



SCHOTTKY BARRIER RECTIFIERS

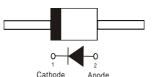
VOLTAGE 40 to 200 Volt CURRENT 5 Ampere

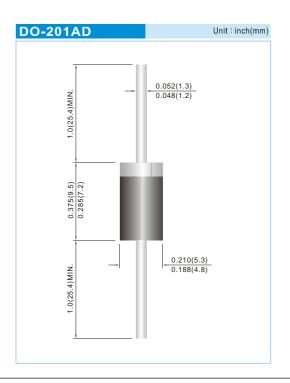
FEATURES

- Epitaxial Construction
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 150A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- Lead free in compliance with EU RoHS 2011/65/EU directive

MECHANICAL DATA

- Case: DO-201AD Molded plastic
- Terminals: Axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode
- Weight: 0.0402 ounces, 1.142 grams





MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.

| PARAMETER | | SYMBOL | MBR540 | MBR545 | MBR550 | MBR560 | MBR580 | MBR590 | MBR5100 | MBR5150 | MBR5200 | UNITS |
|--|-----------------------|--|-------------------------|--------|--------|--------|--------|--------|---------|---------|---------|-------|
| Maximum Recurrent Peak Reverse Voltage | | V _{RRM} | 40 | 45 | 50 | 60 | 80 | 90 | 100 | 150 | 200 | ٧ |
| Maximum RMS Voltage | | V _{RMS} | 28 | 31.5 | 35 | 42 | 56 | 63 | 70 | 105 | 140 | ٧ |
| Maximum DC Blocking Voltage | | V _{DC} | 40 | 45 | 50 | 60 | 80 | 90 | 100 | 150 | 200 | ٧ |
| Average Rectified Output Current (See Figure 1) | | I _{F(AV)} | 5 | | | | | | | Α | | |
| Non-Repetitive Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load | | I _{FSM} | 150 | | | | | | Α | | | |
| Power Dissipation | | P _D | 2.5 | | | | | | W | | | |
| Forward Voltage at 5A (Notes 3) | | V _F | 0.7 0.74 0.8 0.9 | | | .9 | ٧ | | | | | |
| Maximum DC Reverse Current at Rated DC Blocking Voltage (Notes 4) | T _J =25°C | | 0.05 | | | | | | | mA | | |
| | T _J =100°C | I _R | 10 | | | - | | | | | mA | |
| | T _J =125°C | | - | | | 5 | | 1 | | mA | | |
| Typical Thermal Resistance (Notes 2) (Notes 1) (Notes 1) | | $egin{array}{c} {\sf R}_{_{	heta {\sf JA}}} \ {\sf R}_{_{	heta {\sf JC}}} \end{array}$ | 50 15 12 | | | | | | °C / W | | | |
| Typical Junction Capacitance (V _R =4V,f=1MHz) | | C | 250 150 | | | | pF | | | | | |
| Operating Junction and Storage Temperature Range | | T _J ,T _{STG} | -55 to +150 -65 to +150 | | | | | | °C | | | |

NOTES:

- 1. Measured at ambient temperature at a distance of 9.5mm from the case
- 2. Minimum Pad Area
- 3. Pulse test : 300µs pulse width, 1% duty cycle
- 4. Short duration pulse test used to minimize self-heating effect.





