

**VOLTAGE RANGE: 30 - 100V**  
**CURRENT: 5.0 A**

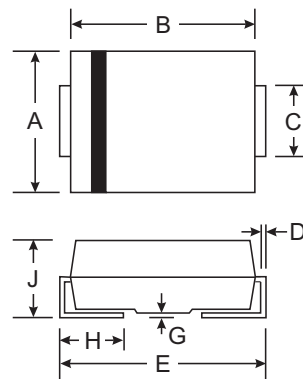
### Features

- Schottky Barrier Chip
- Ideally Suited for Automatic Assembly
- Low Power Loss, High Efficiency
- For Use in Low Voltage Application
- Guard Ring Die Construction
- Plastic Case Material has UL Flammability Classification Rating 94V-0



### Mechanical Data

- Case: SMC/DO-214AB, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.21 grams (approx.)



| SMC/DO-214AB         |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 5.59 | 6.22 |
| B                    | 6.60 | 7.11 |
| C                    | 2.75 | 3.18 |
| D                    | 0.15 | 0.31 |
| E                    | 7.75 | 8.13 |
| G                    | 0.10 | 0.20 |
| H                    | 0.76 | 1.52 |
| J                    | 2.00 | 2.62 |
| 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%.

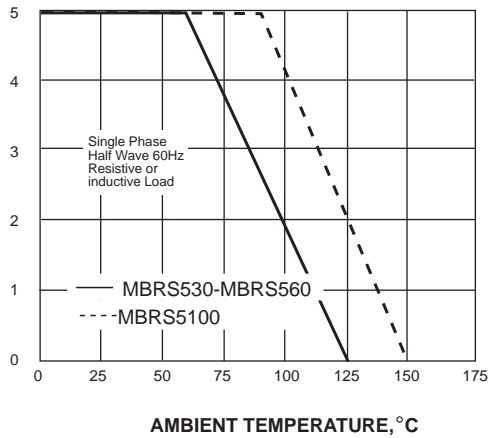
| Characteristic  | Symbol   | MBRS530     | MBRS540 | MBRS560 | MBRS5100 | Unit |
|---|--|-------------|---------|---------|----------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                                | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | 30          | 40      | 60      | 100      | V    |
| RMS Reverse Voltage   | V <sub>R(RMS)</sub>                                    | 21          | 28      | 42      | 71       | V    |
| Average Rectified Output Current @T <sub>L</sub> = 90°C   | I <sub>O</sub>   | 5.0         |         |         |          | A    |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave superimposed on<br>rated load (JEDEC Method) | I <sub>FSM</sub>                                       | 175         |         |         |          | A    |
| Forward Voltage @I <sub>F</sub> = 5.0A  | V <sub>FM</sub>  | 0.50        | 0.75    | 0.85    |          | V    |
| Peak Reverse Current @T <sub>A</sub> = 25°C<br>At Rated DC Blocking Voltage @T <sub>A</sub> = 100°C                   | I <sub>RM</sub>  | 0.5<br>20   |         |         |          | mA   |
| Typical Thermal Resistance (Note 1)   | R <sub>θJL</sub><br>R <sub>θJA</sub>                   | 14<br>50    |         |         |          | °C/W |
| Operating Temperature Range   | T <sub>j</sub>   | -65 to +125 |         |         |          | °C   |
| Storage Temperature Range   | T <sub>STG</sub>                                       | -65 to +150 |         |         |          | °C   |

Note: 1. Mounted on P.C. Board with 14mm<sup>2</sup> copper pad area.

## RATINGS AND CHARACTERISTIC CURVES MBR530 THRU MBR5100

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

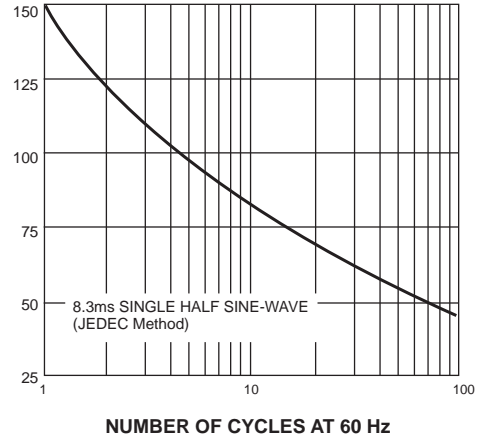


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

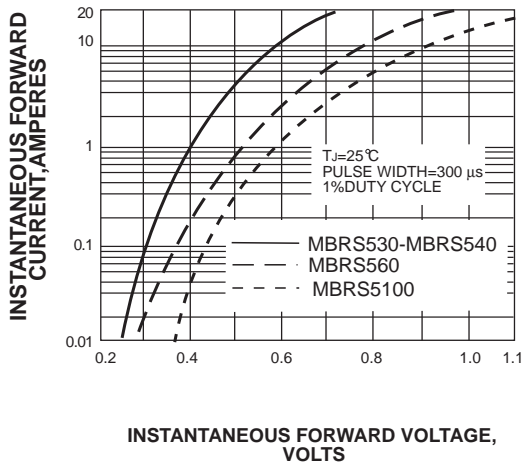


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

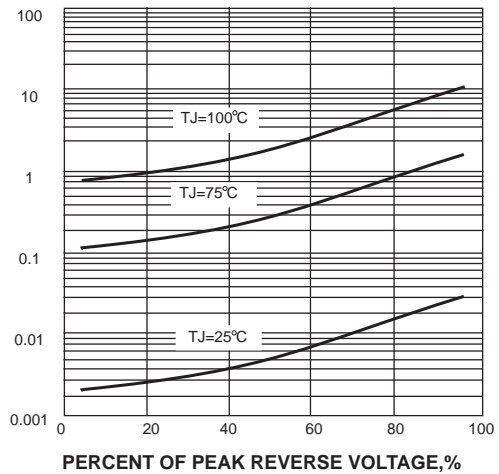
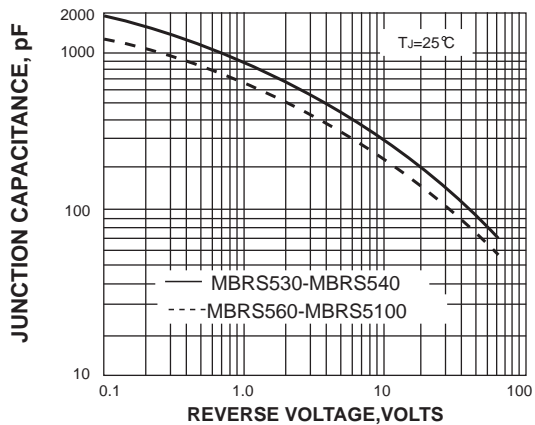


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

