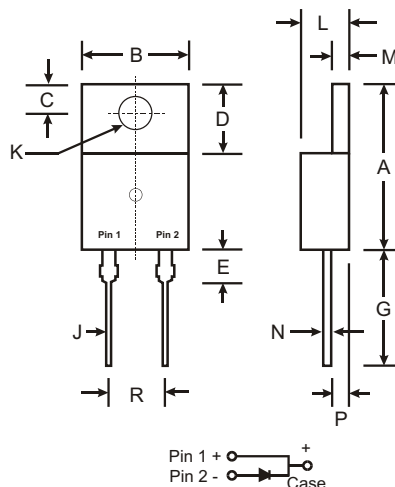


### Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application

### Mechanical Data

- Case: Molded Plastic
- Plastic Material: UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 2.3 grams (approx.)
- Marking: Type Number



| TO-220AC             |       |       |
|----------------------|-------|-------|
| Dim                  | Min   | Max   |
| A                    | 14.22 | 15.88 |
| B                    | 9.65  | 10.67 |
| C                    | 2.54  | 3.43  |
| D                    | 5.84  | 6.86  |
| E                    | —     | 6.35  |
| G                    | 12.70 | 14.73 |
| J                    | 0.51  | 1.14  |
| K                    | 3.53Ø | 4.09Ø |
| L                    | 3.56  | 4.83  |
| M                    | 1.14  | 1.40  |
| N                    | 0.30  | 0.64  |
| P                    | 2.03  | 2.92  |
| R                    | 4.83  | 5.33  |
| All Dimensions in mm |       |       |

### Maximum Ratings and Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

| Characteristic                                                                                                                                                                                                                     | Symbol                                                 | MBR 730                   | MBR 735 | MBR 740 | MBR 745 | MBR 750                | MBR 760 | Unit |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|---------------------------|---------|---------|---------|------------------------|---------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                                                                                                                                             | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | 30                        | 35      | 40      | 45      | 50                     | 60      | V    |
| RMS Reverse Voltage                                                                                                                                                                                                                | V <sub>R(RMS)</sub>                                    | 21                        | 24.5    | 28      | 31.5    | 35                     | 42      | V    |
| Average Rectified Output Current<br>(Note 1) @ T <sub>C</sub> = 125°C                                                                                                                                                              | I <sub>O</sub>                                         | 7.5                       |         |         |         |                        |         | A    |
| Non-Repetitive Peak Forward Surge Current 8.3ms<br>single half sine-wave superimposed on rated load<br>(JEDEC Method)                                                                                                              | I <sub>FSM</sub>                                       | 150                       |         |         |         |                        |         | A    |
| Forward Voltage Drop @ I <sub>F</sub> = 7.5A, T <sub>J</sub> = 25°C<br>(Note 3) @ I <sub>F</sub> = 7.5A, T <sub>J</sub> = 125°C<br>@ I <sub>F</sub> = 15A, T <sub>J</sub> = 25°C<br>@ I <sub>F</sub> = 15A, T <sub>J</sub> = 125°C | V <sub>FM</sub>                                        | —<br>0.57<br>0.84<br>0.72 |         |         |         | 0.75<br>0.65<br>—<br>— |         | V    |
| Peak Reverse Current @ T <sub>J</sub> = 25°C<br>at Rated DC Blocking Voltage @ T <sub>J</sub> = 125°C                                                                                                                              | I <sub>RM</sub>                                        | 0.1<br>15                 |         |         |         | 0.5<br>50              |         | mA   |
| Typical Total Capacitance (Note 2)                                                                                                                                                                                                 | C <sub>T</sub>                                         | 400                       |         |         |         |                        |         | pF   |
| Typical Thermal Resistance Junction to Case (Note 1)                                                                                                                                                                               | R <sub>θJc</sub>                                       | 3.5                       |         |         |         |                        |         | °C/W |
| Voltage Rate of Change (Rated V <sub>R</sub> )                                                                                                                                                                                     | dV/dt                                                  | 10,000                    |         |         |         |                        |         | V/μs |
| Operating Temperature Range                                                                                                                                                                                                        | T <sub>j</sub>                                         | -55 to +150               |         |         |         |                        |         | °C   |
| Storage Temperature Range                                                                                                                                                                                                          | T <sub>STG</sub>                                       | -55 to +175               |         |         |         |                        |         | °C   |

- Notes: 1. Thermal resistance junction to case mounted on heatsink.  
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.  
 3. Short duration test pulse used to minimize self-heating effect.

