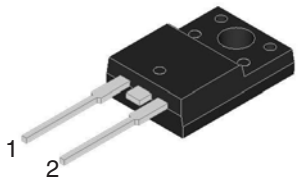
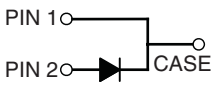
# 10 Amp. Schottky Barrier Rectifier

## ITO-220AC




Case Positive

| Voltage | Current |
|---|---|
| 45 to 150 V | 10 A |

- Plastic material used carries Underwriters Laboratory Classifications 94V-0
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Guardring for overvoltage protection
- High temperature soldering guaranteed: 260°C/10 seconds, 6.35mm from case

**Mechanical Data**

- Cases: JEDEC ITO-220AC molded plastic body
- Terminals: Pure tim plated, lead free, solderable per MIL-STD-750, Method 2026
- Polarity: As marked
- Mounting position: Any
- Mounting torque: 5 in. - lbs. max
- Weight: 2.24 grams

## Absolute Maximum Ratings, according to IEC publication No. 134

| | | MBRF 1045 | MBRF 1060 | MBRF 10100 | MBRF 10150 |
|---|---|---|---|---|---|
| $V_{RRM}$ | Maximum Recurrent Peak Reverse Voltage (V) | 45 | 60 | 100 | 150 |
| $V_{RMS}$ | Maximum RMS Voltage (V) | 31 | 42 | 70 | 105 |
| $V_{DC}$ | Maximum DC Blocking Voltage (V) | 45 | 60 | 100 | 150 |
| $I_{F\ (AV)}$ | Maximum Average Forward Rectified Current at $T_C$ = 125 °C | 10 A | | | |
| $I_{FSM}$ | Peak Forward Surge Current, 8.3 ms Single Half sine-wave Superimposed on Rated Load (JEDEC Method) | 150 A | | | |
| $I_{RRM}$ | Peak Repetitive Reverse Surge Current (Note 1) | 1.0 A | 0.5 A | | |
| $T_j$ | Operating Junction Temperature Range | – 65 to + 150 °C | | | |
| $T_{stg}$ | Storage Temperature Range | – 65 to + 175 °C | | | |

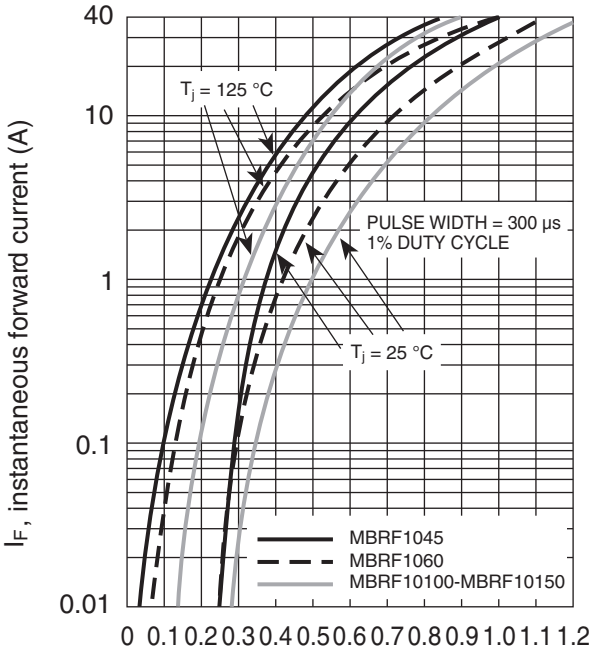
## Electrical Characteristics

| | | | MBRF 1045 | MBRF 1060 | MBRF 10100 | MBRF 10150 |
|---|---|---|---|---|---|---|
| $V_F$ | Max.Instantaneous Forward Voltage (Note 2) at $I_F$ = 10 A | Tc = 25 °C | 0.70 V | 0.80 V | 0.85 V | 1.05 V |
| | | Tc = 125 °C | 0.57 V | 0.70 V | 0.71 V | -- |
| | Max.Instantaneous Forward Voltage (Note 2) at $I_F$ = 20 A | Tc = 25 °C | 0.84 V | 0.95 V | -- | -- |
| | | Tc = 125 °C | 0.72 V | 0.85 V | -- | -- |
| $I_R$ | Max. Instantaneous Reverse Current at Rated DC Blocking Voltage (Note 2) | Tc = 25 °C | 0.10 mA | | 0.10 mA | |
| | | Tc = 125 °C | 15.0 mA | 10.0 mA | 6.0 mA | |
| $R_{thj-c}$ | Maximun Typical Thermal Resistance (Note 3) | | 3.0 °C/W | | | |

