



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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OBsolete – PART DISCONTINUED

Features

- 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 Applications
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**

Mechanical Data

- Case: TO-3P
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish – Tin. Plated Leads Solderable per MIL-STD-202, Method 208 (E3)
- Polarity: As Marked on Body
- Marking: Type Number
- Weight: 5.6 grams (Approximate)

Ordering Information (Note 3)

| Part Number | Case | Packaging |
|-------------|-------|-----------|
| MBR3030PT | TO-3P | 30/Tube |
| MBR3035PT | TO-3P | 30/Tube |
| MBR3040PT | TO-3P | 30/Tube |
| MBR3045PT | TO-3P | 30/Tube |
| MBR3050PT | TO-3P | 30/Tube |
| MBR3060PT | TO-3P | 30/Tube |

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>.

Maximum Ratings and Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

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

| Characteristic | Symbol | MBR 3030PT | MBR 3035PT | MBR 3040PT | MBR 3045PT | MBR 3050PT | MBR 3060PT | Unit |
|---|---------------------|-------------|---------------------------|------------|------------|------------------------------|------------|------|
| Peak Repetitive Reverse Voltage | V _{RRM} | | | | | | | V |
| Working Peak Reverse Voltage | V _{RWM} | 30 | 35 | 40 | 45 | 50 | 60 | V |
| DC Blocking Voltage | V _R | | | | | | | V |
| RMS Reverse Voltage | V _{R(RMS)} | 21 | 24.5 | 28 | 31.5 | 35 | 42 | V |
| Average Rectified Output Current Total Device (See Fig. 7) | I _O | 30 | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I _{FSM} | 200 | | | | | | A |
| Forward Voltage Drop per element (Note 6) | V _{FM} | | — 0.60 0.76 0.72 | | | 0.75 0.65 0.80 0.75 | | V |
| Peak Reverse Current at Rated DC Blocking Voltage, per element | I _{RM} | | 1.0 60 | | | 5.0 100 | | mA |
| Typical Total Capacitance (Note 5) | C _T | 500 | | | | | | pF |
| Typical Thermal Resistance Junction to Case (Note 4) | R _{θjc} | 1.4 | | | | | | °C/W |
| Voltage Rate of Change (Rated V _R) | dV/dt | 10,000 | | | | | | V/μs |
| Operating Temperature Range | T _J | -65 to +150 | | | | | | °C |
| Storage Temperature Range | T _{STG} | -65 to +175 | | | | | | °C |

- Notes:
4. Thermal resistance junction to case mounted on heatsink.
 5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 6. Pulse width ≤300 μs, duty cycle ≤2%.
 7. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied. See *EU Directive Annex Notes 5 and 7*.



