

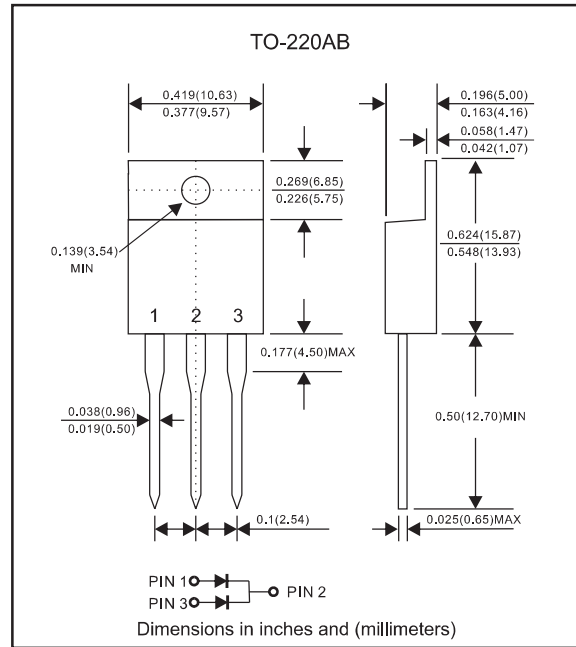
Features

- Low power loss, high efficiency.
- High current capability
- High surge capability.
- Guardring for overvoltage protection.
- Low stored charge majority carrier conduction
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Suffix "-H" indicates Halogen-free part, ex.MBR1040CT-H.

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : JEDEC TO-220AB molded plastic body over passivated chip
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: As marked
- Mounting Position : Any

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER | CONDITIONS | Symbol | MIN. | TYP. | MAX. | UNIT |
|---------------------------|---|-----------------|------|------|------|----------------------|
| Forward rectified current | See Fig.1 | I_o | | | 10.0 | A |
| Forward surge current | 8.3ms single half sine-wave (JEDEC methode) | I_{FSM} | | | 120 | A |
| Reverse current | $V_R = V_{RRM} T_J = 25^{\circ}\text{C}$ | I_R | | | 0.05 | mA |
| | $V_R = V_{RRM} T_J = 125^{\circ}\text{C}$ | | | | 10 | |
| Thermal resistance | Junction to case | $R_{\theta JC}$ | | 2 | | $^{\circ}\text{C/W}$ |
| Storage temperature | | T_{STG} | -65 | | +175 | $^{\circ}\text{C}$ |

NOTE : (1) Device mounted on additional heatsink, (50mm x 50mm x 23mm Al heatsink).

| SYMBOLS | V_{RRM}^{*1} (V) | V_{RMS}^{*2} (V) | V_R^{*3} (V) | V_F^{*4} (V) | Operating temperature T_J ($^{\circ}\text{C}$) |
|------------|-----------------------|-----------------------|-------------------|-------------------|---|
| MBR1040CT | 40 | 28 | 40 | 0.70 | -55 to +150 |
| MBR1045CT | 45 | 31.5 | 45 | | |
| MBR1050CT | 50 | 35 | 50 | 0.80 | |
| MBR1060CT | 60 | 42 | 60 | | |
| MBR1080CT | 80 | 56 | 80 | 0.85 | |
| MBR10100CT | 100 | 70 | 100 | | |
| MBR10150CT | 150 | 105 | 150 | 0.92 | -55 to +175 |
| MBR10200CT | 200 | 140 | 200 | | |