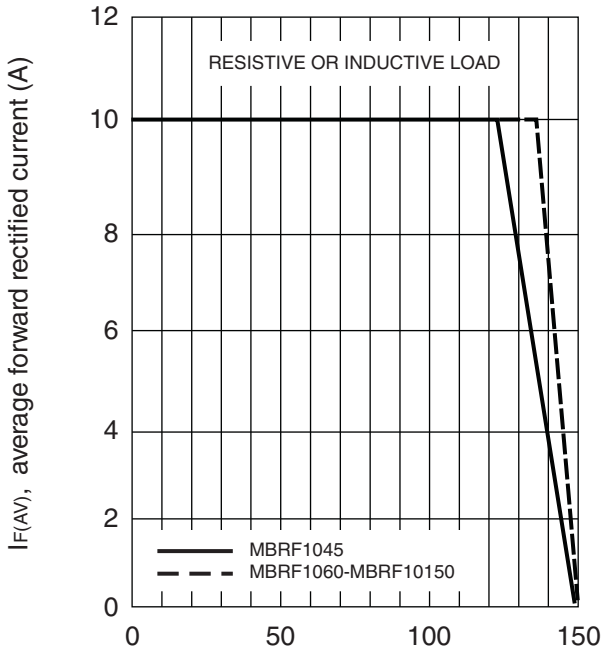
Notes: 1. 2.0µs Pulse Width, f=1.0 KHz
2. Pulse Test: 300µs Pulse Width, 1% Duty Cycle
3. Thermal Resistance from junction to Case Per Leg with Heatsink Size of 50.8 mm x 50.8 mm x 6.35 mm Al-Plate.

## Rating And Characteristic Curves

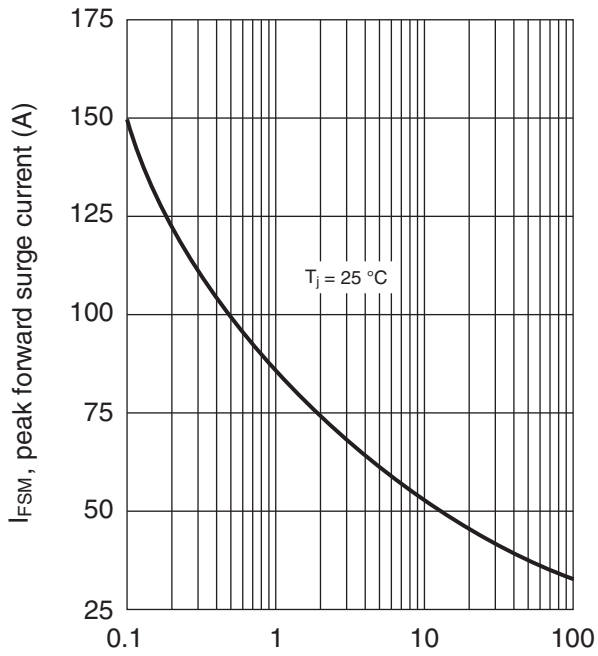
TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