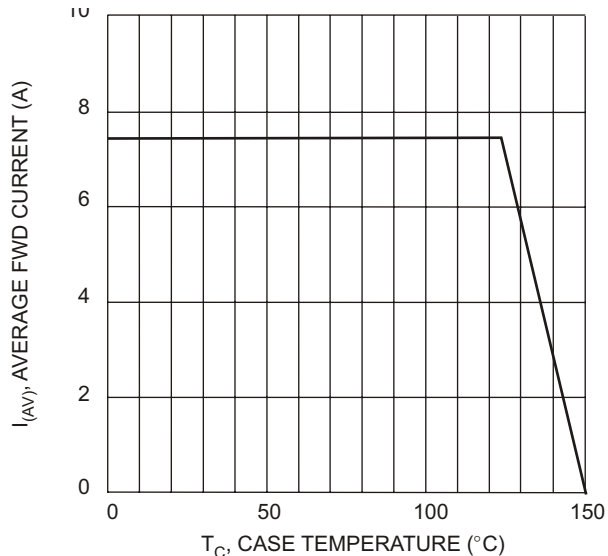


Fig. 1 Fwd Current Derating Curve

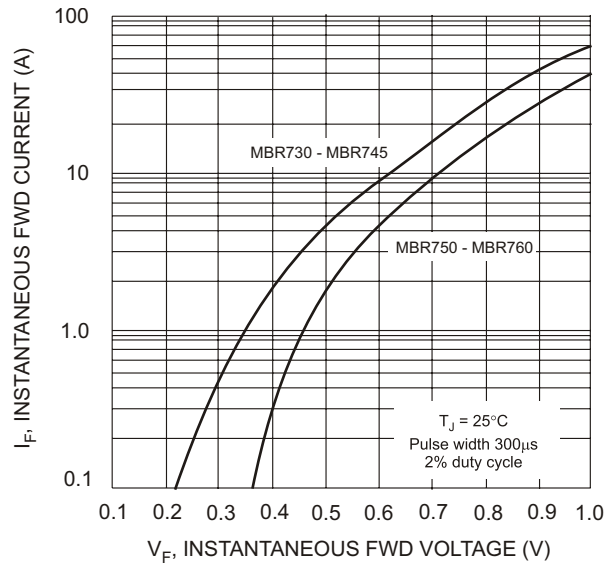


Fig. 2 Typ Instantaneous Fwd Characteristics

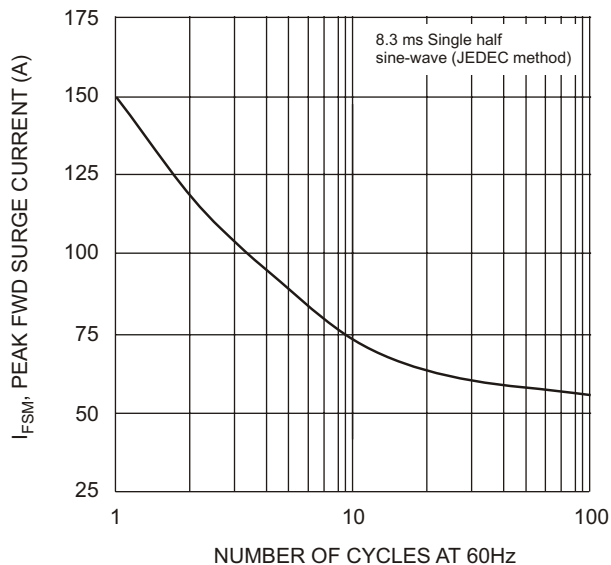


Fig. 3 Max Non-Repetitive Surge Current

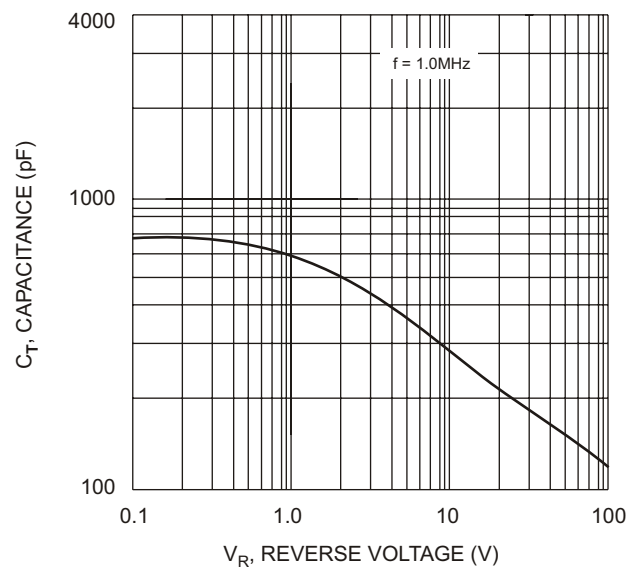


Fig. 4 Typical Total Capacitance

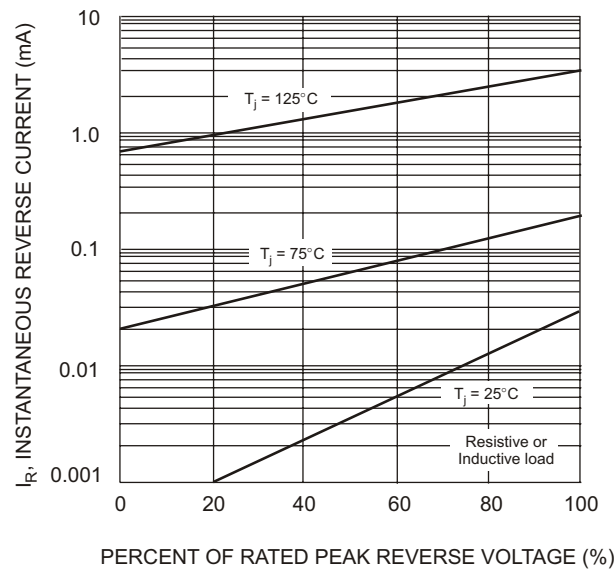


Fig. 5 Typical Reverse Characteristics