TYPICAL CHARACTERISTIC CURVES

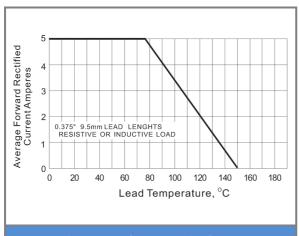


Fig.1 Forward Current Derating Curve

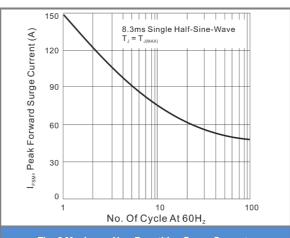


Fig. 2 Maximum Non-Repetitive Surge Current

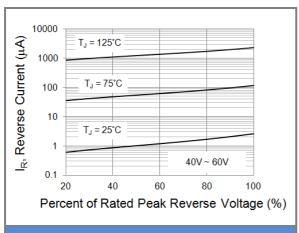


Fig.3 Typical Reverse Characteristics

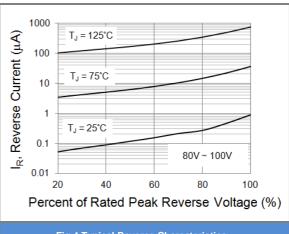


Fig.4 Typical Reverse Characteristics

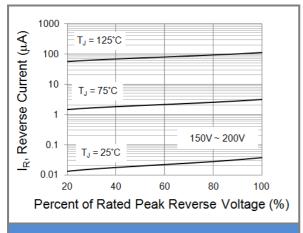
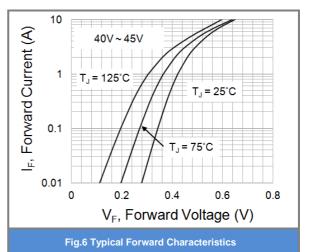


Fig.5 Typical Reverse Characteristics







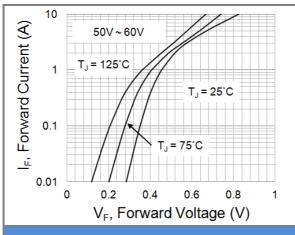


Fig.7 Typical Forward Characteristics

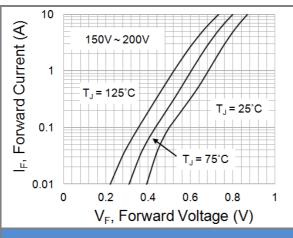


Fig.9 Typical Forward Characteristics

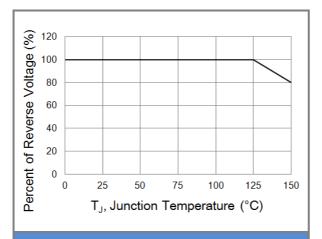


Fig.11 Operating Temperature Derating Curve

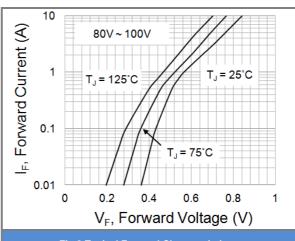


Fig.8 Typical Forward Characteristics

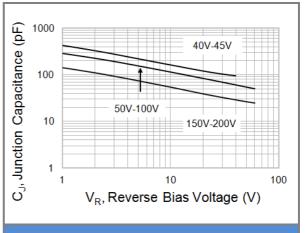


Fig.10 Typical Junction Capacitance





Part No_packing code_Version

MBR540_AY_00001

MBR540_AY_10001

MBR540_B0_00001

MBR540_B0_10001

MBR540_R2_00001

MBR540_R2_10001

For example:



| Packing Code XX | | | | | Version Code XXXXX | | | | |
|--------------------------------------|----------------------|-----------------------------------|----------------------|------------|----------------------|---------------------------------------|--|--|--|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HF or RoHS | 1 st Code | 2 nd ~5 th Code | | | |
| Tape and Ammunition Box (T/B) | Α | N/A | 0 | HF | 0 | serial number | | | |
| Tape and Reel (T/R) | R | 7" | 1 | RoHS | 1 | serial number | | | |
| Bulk Packing (B/P) | В | 13" | 2 | | | | | | |
| Tube Packing (T/P) | Т | 26mm | X | | | | | | |
| Tape and Reel (Right Oriented) (TRR) | S | 52mm | Y | | | | | | |
| Tape and Reel (Left Oriented) (TRL) | L | PANASERT T/B CATHODE UP (PBCU) | U | | | | | | |
| FORMING | F | PANASERT T/B CATHODE DOWN (PBCD) | D | | | | | | |





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