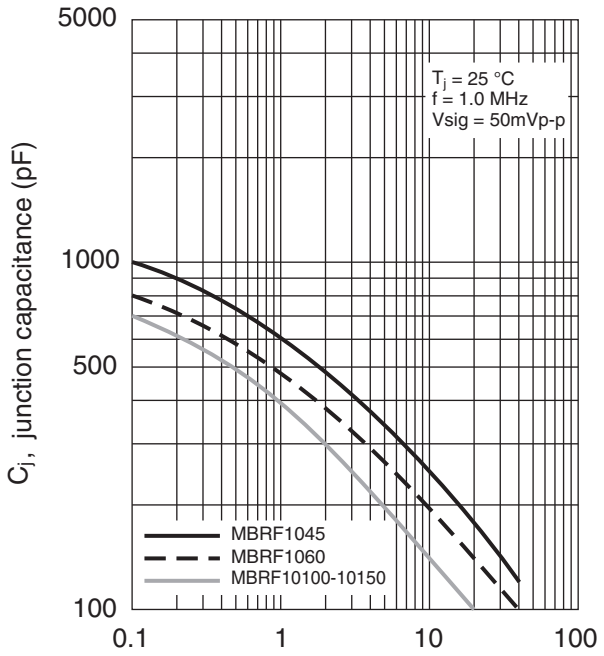

FORWARD CURRENT DERATING CURVE




MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

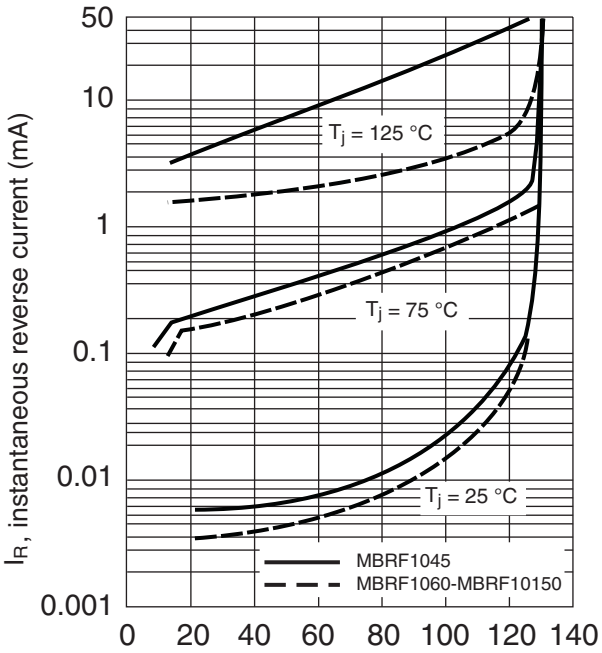



TYPICAL JUNCTION CAPACITANCE

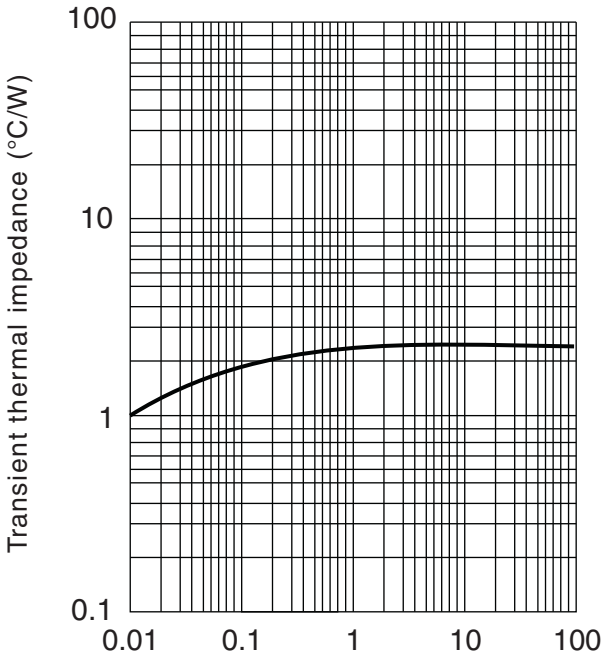


## Rating And Characteristic Curves

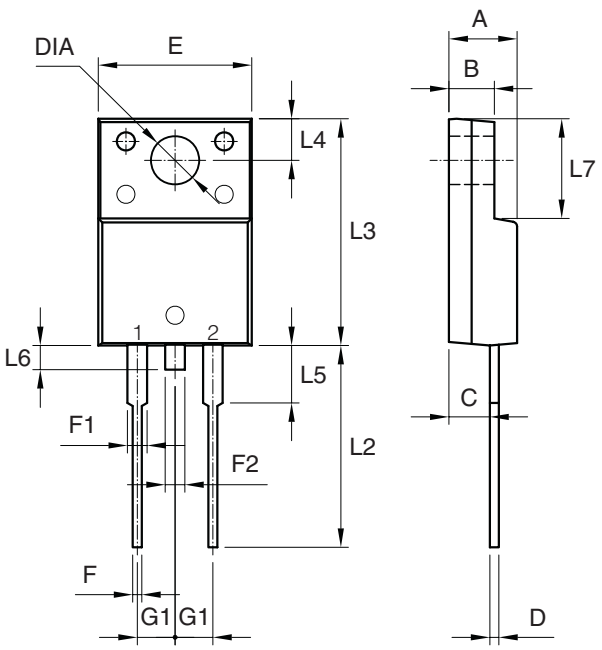
TYPICAL REVERSE CHARACTERISTIC




TYPICAL TRANSIENT THERMAL CHARACTERISTICS




## PACKAGE MECHANICAL DATA ITO-220AC




| REF. | DIMENSIONS | | |
|---|---|---|---|
| | Milimeters | | |
| | Min. | Nominal | Max. |
| A | 4.40 | - | 4.70 |
| B | 3.00 | - | 3.16 |
| C | 2.50 | - | 2.80 |
| D | 0.50 | - | 0.76 |
| E | 9.90 | - | 10.30 |
| F | 0.50 | - | 0.90 |
| F1 | 1.10 | - | 1.40 |
| F2 | - | - | 1.80 |
| G1 | 2.40 | 2.55 | 2.70 |
| L2 | 13.20 | - | 13.80 |
| L3 | 14.80 | - | 15.50 |
| L4 | 2.55 | - | 2.85 |
| L5 | 3.70 | - | 4.10 |
| L6 | - | - | 1.60 |
| L7 | 6.30 | - | 6.90 |
| DIA | 3.00 | - | 3.40 |