

# MBR1040FCT THRU MBR10200FCT

## 10A High Barrier Power Schottky Rectifiers - 40V-200V

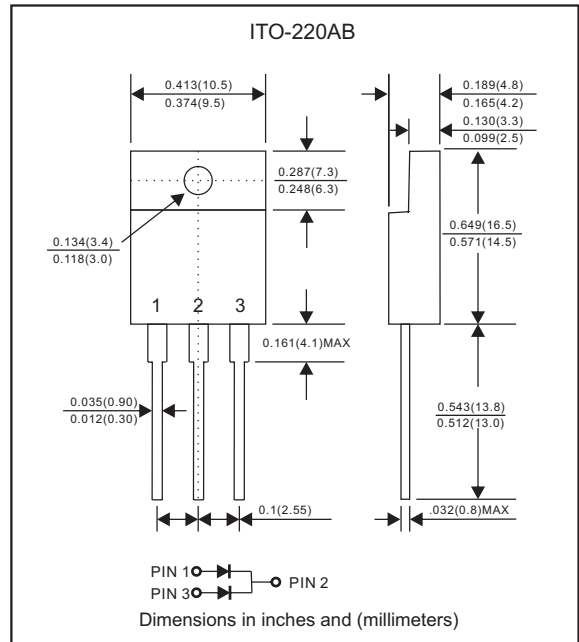
### Features

- 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 parts, ex. MBR1040FCT-H.

### Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : JEDEC ITO-220AB molded plastic body over passivated chip
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position : Any
- Weight : Approximated 1.70 gram

### 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           | $V_R = V_{RRM} \quad T_J = 25^{\circ}\text{C}$  | $I_R$     |      |      | 0.05 | mA                   |
|                           | $V_R = V_{RRM} \quad T_J = 125^{\circ}\text{C}$ |           |      |      | 10   |                      |
| Thermal resistance        | Junction to case                                | $R_{BJC}$ |      | 3.0  |      | $^{\circ}\text{C/W}$ |
| Storage temperature       |                                                 | $T_{STG}$ | -65  |      | +175 | $^{\circ}\text{C}$   |

| SYMBOLS     | V <sub>RRM</sub> <sup>*1</sup><br>(V) | V <sub>RMS</sub> <sup>*2</sup><br>(V) | V <sub>R</sub> <sup>*3</sup><br>(V) | V <sub>F</sub> <sup>*4</sup><br>(V) | V <sub>F</sub> <sup>*5</sup><br>(V) | Operating<br>temperature<br>T <sub>J</sub> , (°C) |
|-------------|---------------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------------------------|
| MBR1040FCT  | 40                                    | 28                                    | 40                                  | 0.70                                | 0.84                                | -55 to +150                                       |
| MBR1045FCT  | 45                                    | 31.5                                  | 45                                  |                                     |                                     |                                                   |
| MBR1050FCT  | 50                                    | 35                                    | 50                                  | 0.80                                | 0.90                                |                                                   |
| MBR1060FCT  | 60                                    | 42                                    | 60                                  |                                     |                                     |                                                   |
| MBR1080FCT  | 80                                    | 56                                    | 80                                  | 0.85                                | 0.95                                |                                                   |
| MBR10100FCT | 100                                   | 70                                    | 100                                 |                                     |                                     |                                                   |
| MBR10150FCT | 150                                   | 105                                   | 150                                 | 0.92                                | 1.00                                | -55 to +175                                       |
| MBR10200FCT | 200                                   | 140                                   | 200                                 |                                     |                                     |                                                   |

