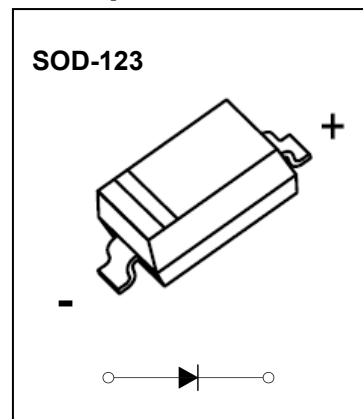


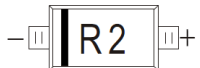
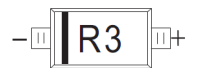
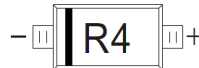
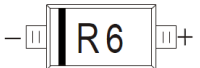
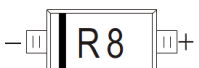
## SOD-123 Plastic-Encapsulate Diodes

### FEATURES

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



### MARKING:

| TKMBR0520 :R2                                                                      | TKMBR0530 :R3                                                                      | TKMBR0540 :R4                                                                      | TKMBR0560 :R6                                                                       | TKMBR0580 :R8                                                                        |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |  |  |  |

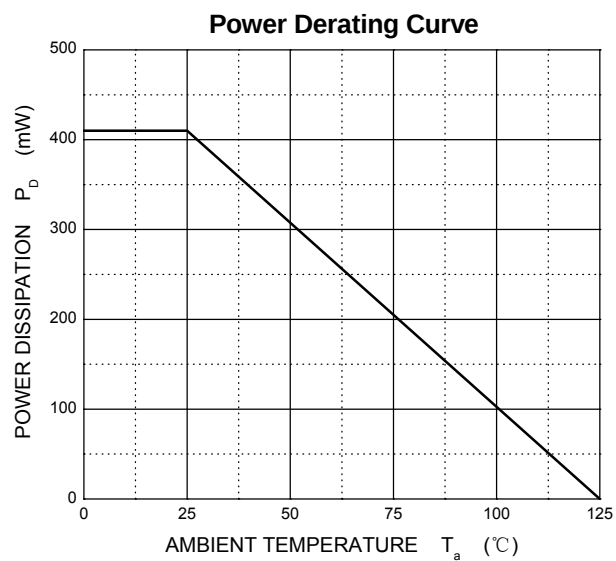
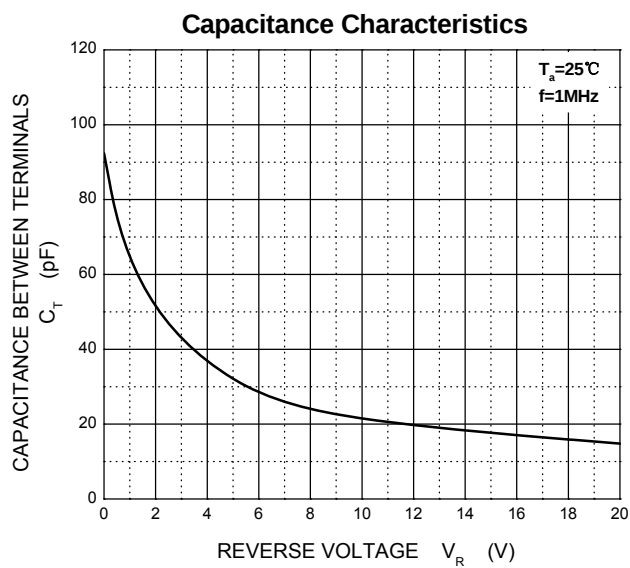
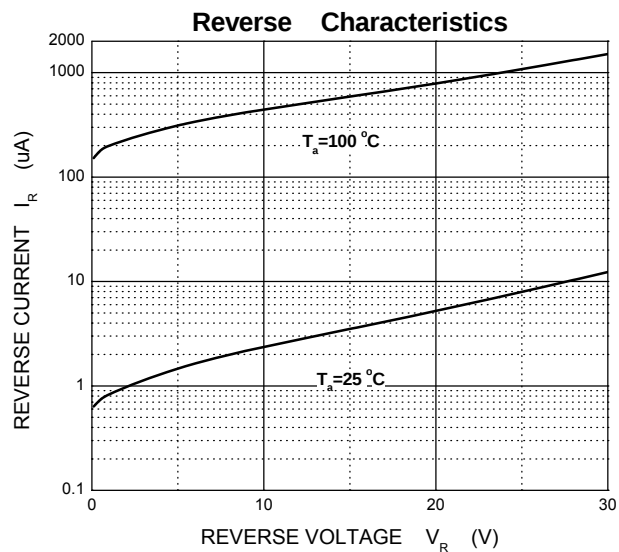
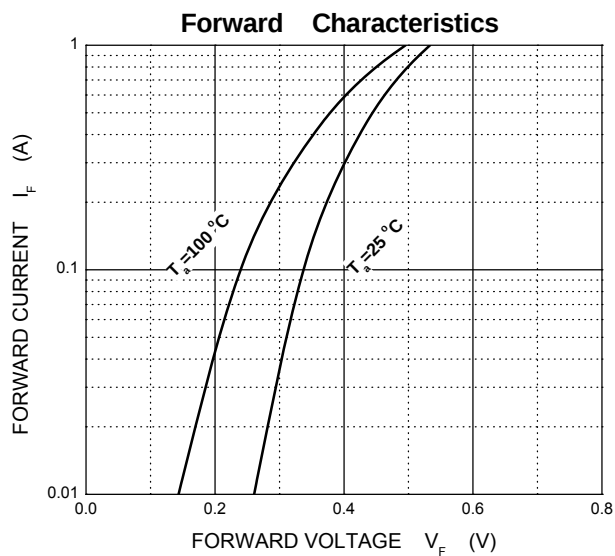
### Maximum Ratings @T<sub>a</sub>=25°C

