



# MBRF2040CTD~MBRF20200CTD

## 20 AMPERES SCHOTTKY BARRIER RECTIFIERS

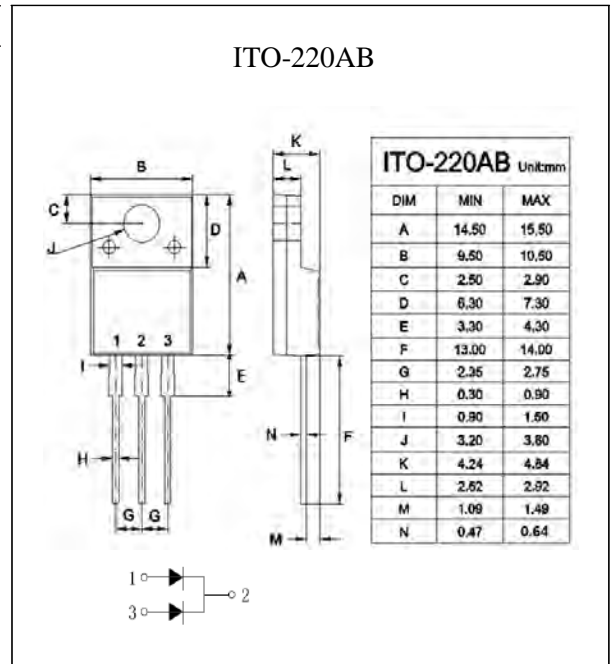
|         |                 |
|---------|-----------------|
| VOLTAGE | 40 to 200 Volts |
| CURRENT | 20 Amperes      |

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0. Flame Retardant Epoxy Molding Compound.
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency.
- High current capability
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications.
- Lead free in comply with EU RoHS

### MECHANICAL DATA

- Case: ITO-220AB molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Mounting Position: Any



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| PARAMETER  | SYMBOL          | MBRF 2040CTD | MBRF 2045CTD | MBRF 2050CTD | MBRF 2060CTD | MBRF 2080CTD | MBRF 2090CTD | MBRF 20100CTD | MBRF 20150CTD | MBRF 20200CTD | 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  | $V_F$           | 0.65         |              | 0.8          |              | 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         |              |               |               |               | mA                          |
|  |                 |              |              |              |              | 20           |              |               |               |               |                             |
| Typical Thermal Resistance   | $R_{\theta JC}$ | 2            |              |              |              |              |              |               |               |               | $^\circ\text{C} / \text{W}$ |
| Operating Junction and Storage Temperature Range   | $T_J, T_{STG}$  | -50 to +150  |              |              |              |              |              |               | -55 to +175   |               | $^\circ\text{C}$            |
| Junction Capacitance (Notel)   | $C_J$           | 700          |              | 500          |              | 400          |              |               | 300           | 250           | pF                          |

Note:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc;



## RATING AND CHARACTERISTIC CURVES

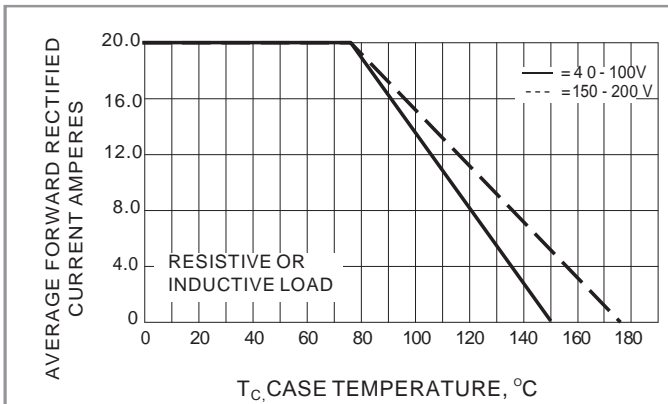


Fig.1- FORWARD CURRENT DERATING CURVE

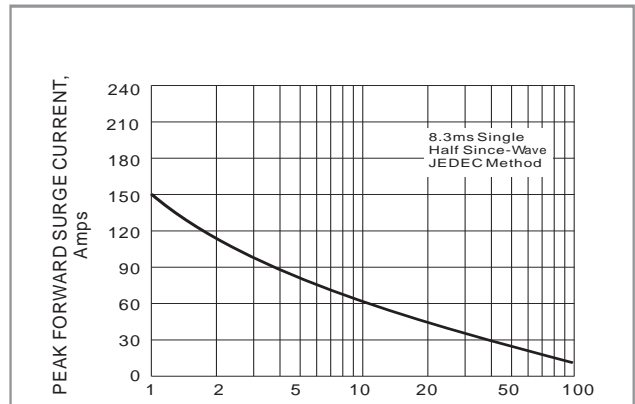


Fig.2- MAXIMUM NON - REPETITIVE SURGE CURRENT

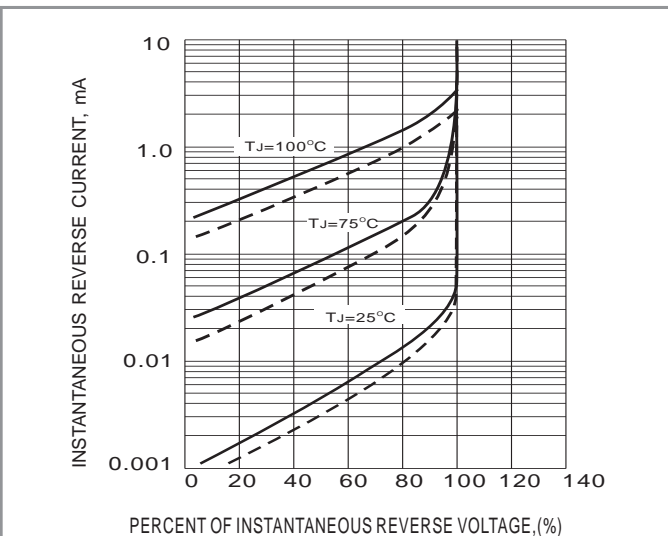


Fig.3- TYPICAL REVERSE CHARACTERISTICS

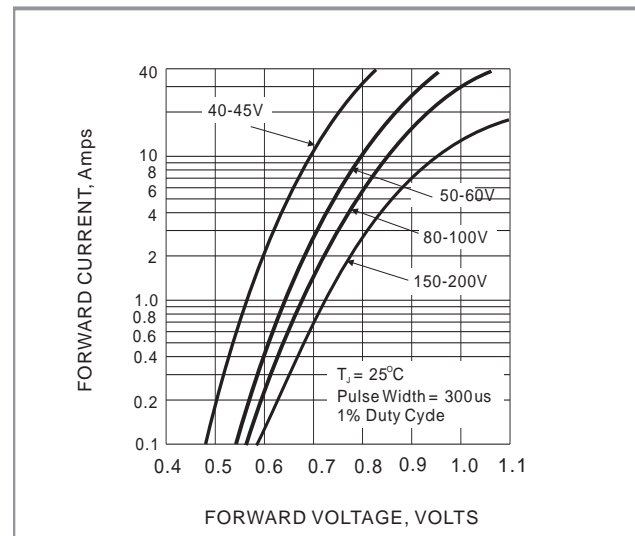


Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

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