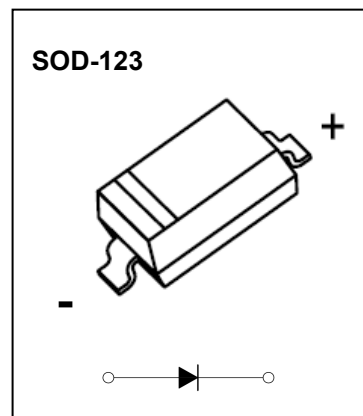


### FEATURES

- Lead Free Finish/RoHS Compliant
- Extremely Low Thermal Resistance
- For Surface Mount Application and High Current Capability



### Maximum Ratings @T<sub>a</sub>=25°C

| Parameter                                          | Symbol           | MBR 0520 | MBR 0530 | MBR 0540 | MBR 0560 | MBR 0580 | Unit |
|----------------------------------------------------|------------------|----------|----------|----------|----------|----------|------|
| Maximum recurrent peak reverse voltage             | V <sub>RRM</sub> | 20       | 30       | 40       | 60       | 80       | V    |
| Maximum RMS voltage                                | V <sub>RMS</sub> | 14       | 21       | 28       | 42       | 56       |      |
| Mean rectifying current                            | I <sub>O</sub>   | 0.5      |          |          |          |          | A    |
| Non-repetitive Peak forward surge current @t=8.3ms | I <sub>FSM</sub> | 5.5      |          |          |          |          | A    |
| Power Dissipation                                  | P <sub>d</sub>   | 410      |          |          |          |          | mW   |
| Thermal Resistance Junction to Ambient             | R <sub>θJA</sub> | 244      |          |          |          |          | °C/W |
| Junction temperature                               | T <sub>j</sub>   | 125      |          |          |          |          | °C   |
| Storage temperature                                | T <sub>stg</sub> | -55~+150 |          |          |          |          | °C   |

### ELECTRICAL CHARACTERISTICS

T<sub>a</sub>=25 °C unless otherwise specified

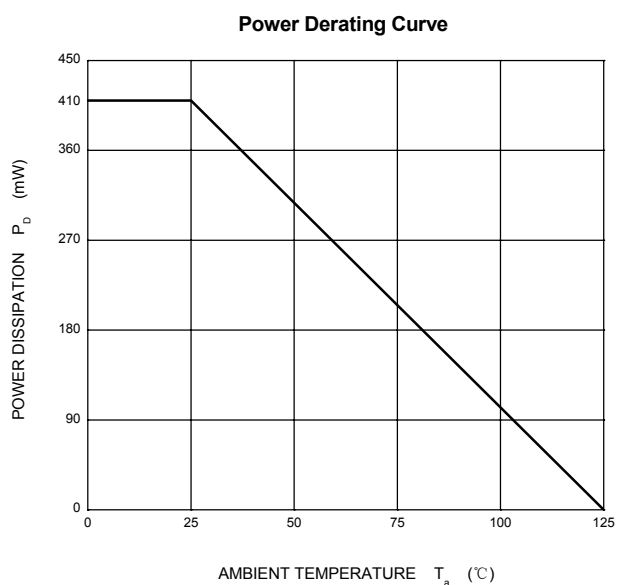
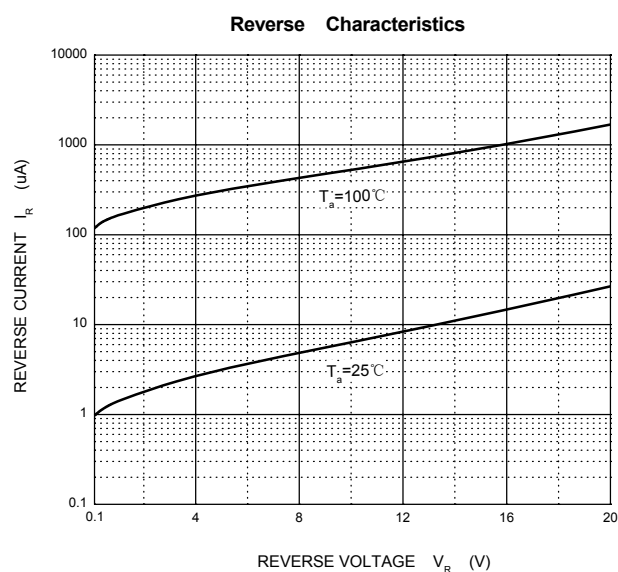
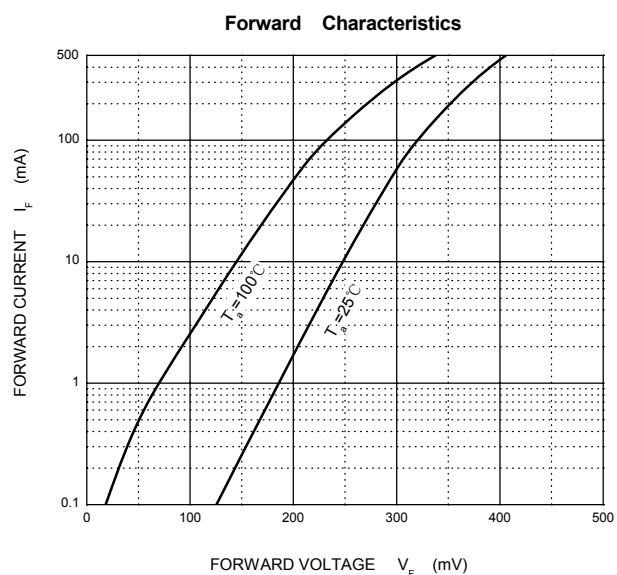
| Parameter                     | Symbol         | Min. | Typ. | Max. | Unit | Conditions                 |
|-------------------------------|----------------|------|------|------|------|----------------------------|
| Forward voltage               | V <sub>F</sub> |      |      | 0.45 | V    | I <sub>F</sub> =500mA      |
| MBR0520                       |                |      |      | 0    |      |                            |
| MBR0530                       |                |      |      | .55  |      |                            |
| MBR0540                       |                |      |      | 0.   |      |                            |
| MBR0560                       |                |      |      | 55   |      |                            |
| MBR0580                       |                |      |      | 0.7  |      |                            |
| Reverse current               | I <sub>R</sub> |      |      | 80   | μA   | V <sub>R</sub> =20V        |
| MBR0520                       |                |      |      |      |      | V <sub>R</sub> =30V        |
| MBR0530                       |                |      |      |      |      | V <sub>R</sub> =40V        |
| MBR0540                       |                |      |      |      |      | V <sub>R</sub> =60V        |
| MBR0560                       |                |      |      |      |      | V <sub>R</sub> =80V        |
| MBR0580                       |                |      |      |      |      |                            |
| Capacitance between terminals | C <sub>T</sub> |      | 30   |      | pF   | V <sub>R</sub> =4V, f=1MHZ |



