



### Features

- Average Rectified Output Current:  $I_O=500\text{mA}$
- Power Dissipation of 410mw

### Package Marking and Ordering Information

| Product ID | Pack    | Marking | Qty(PCS) |
|------------|---------|---------|----------|
| MBR0520    | SOD-123 | R2      | 3000     |
| MBR0530    | SOD-123 | R3      | 3000     |
| MBR0540    | SOD-123 | R4      | 3000     |
| MBR0560    | SOD-123 | R6      | 3000     |
| MBR0580    | SOD-123 | R8      | 3000     |



SOD-123



### Maxmim Ratings (Ta=25 unless otherwise noted)

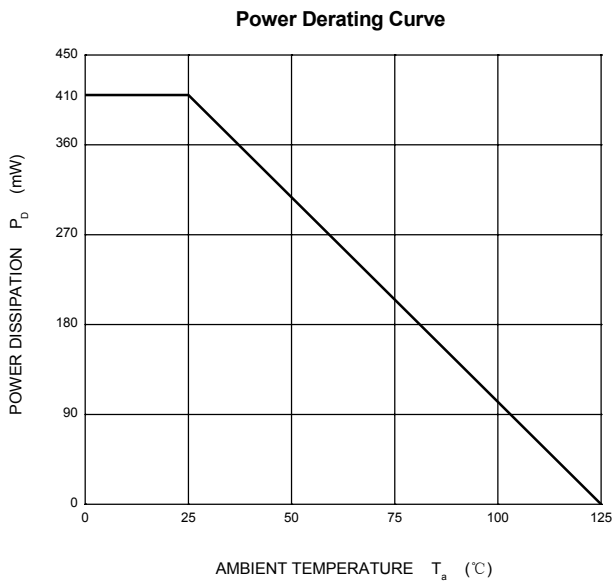
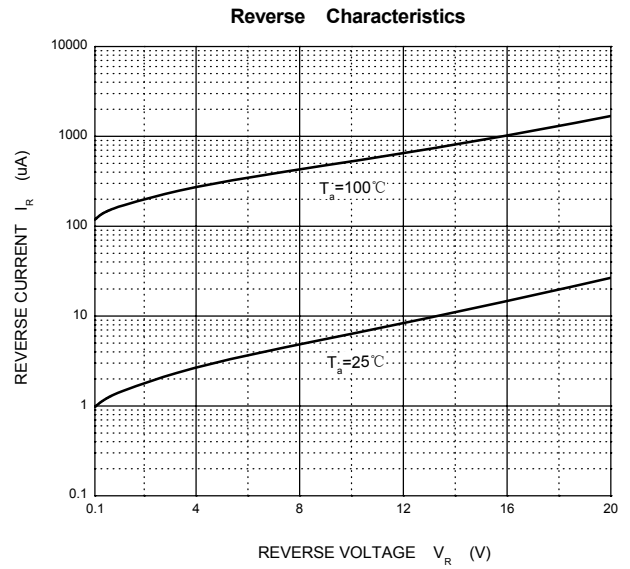
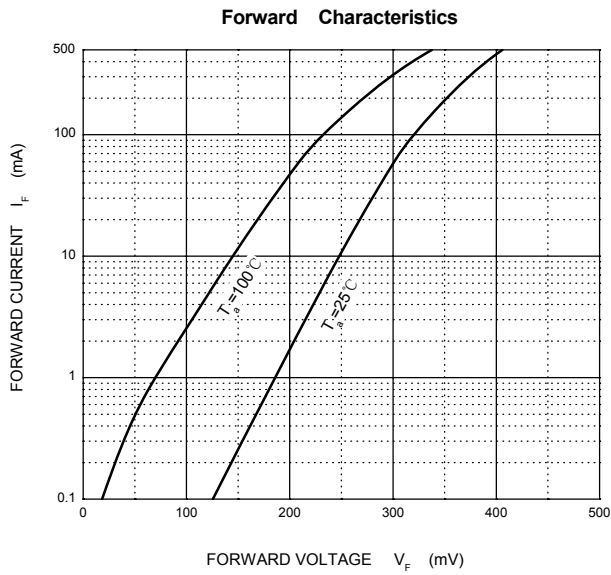
| Parameter  | Symbol          | MBR 0520   | MBR 0530 | MBR 0540 | MBR 0560 | MBR 0580 | Unit                        |
|--|-----------------|------------|----------|----------|----------|----------|-----------------------------|
| Maximum recurrent peak reverse voltage             | $V_{RRM}$       | 20         | 30       | 40       | 60       | 80       | V                           |
| Maximum RMS voltage                                | $V_{RMS}$       | 14         | 21       | 28       | 42       | 56       |                             |
| Mean rectifying current                            | $I_O$           | 0.5        |          |          |          |          | A                           |
| Non-repetitive Peak forward surge current @t=8.3ms | $I_{FSM}$       | 5.5        |          |          |          |          | A                           |
| Power Dissipation                                  | $P_d$           | 410        |          |          |          |          | mW                          |
| Thermal Resistance Junction to Ambient             | $R_{\theta JA}$ | 244        |          |          |          |          | $^{\circ}\text{C}/\text{W}$ |
| Operating Junction Temperature Range               | $T_j$           | -40 ~ +125 |          |          |          |          | $^{\circ}\text{C}$          |
| Storage Temperature Range                          | $T_{stg}$       | -55 ~ +150 |          |          |          |          | $^{\circ}\text{C}$          |