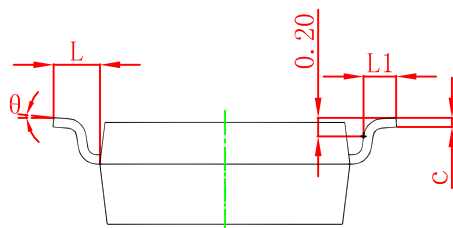
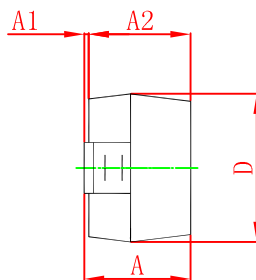
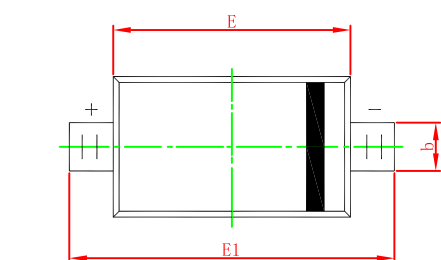
| Parameter                                             | Symbol           | TKMBR<br>0520 | TKMBR<br>0530 | TKMBR<br>0540 | TKMBR<br>0560 | TKMBR<br>0580 | Unit |
|-------------------------------------------------------|------------------|---------------|---------------|---------------|---------------|---------------|------|
| 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<br>@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<br>TKMBR0520<br>TKMBR0530<br>TKMBR0540<br>TKMBR0560<br>TKMBR0580 | V <sub>F</sub> |      |      | 0.45<br>0.55<br>0.55<br>0.70<br>0.80 | V    | I <sub>F</sub> =500mA                                                                                           |
| Reverse current<br>TKMBR0520<br>TKMBR0530<br>TKMBR0540<br>TKMBR0560<br>TKMBR0580 | I <sub>R</sub> |      |      | 80                                   | μA   | V <sub>R</sub> =20V<br>V <sub>R</sub> =30V<br>V <sub>R</sub> =40V<br>V <sub>R</sub> =60V<br>V <sub>R</sub> =80V |
| Capacitance between terminals                                                    | C <sub>T</sub> |      | 30   |                                      | pF   | V <sub>R</sub> =4V, f=1MHZ                                                                                      |

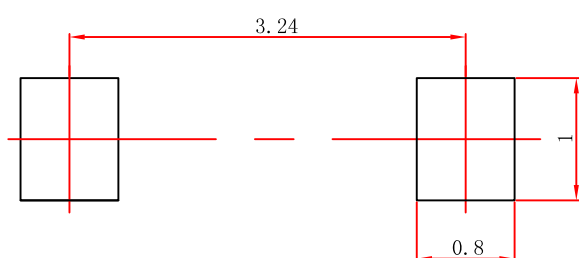
### Typical Characteristics





| 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.