\*1 Repetitive peak reverse voltage

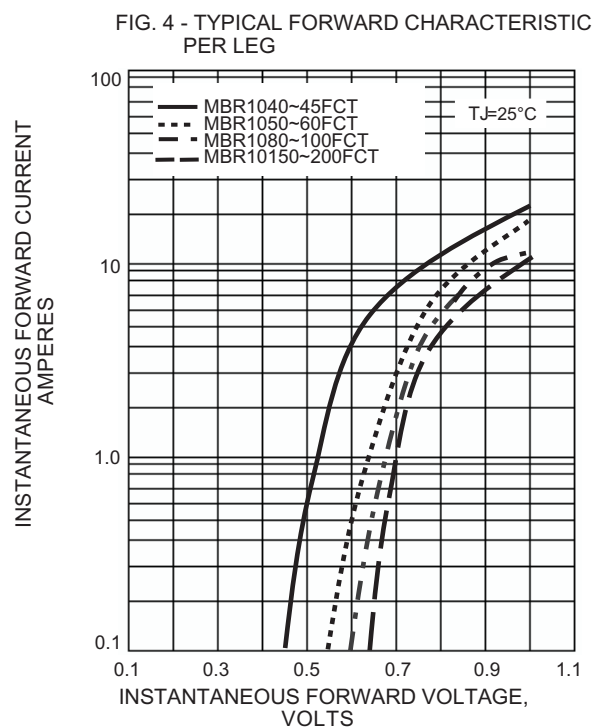
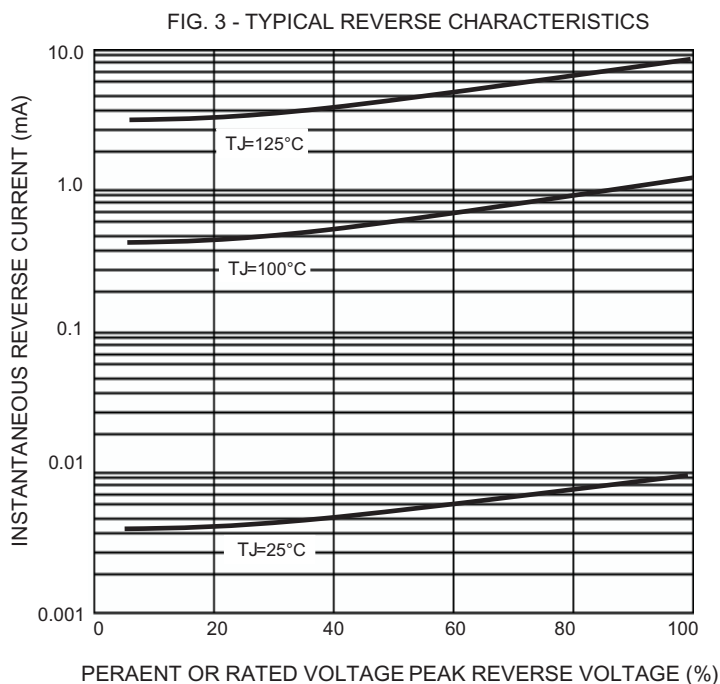
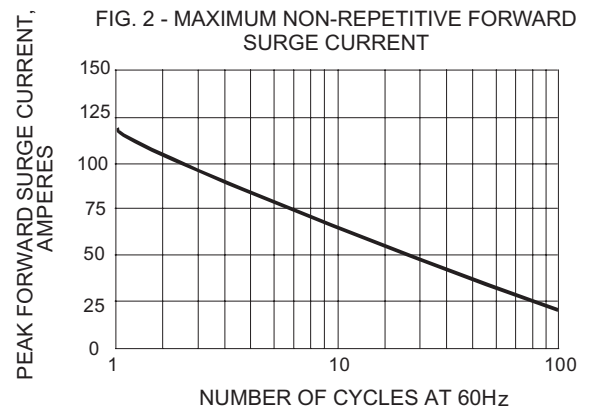
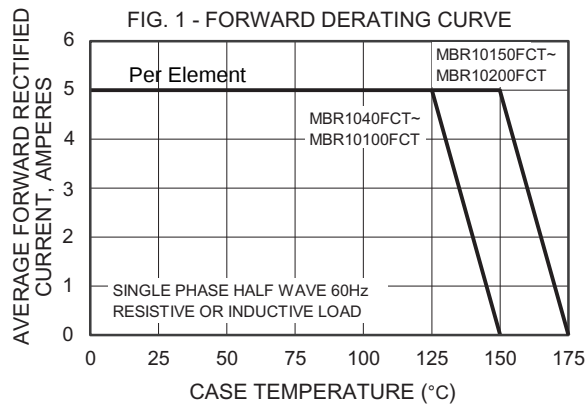
\*2 RMS voltage

\*3 Continuous reverse voltage

\*4 Maximum forward voltage  
 $I_F = 5.0\text{A}$

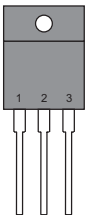
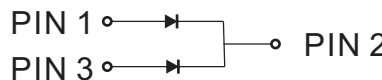
\*5 Maximum of forward voltage  
 $I_F = 10.0\text{A}$

## Rating and characteristic curves (MBR1040FCT THRU MBR10200FCT)



# MBR1040FCT THRU MBR10200FCT

## Pinning information

| Pin                                      | Simplified outline                                                                | Symbol                                                                              |
|------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Pin1 anode<br>Pin2 cathode<br>Pin3 anode |  |  |

## Marking

| Type number | Marking code |
|-------------|--------------|
| MBR1040FCT  | MBR1040FCT   |
| MBR1045FCT  | MBR1045FCT   |
| MBR1050FCT  | MBR1050FCT   |
| MBR1060FCT  | MBR1060FCT   |
| MBR1080FCT  | MBR1080FCT   |
| MBR10100FCT | MBR10100FCT  |
| MBR10150FCT | MBR10150FCT  |
| MBR10200FCT | MBR10200FCT  |

## Tube packing

| PACKAGE   | TUBE<br>(pcs) | TUBE SIZE<br>(m/m) | BOX<br>(pcs) | INNER<br>BOX<br>(m/m) | CARTON<br>SIZE<br>(m/m) | CARTON<br>(pcs) | APPROX.<br>GROSS WEIGHT<br>(kg) |
|-----------|---------------|--------------------|--------------|-----------------------|-------------------------|-----------------|---------------------------------|
| ITO-220AB | 50            | 525*32*7.0         | 1,000        | 555*150*40            | 580*230*175             | 5,000           | 15.0                            |