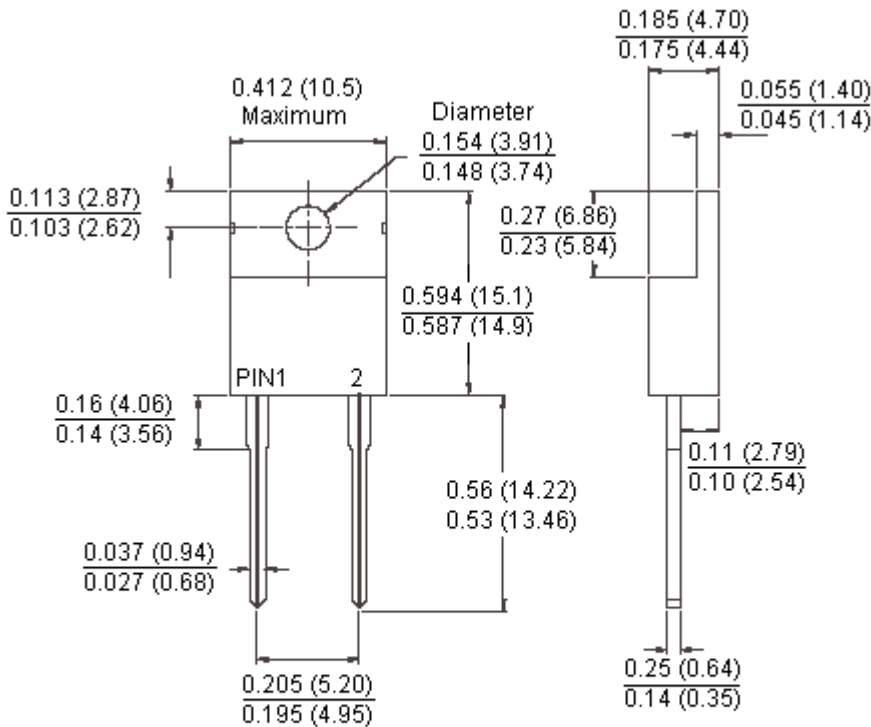




Features:

- Plastic material.
- Metal silicon rectifier, 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 over voltage protection.
- High temperature soldering guaranteed: 260°C/10 seconds, 0.25 inch (6.35mm) from case.

TO-220AC



Dimensions : Inches (Millimetres)

Mechanical Data:

- Cases : JEDEC TO-220AC moulded plastic body.
- Terminals : Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026.
- Polarity : As marked.
- Mounting position : Any.
- Mounting torque : 5 in. - lbs. maximum.
- Weight : 0.08 ounce, 2.24 grams.

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

| Type Number | Symbol | MBR 735 | MBR 745 | MBR 750 | MBR 760 | MBR 790 | MBR 7100 | MBR 7150 | Units |
|---|-----------------|-------------|-----------|------------|---------|---------|----------|----------|---------------------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 35 | 45 | 50 | 60 | 90 | 100 | 150 | V |
| Maximum RMS Voltage | V_{RMS} | 24 | 31 | 35 | 42 | 63 | 70 | 105 | |
| Maximum DC Blocking Voltage | V_{DC} | 35 | 45 | 50 | 60 | 90 | 100 | 150 | |
| Maximum Average Forward Rectified Current | $I_{(AV)}$ | 7.5 | | | | | | | A |
| Peak Repetitive Forward Current (Square Wave, 20KHz) at $T_C = 105^\circ\text{C}$ | I_{FRM} | 15.0 | | | | | | | |
| Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 150 | | | | | | | |
| Peak Repetitive Reverse Surge Current (Note 1) | I_{RRM} | 1.0 | 0.5 | | | | | | |
| Maximum Instantaneous Forward Voltage at (Note 2) $I_F = 7.5\text{A}, T_C = 25^\circ\text{C}$ $I_F = 7.5\text{A}, T_C = 125^\circ\text{C}$ $I_F = 15\text{A}, T_C = 25^\circ\text{C}$ $I_F = 15\text{A}, T_C = 125^\circ\text{C}$ | V_F | - | 0.75 | 0.92 | 0.95 | | | | V |
| | | 0.57 | 0.65 | 0.82 | 0.92 | | | | |
| | | 0.84 | - | - | - | | | | |
| | | 0.72 | - | - | - | | | | |
| Maximum Instantaneous Reverse Current at $T_C = 25^\circ\text{C}$ at Rated DC Blocking Voltage (Note 1) at $T_C = 125^\circ\text{C}$ | I_R | 0.1 15.0 | 0.1 10 | 0.1 5.0 | | | | | mA |
| Voltage Rate of Change (Rated V_R) | dv/dt | 10,000 | | | | | | | V/ μS |
| Typical Junction Capacitance | C_j | 360 | 280 | 200 | 160 | | | | pF |
| Maximum Thermal Resistance, (Note 3) | $R_{\theta JC}$ | 5.0 | | | | | | | $^\circ\text{C}/\text{W}$ |
| | $R_{\theta JA}$ | 15.0 | | | | | | | |
| Operating Junction Temperature Range | T_J | -65 to +150 | | | | | | | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -65 to +175 | | | | | | | |