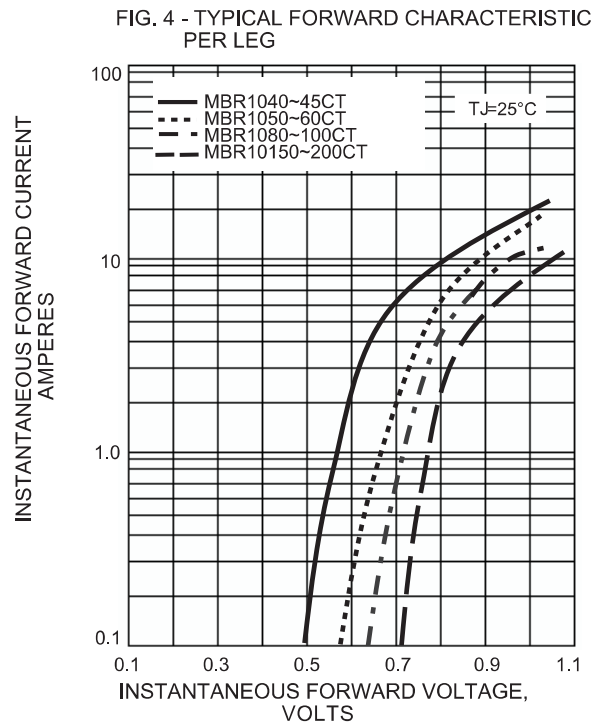
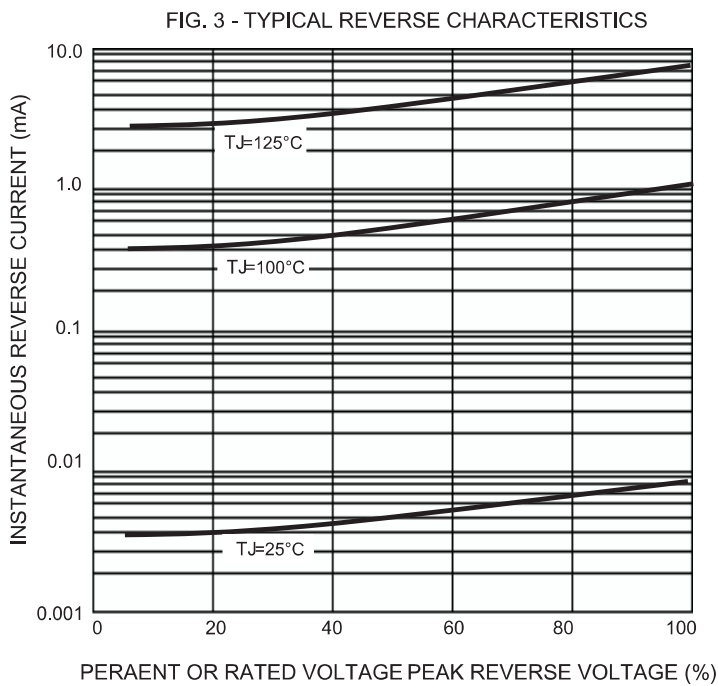
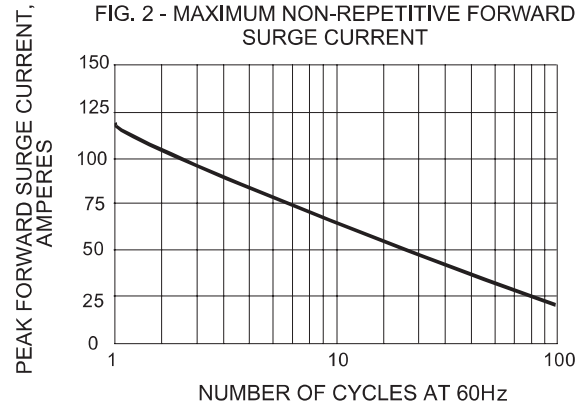
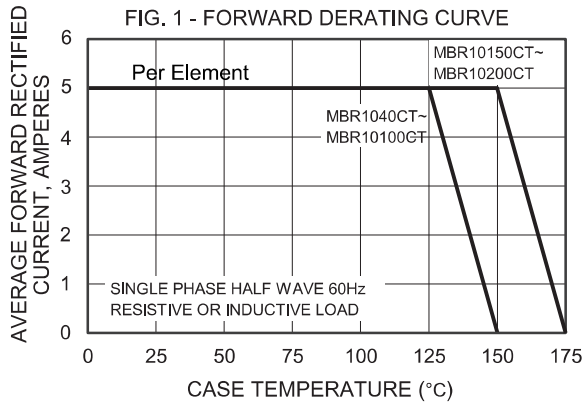
*1 Repetitive peak reverse voltage

*2 RMS voltage

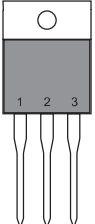
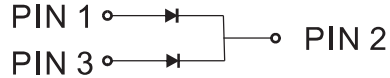
*3 Continuous reverse voltage

*4 Maximum forward voltage
 $I_F = 5.0\text{A}$, 25°C

Rating and characteristic curves (MBR1040CT THRU MBR10200CT)



Pinning information

| Pin | Simplified outline | Symbol |
|--|---|---|
| Pin1 anode Pin2 cathode Pin3 anode |  |  |

Marking

| Type number | Marking code |
|-------------|--------------|
| MBR1040CT | MBR1040CT |
| MBR1045CT | MBR1045CT |
| MBR1050CT | MBR1050CT |
| MBR1060CT | MBR1060CT |
| MBR1080CT | MBR1080CT |
| MBR10100CT | MBR10100CT |
| MBR10150CT | MBR10150CT |
| MBR10200CT | MBR10200CT |