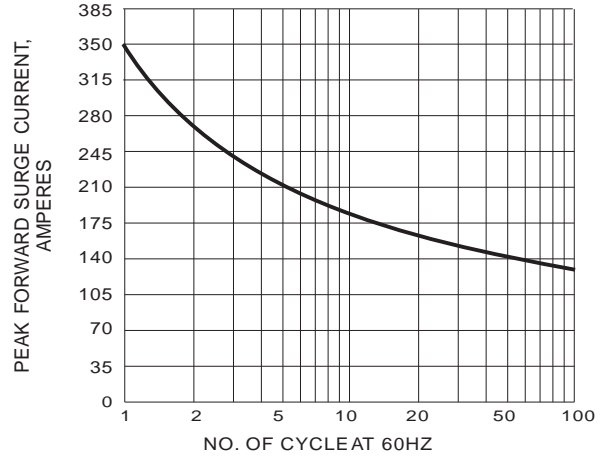


Fig.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

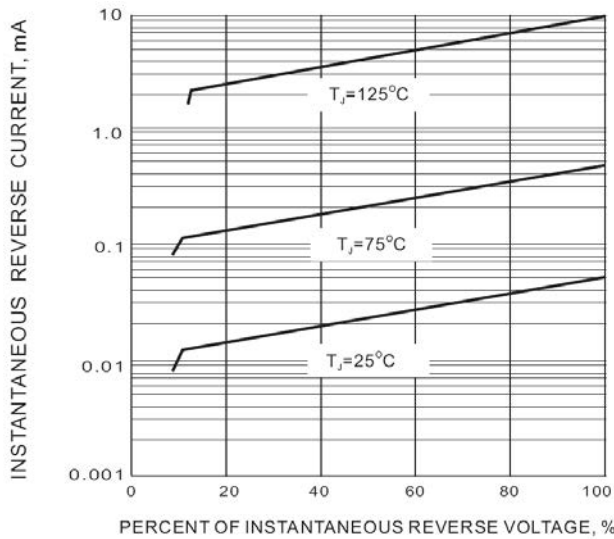


Fig 3. TYPICAL REVERSE CHARACTERISTIC

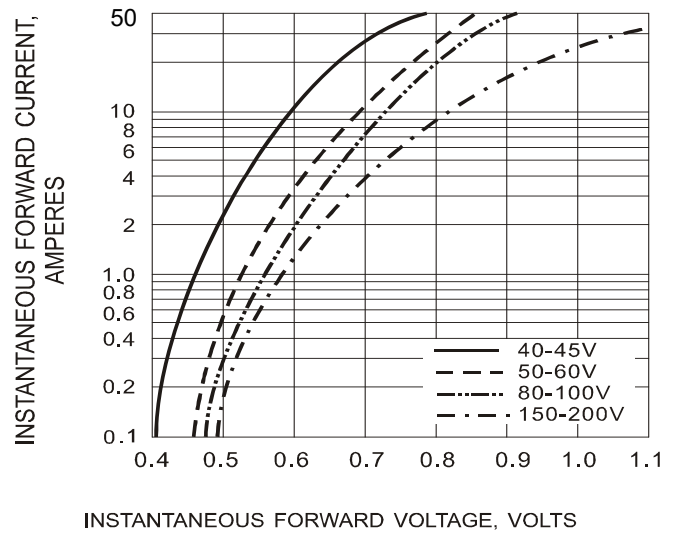
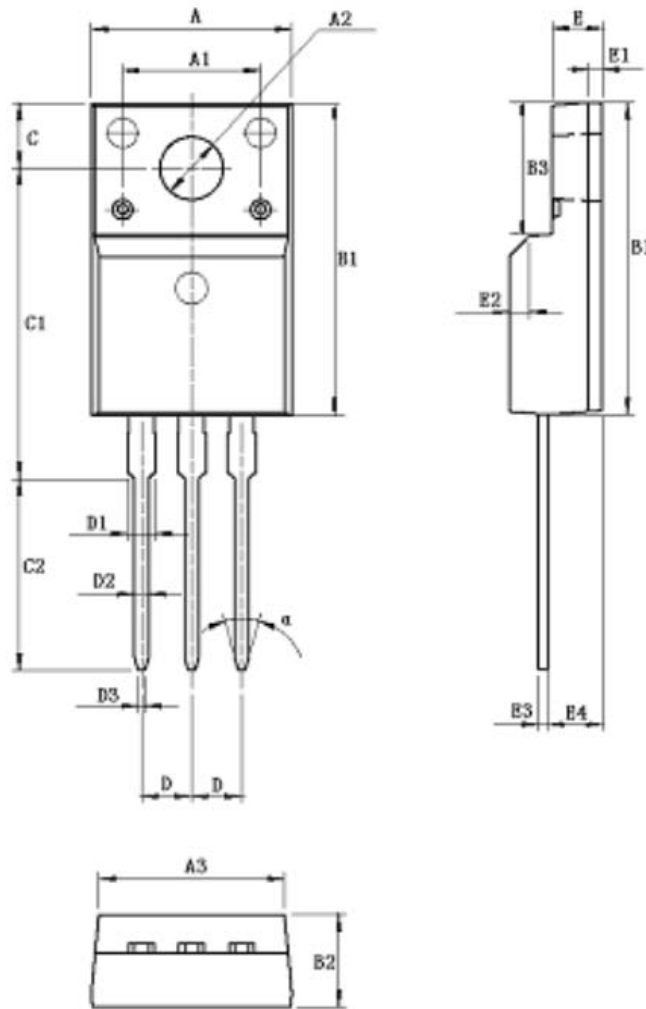


Fig 4. TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

**Package Dimension**
**TO-220F**

Units: mm



| Symbol | Min   | Max   | Symbol | Min     | Max  |
|--------|-------|-------|--------|---------|------|
| A      | 9.96  | 10.36 | D      | 2.54    |      |
| A1     | 7.00  |       | D1     | 1.15    | 1.35 |
| A2     | 3.08  | 3.28  | D2     | 0.70    | 0.90 |
| A3     | 9.25  | 9.65  | D3     | 0.28    | 0.48 |
| B1     | 15.70 | 16.10 | E      | 2.34    | 2.74 |
| B2     | 4.50  | 4.90  | E1     | 0.70    |      |
| B3     | 6.20  | 6.80  | E2     | 1.0×45° |      |
| C      | 3.20  | 3.40  | E3     | 0.36    | 0.65 |
| C1     | 15.20 | 16.00 | E4     | 2.55    | 2.95 |
| C2     | 9.75  | 10.15 | a(度)   | 30°     |      |