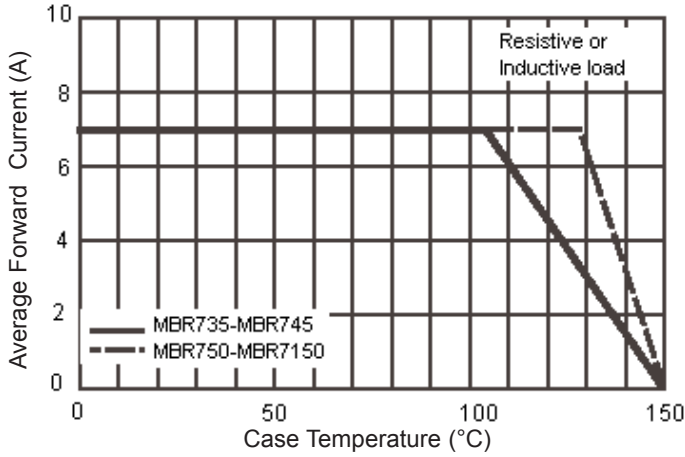
Notes: 1. 2.0 μs Pulse Width, $f = 1.0\text{ KHz}$.

2. Pulse Test: 300 μs Pulse Width, 1% Duty Cycle.

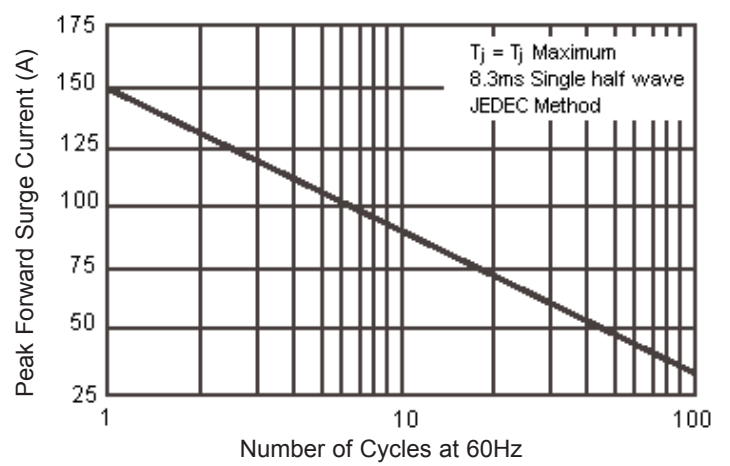
3. Mounted on Heatsink Size of 2 in x 3 in x 0.25 in Al-Plated.

Ratings and Characteristic Curves ((MBR735 thru MBR7150))

