

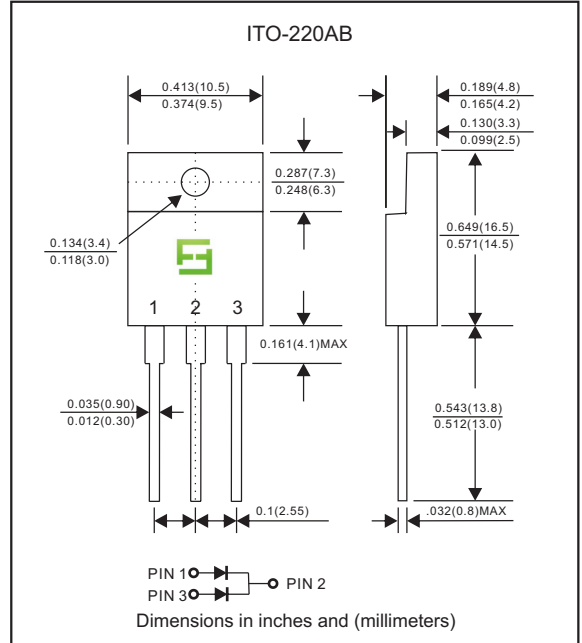
Features

- 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. MBR2040FCT-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

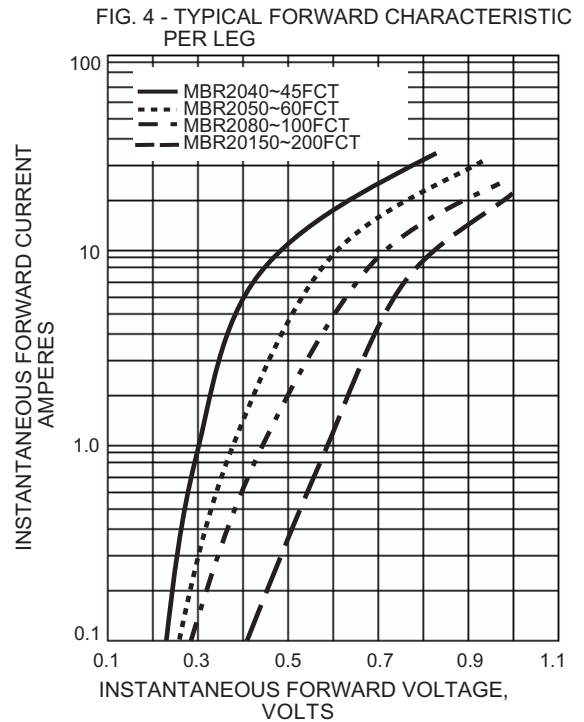
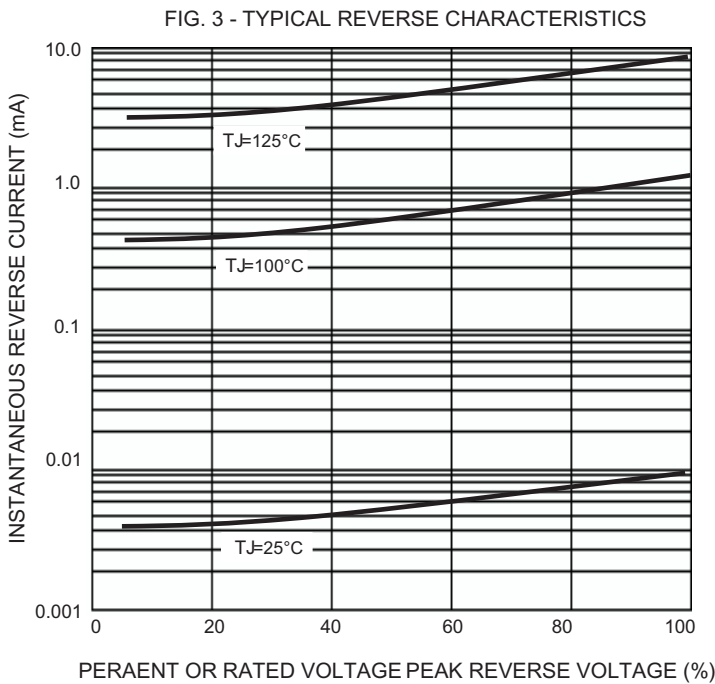
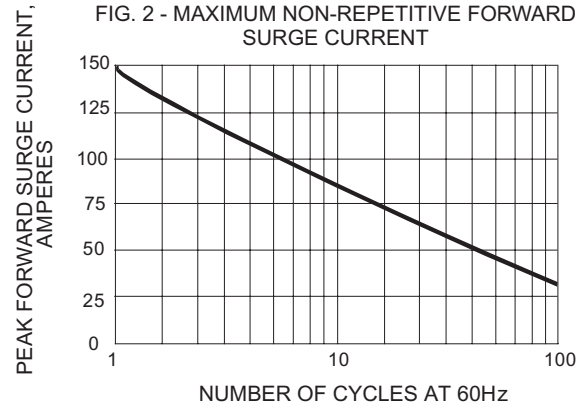
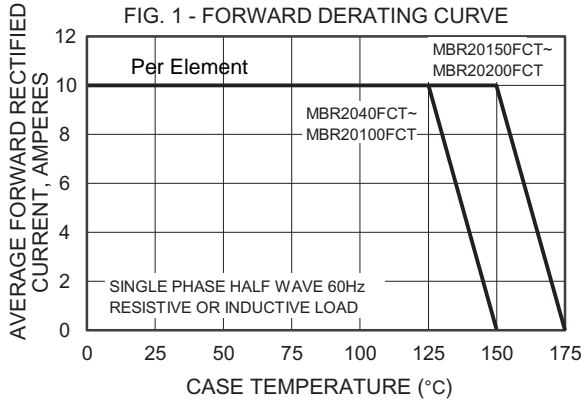
Package outline