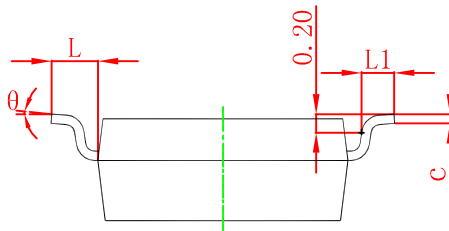
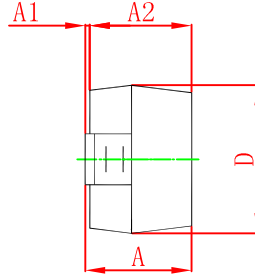
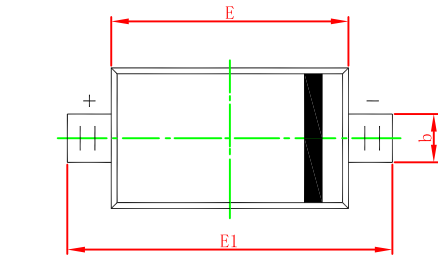
# MBR0520-MBR0580

## SOD-123 Plastic-Encapsulate Diodes

### Typical Characteristics

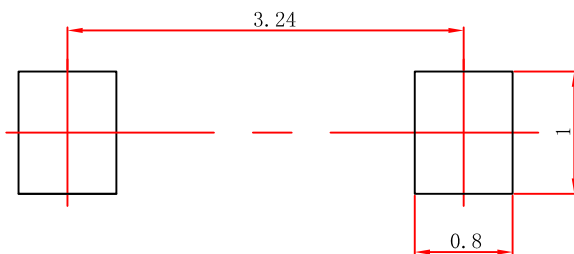


### SOD-123 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      | 1.050                     | 1.250 | 0.041                | 0.049 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 1.050                     | 1.150 | 0.041                | 0.045 |
| b      | 0.450                     | 0.650 | 0.018                | 0.026 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 1.500                     | 1.700 | 0.059                | 0.067 |
| E      | 2.600                     | 2.800 | 0.102                | 0.110 |
| E1     | 3.550                     | 3.850 | 0.140                | 0.152 |
| L      | 0.500 REF                 |       | 0.020 REF            |       |
| L1     | 0.250                     | 0.450 | 0.010                | 0.018 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |

### SOD-123 Suggested Pad Layout



#### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.