### Electrcal Charcteristics (Ta=25 unless otherwise specified)

| Parameter                     | Symbol | Min. | Typ. | Max. | Unit          | Conditions   |
|-------------------------------|--------|------|------|------|---------------|--|
| Forward voltage               | $V_F$  |      |      |      | V             | $I_F=500\text{mA}$   |
| MBR0520                       |        |      |      | 0.45 |               |  |
| MBR0530                       |        |      |      | 0.55 |               |  |
| MBR0540                       |        |      |      | 0.55 |               |  |
| MBR0560                       |        |      |      | 0.70 |               |  |
| MBR0580                       |        |      |      | 0.80 |               |  |
| Reverse current               | $I_R$  |      |      |      | $\mu\text{A}$ | $V_R=20\text{V}$<br>$V_R=30\text{V}$<br>$V_R=40\text{V}$<br>$V_R=60\text{V}$<br>$V_R=80\text{V}$ |
| MBR0520                       |        |      |      |      |               |  |
| MBR0530                       |        |      |      |      |               |  |
| MBR0540                       |        |      |      | 80   |               |  |
| MBR0560                       |        |      |      |      |               |  |
| MBR0580                       |        |      |      |      |               |  |
| Capacitance between terminals | $C_T$  |      | 30   |      | pF            | $V_R=4\text{V}$ , $f=1\text{MHZ}$  |

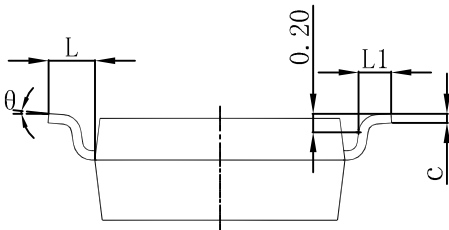
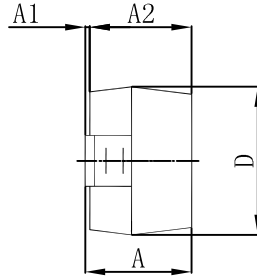
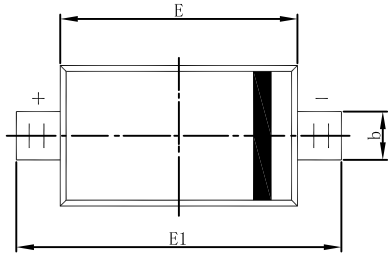


## Typical Characteristics

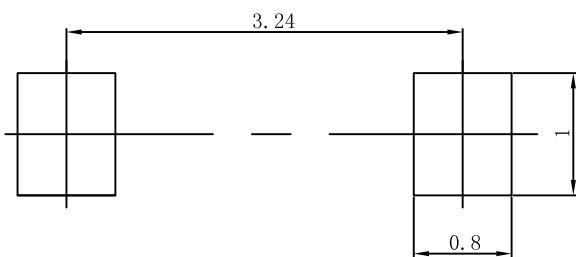




### SOD-123 Package Outline Dimensions



| 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 |
| $\theta$ | 0°                        | 8°    | 0°                   | 8°    |



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



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