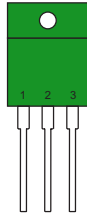
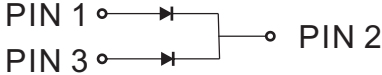
Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | MBR2040FCT | MBR2045FCT | MBR2050FCT | MBR2060FCT | MBR2080FCT | MBR2090FCT | MBR20100FCT | MBR20150FCT | MBR20200FCT | UNITS | |
|--|-----------------|--------------|------------|------------|------------|------------|------------|-------------|--------------|-------------|-----------------------------|----|
| 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 | V | |
| Maximum DC Blocking Voltage | V_{DC} | 40 | 45 | 50 | 60 | 80 | 90 | 100 | 150 | 200 | V | |
| Maximum Average Forward Current (See fig.1) | $I_{F(AV)}$ | 20 | | | | | | | | | A | |
| Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load(JEDEC method) | I_{FSM} | 150 | | | | | | | | | A | |
| Maximum Forward Voltage at 10A, per leg | V_F | 0.70 | 0.80 | 0.85 | | | | 0.92 | | | V | |
| Maximum DC Reverse Current $T_J=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_J=125^\circ\text{C}$ | I_R | 0.05 | | | | | 20 | | | | | mA |
| Typical Thermal Resistance | $R_{\theta JC}$ | 2 | | | | | | | | | $^\circ\text{C} / \text{W}$ | |
| Operating and Storage Junction Temperature Range | T_J, T_{STG} | -55 to + 150 | | | | | | | -55 to + 175 | | $^\circ\text{C}$ | |

