

SCHOTTKY BARRIER RECTIFIERS

REVERSE VOLTAGE - **30 to 45** Volts
FORWARD CURRENT - **10** Amperes

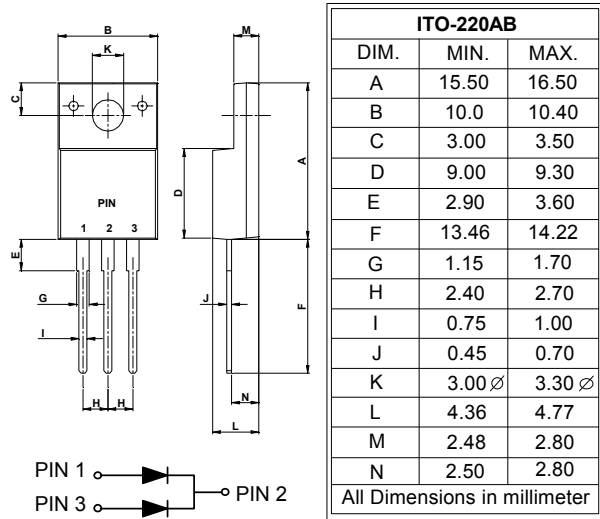
FEATURES

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High current capability, low VF
- High surge capacity
- Plastic package has UL flammability classification 94V-0
- For use in low voltage, high frequency inverters, free-wheeling, and polarity protection applications

MECHANICAL DATA

- Case : ITO-220AB molded plastic
- Polarity : As marked on the body
- Weight : 0.06 ounces, 1.7 grams
- Mounting position : Any
- Max. mounting torque = 0.5 N.m (5.1 Kgf.cm)

ITO-220AB



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| CHARACTERISTICS | SYMBOL | MBRF1030CT | MBRF1040CT | MBRF1045CT | UNIT |
|---|--------|------------|----------------------|------------|------|
| Maximum Recurrent Peak Reverse Voltage | VRRM | 30 | 40 | 45 | V |
| Maximum RMS Voltage | VRMS | 21 | 28 | 31.5 | V |
| Maximum DC Blocking Voltage | VDC | 30 | 40 | 45 | V |
| Maximum Average Forward Rectified Current at TC=120°C (See Fig.1) | I(AV) | | 10 | | A |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load | IFSM | | 125 | | A |
| Voltage Rate of Change (Rated VR) | dv/dt | | 10000 | | V/us |
| Maximum Forward Voltage, (Note 1) | VF | | 0.57 0.70 0.84 | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | IR | | 0.1 15 | | mA |
| Typical Junction Capacitance, per element (Note 2) | CJ | | 280 | | pF |
| Typical Thermal Resistance (Note 3, 4) | RθJC | | 4.0 | | °C/W |
| Operating Temperature Range | TJ | | -55 to +150 | | °C |
| Storage Temperature Range | TSTG | | -55 to +175 | | °C |
| Dielectric Strength from terminals to case, AC with t=1 minute, RH<30% | Vdis | | 2000 | | V |

- NOTES : 1. 300us Pulse Width, 2% Duty Cycle.
2. Thermal Resistance Junction to Case.
3. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
4. Device mounted on 50mm x 50 mm x 2 mm Cu Plate.