MBR3030PT – MBR3060PT

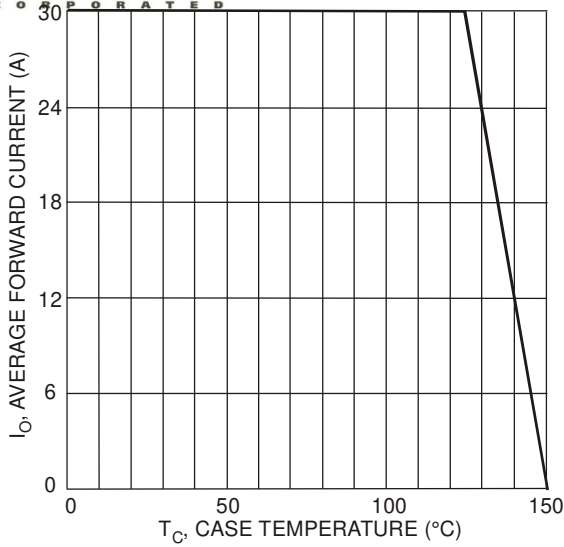


Fig. 1 Forward Current Derating Curve, total device

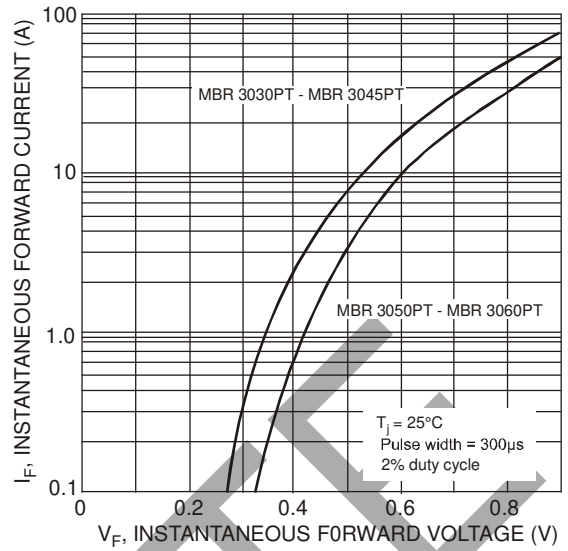


Fig. 2 Typical Forward Characteristics, per element

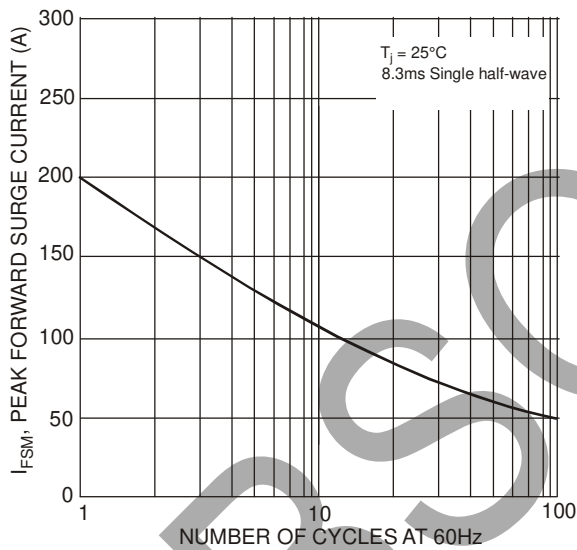


Fig. 3 Max Non-Repetitive Surge Current

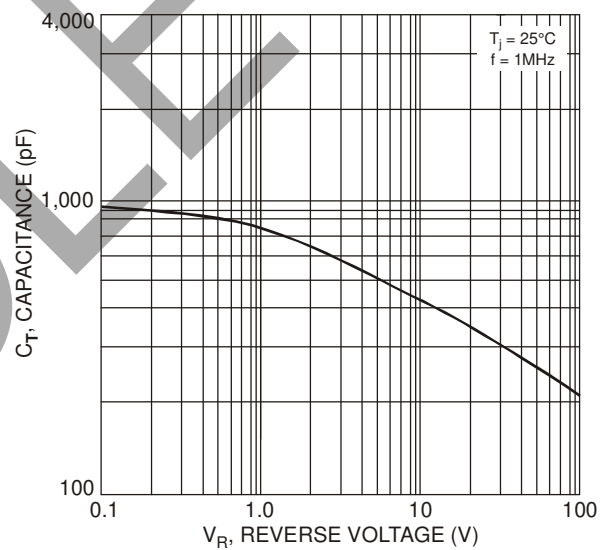
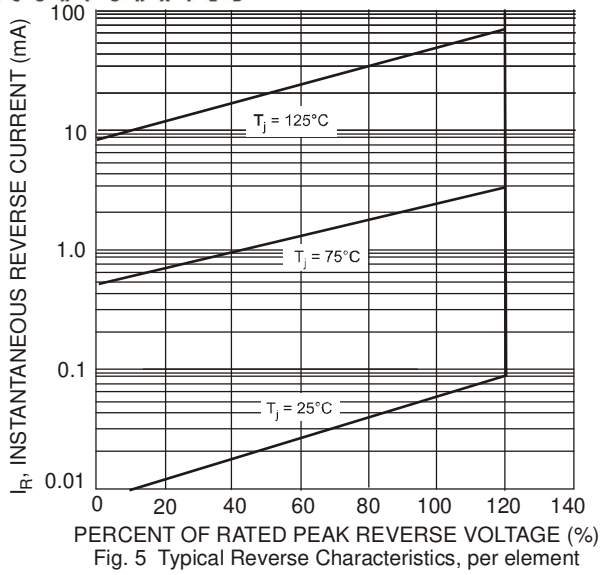


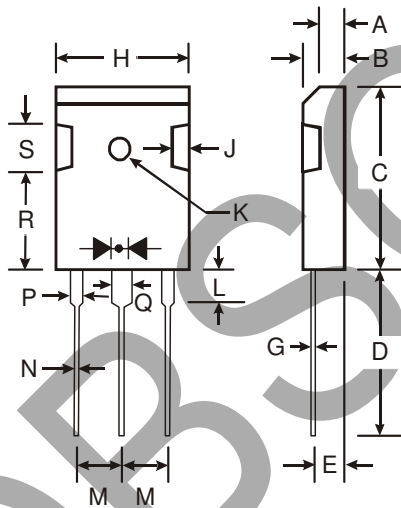
Fig. 4 Typical Total Capacitance

OBSOLETE – PART DISCONTINUED



Package Outline Dimensions

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



| TO-3P | | |
|----------------------|-------|-------|
| Dim | Min | Max |
| A | 1.88 | 2.08 |
| B | 4.68 | 5.36 |
| C | 20.63 | 22.38 |
| D | 18.5 | 21.5 |
| E | 2.10 | 2.40 |
| G | 0.51 | 0.76 |
| H | 15.38 | 16.25 |
| J | 1.90 | 2.70 |
| K | 2.90 | 3.65 |
| L | 3.78 | 4.50 |
| M | 5.20 | 5.70 |
| N | 0.89 | 1.53 |
| P | 1.82 | 2.46 |
| Q | 2.92 | 3.23 |
| R | 11.70 | 12.84 |
| S | - | 6.10 |
| All Dimensions in mm | | |

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