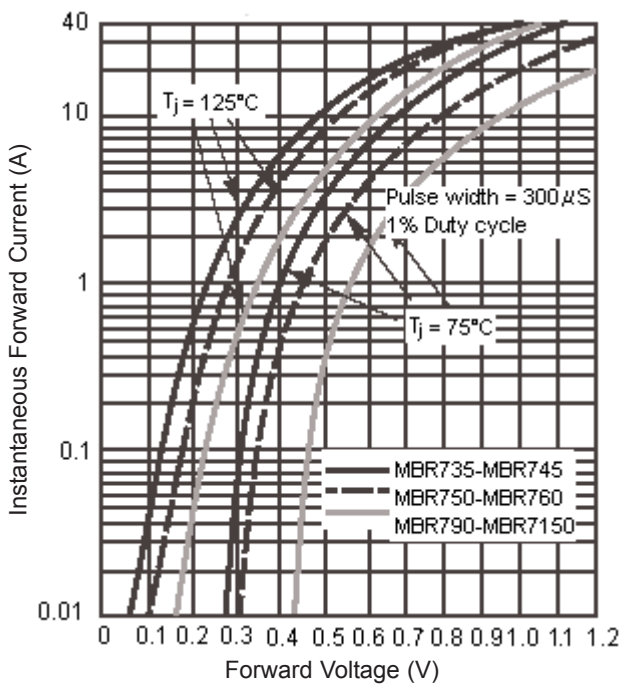
Maximum Forward Current Derating Curve



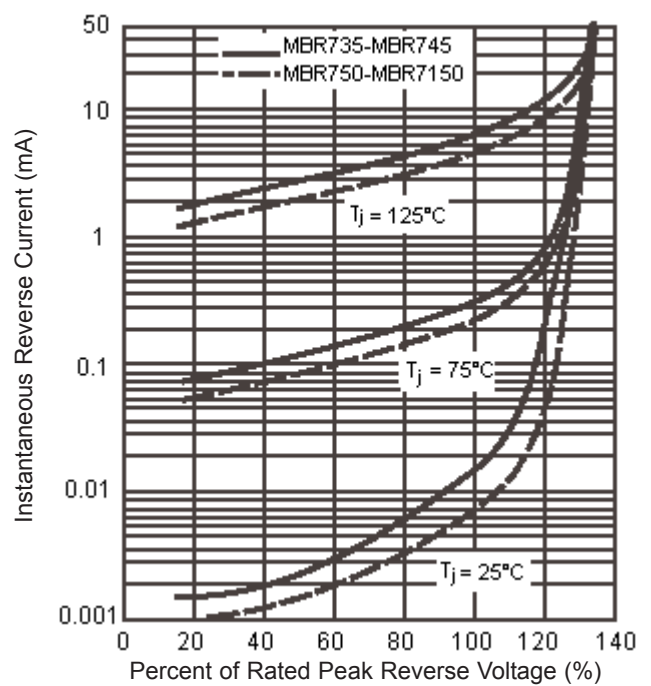
Maximum Non-Repetitive Peak Forward Surge Current



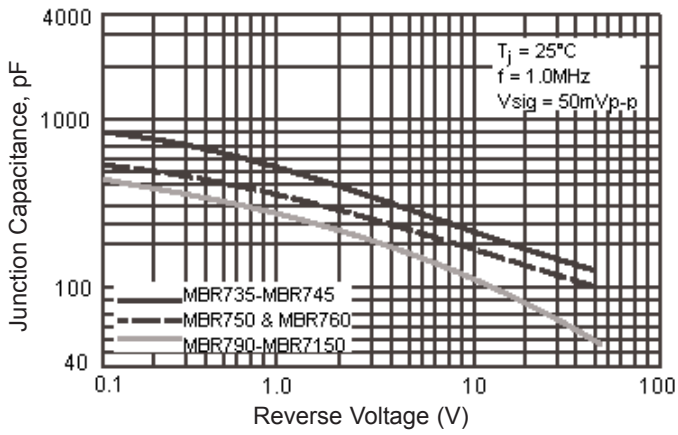
Typical Instantaneous Forward Characteristics



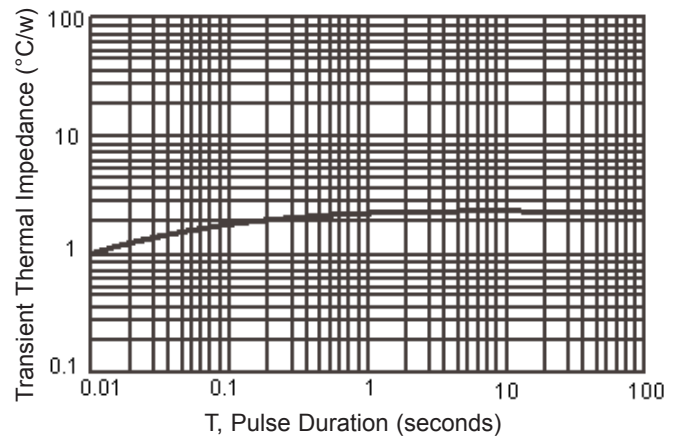
Typical Reverse Characteristics



Typical Junction Capacitance



Typical Transient Thermal Characteristics



Part Number Table

| Description | Part Number |
|---------------------------|-------------|
| Diode, Schottky, 7A, 100V | MBR7100 |
| Diode, Schottky, 7A, 150V | MBR7150 |
| Diode, Schottky, 7A, 35V | MBR735 |
| Diode, Schottky, 7A, 45V | MBR745 |
| Diode, Schottky, 7A, 50V | MBR750 |
| Diode, Schottky, 7A, 60V | MBR760 |
| Diode, Schottky, 7A, 90V | MBR790 |

Notes:

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| | | | | | | | |
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|  | DENMARK – Farnell Tel No: ++ 45 44 53 66 44 Fax No: ++ 45 44 53 66 06 |  | IRELAND – Farnell Tel No: ++ 353 1 830 9277 Fax No: ++ 353 1 830 9016 |  | RUSSIA – Farnell Tel No: ++ 44 870 1200 208 Fax No: ++ 44 870 1200 209 | export EXPORT – Farnell Tel No: ++ 44 8701 200 208 Fax No: ++ 44 8701 200 209 For enquiries from all other markets | |
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