FIG.1 - FORWARD CURRENT DERATING CURVE

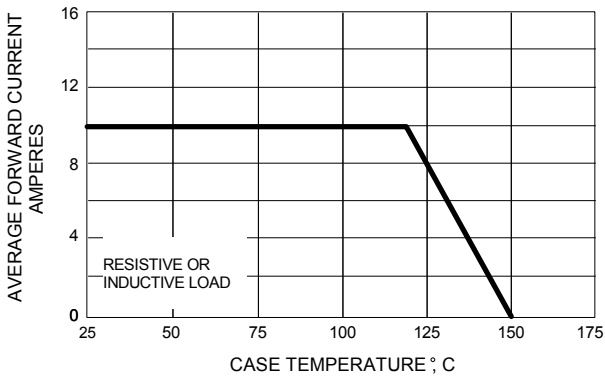


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

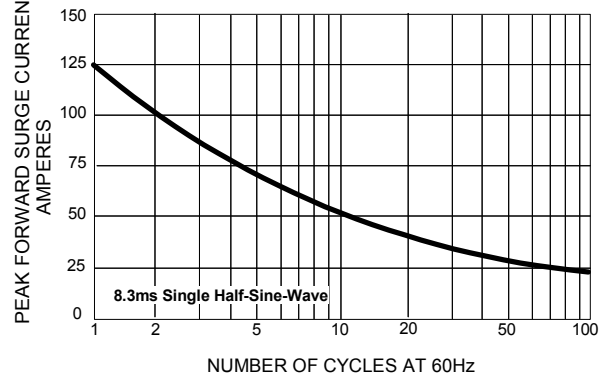


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

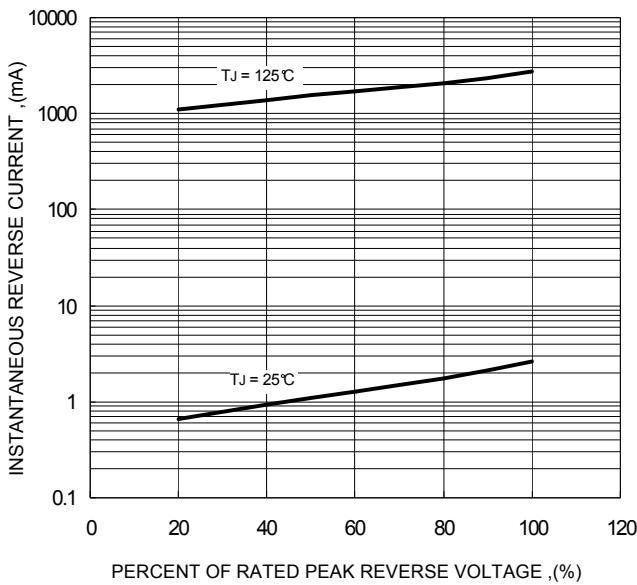


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

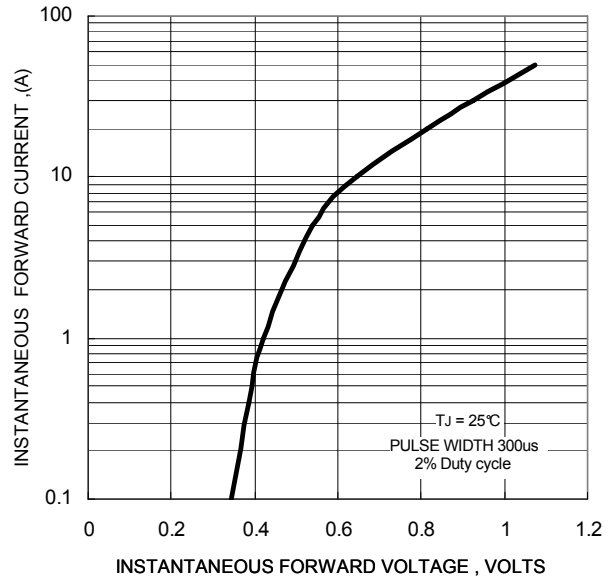
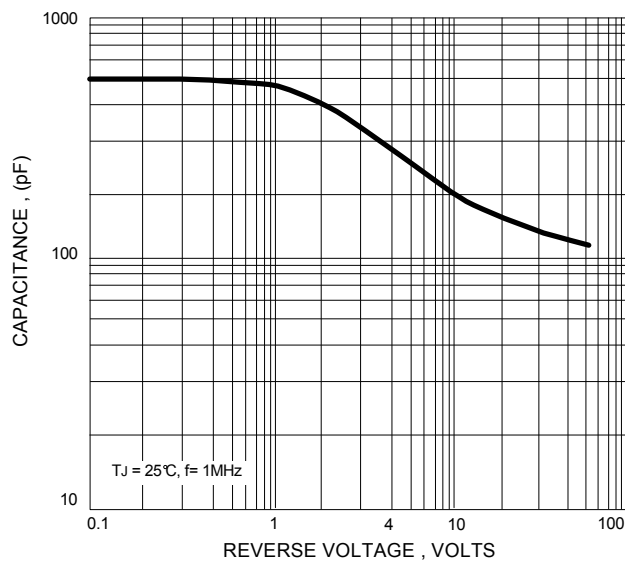


FIG.5 - TYPICAL JUNCTION CAPACITANCE



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