Rating and characteristic curves



Pinning information

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

Marking

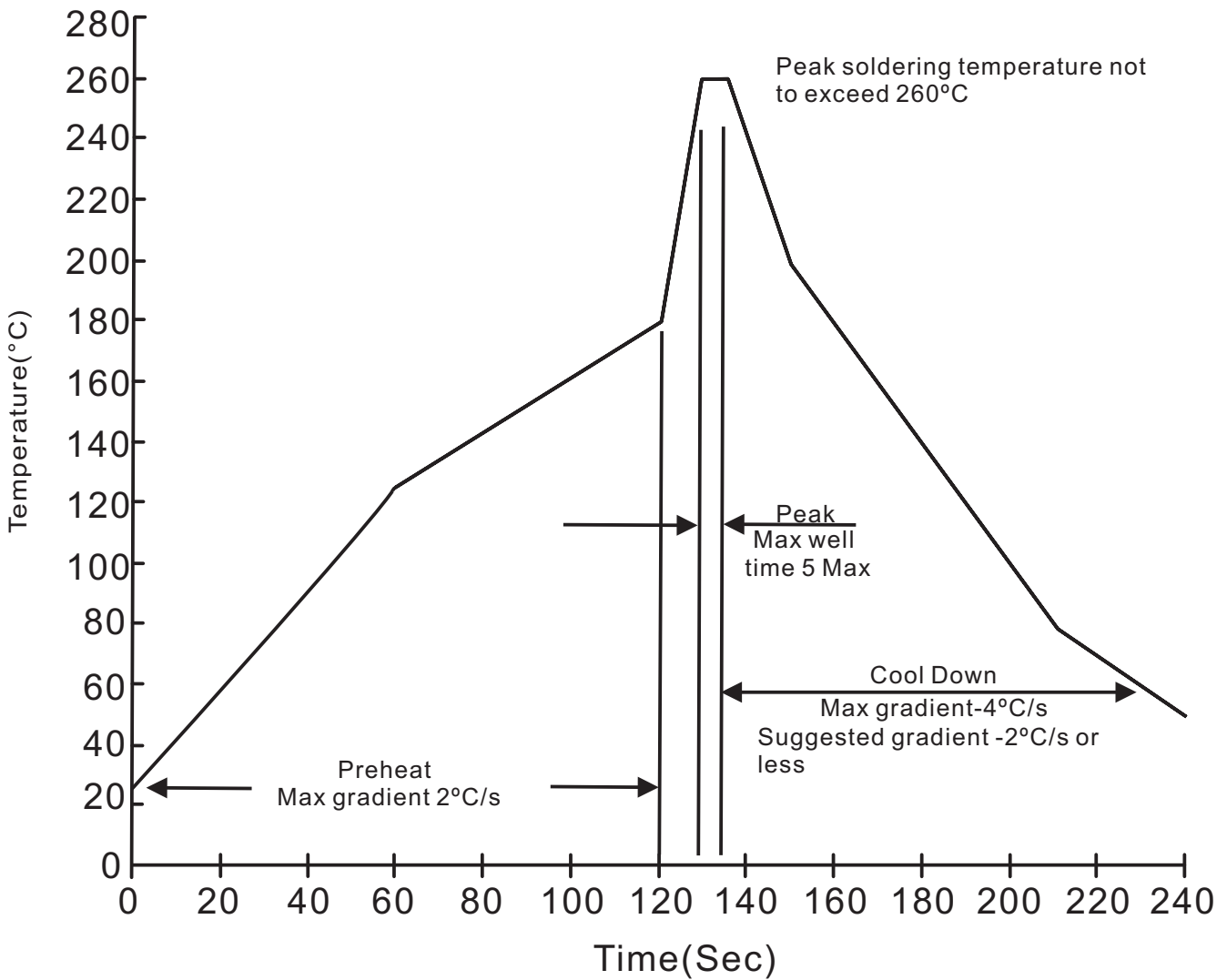
| Type number | Marking code |
|-------------|--------------|
| MBR2040FCT | MBR2040FCT |
| MBR2045FCT | MBR2045FCT |
| MBR2050FCT | MBR2050FCT |
| MBR2060FCT | MBR2060FCT |
| MBR2080FCT | MBR2080FCT |
| MBR20100FCT | MBR20100FCT |
| MBR20150FCT | MBR20150FCT |
| MBR20200FCT | MBR20200FCT |

Tube packing

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

Suggested thermal profiles for soldering processes

1. Lead free temperature profile wave-soldering



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