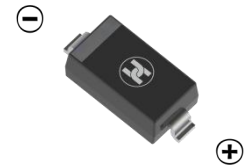
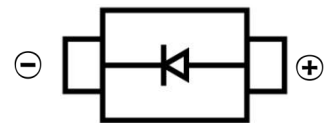


**SCHOTTKY BARRIER DIODE**
**FEATURES**

- High Breakdown Voltage
- Low Turn-on Voltage
- Guard Ring Construction for Transient Protection


**MECHANICAL DATA**

- Case: SOD-123
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.005 grams (approximate)

**SOD-123**

**MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$  unless otherwise noted)**

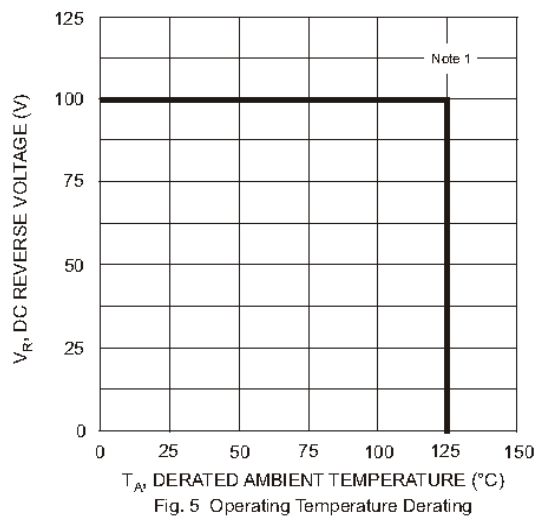
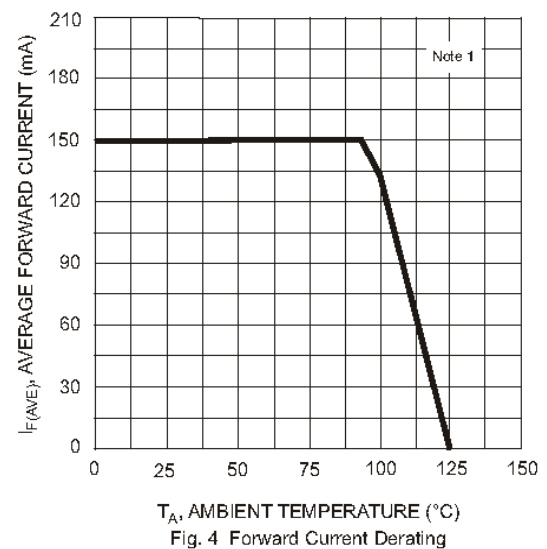
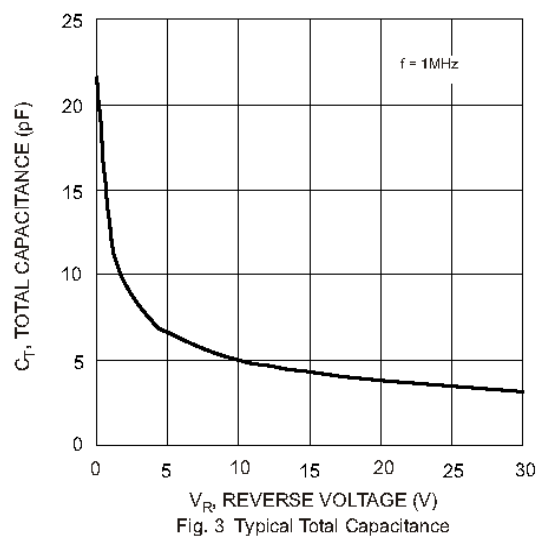
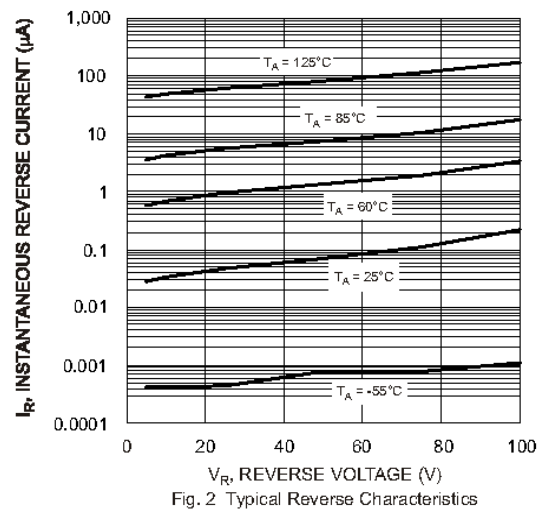
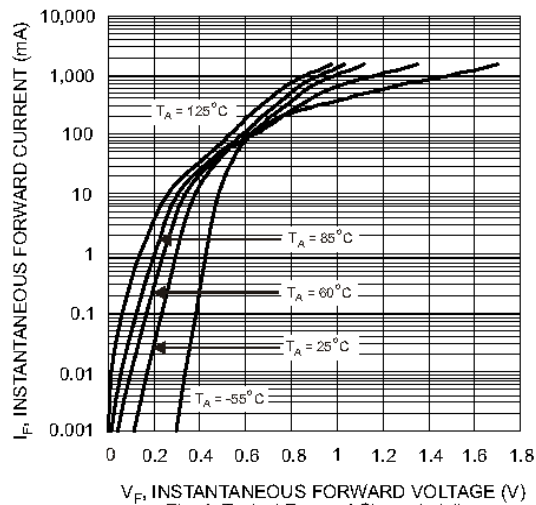
| Parameter                                        | Symbol     | Value         | Unit               |
|--------------------------------------------------|------------|---------------|--------------------|
| Repetitive Peak Reverse Voltage                  | $V_{RRM}$  | 100           | V                  |
| Continuous Forward Current                       | $I_F$      | 150           | mA                 |
| Repetitive Peak Forward Current (at $t_p < 1$ s) | $I_{FRM}$  | 350           | mA                 |
| Surge Forward Current (at $t_p < 10$ ms)         | $I_{FSM}$  | 750           | mA                 |
| Power Dissipation                                | $P_{tot}$  | 200           | mW                 |
| Thermal Resistance Junction Ambient              | $R_{thJA}$ | 420           | $^\circ\text{C/W}$ |
| Operating Temperature Range                      | $T_J$      | - 55 to + 125 | $^\circ\text{C}$   |
| Storage Temperature Range                        | $T_S$      | - 55 to + 150 | $^\circ\text{C}$   |

**ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$  unless otherwise specified)**

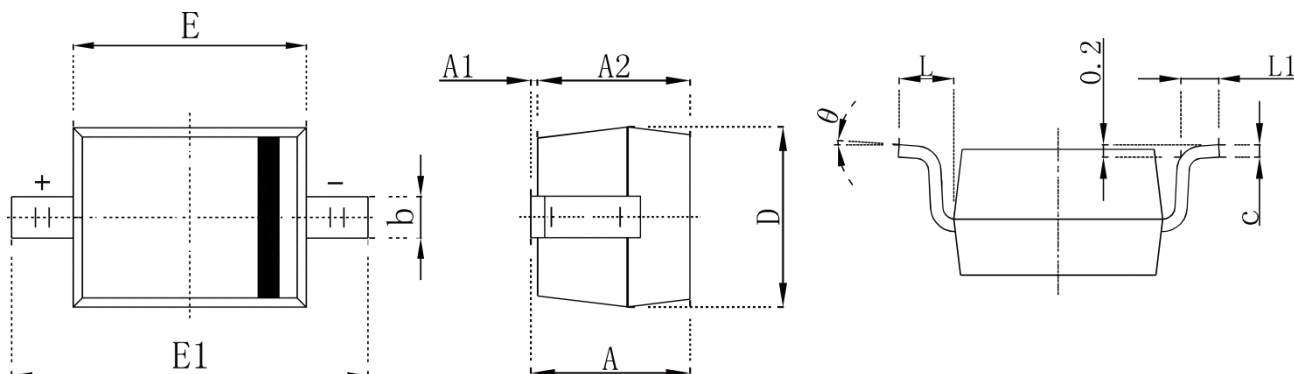
| Parameter                                                                                                                                                                                                                                                                         | Symbol      | Min.                                 | Typ.                                 | Max.                                         | Unit          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------|--------------------------------------|----------------------------------------------|---------------|
| Reverse Breakdown Voltage<br>at $I_R = 100 \mu\text{A}$                                                                                                                                                                                                                           | $V_{(BR)R}$ | 100                                  | -                                    | -                                            | V             |
| Forward Voltage<br>at $I_F = 0.1$ mA<br>at $I_F = 10$ mA<br>at $I_F = 250$ mA                                                                                                                                                                                                     | $V_F$       | -<br>-<br>-                          | -<br>-<br>-                          | 0.25<br>0.45<br>1                            | V             |
| Reverse Current<br>at $V_R = 1.5$ V<br>at $V_R = 10$ V<br>at $V_R = 50$ V<br>at $V_R = 75$ V<br>at $V_R = 1.5$ V, $T_j = 60^\circ\text{C}$<br>at $V_R = 10$ V, $T_j = 60^\circ\text{C}$<br>at $V_R = 50$ V, $T_j = 60^\circ\text{C}$<br>at $V_R = 75$ V, $T_j = 60^\circ\text{C}$ | $I_R$       | -<br>-<br>-<br>-<br>-<br>-<br>-<br>- | -<br>-<br>-<br>-<br>-<br>-<br>-<br>- | 0.5<br>0.8<br>2<br>5<br>5<br>7.5<br>15<br>20 | $\mu\text{A}$ |
| Total Capacitance<br>at $V_R = 0$ V, $f = 1$ MHz<br>at $V_R = 1$ V, $f = 1$ MHz                                                                                                                                                                                                   | $C_T$       | -<br>-                               | 20<br>12                             | -<br>-                                       | pF            |

**SCHOTTKY BARRIER DIODE**

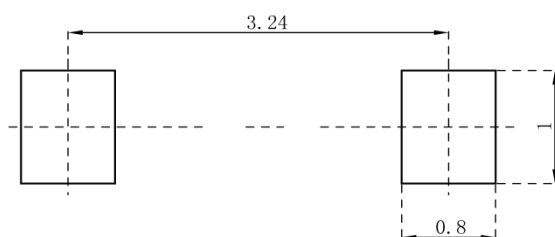
**Typical Characteristics**



Note 1: Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.

**SCHOTTKY BARRIER DIODE**
**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        | 0.500REF                  |       | 0.020 REF            |       |
| L1       | 0.250                     | 0.450 | 0.010                | 0.018 |
| $\theta$ | 0°                        | 8°    | 0°                   | 8°    |

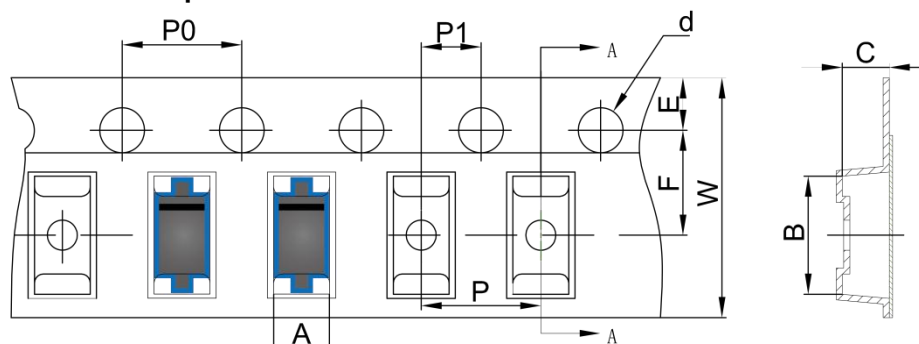
**SOD-123 Suggested Pad Layout**

**Note:**

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

## SCHOTTKY BARRIER DIODE

### SOD-123 Tape and Reel

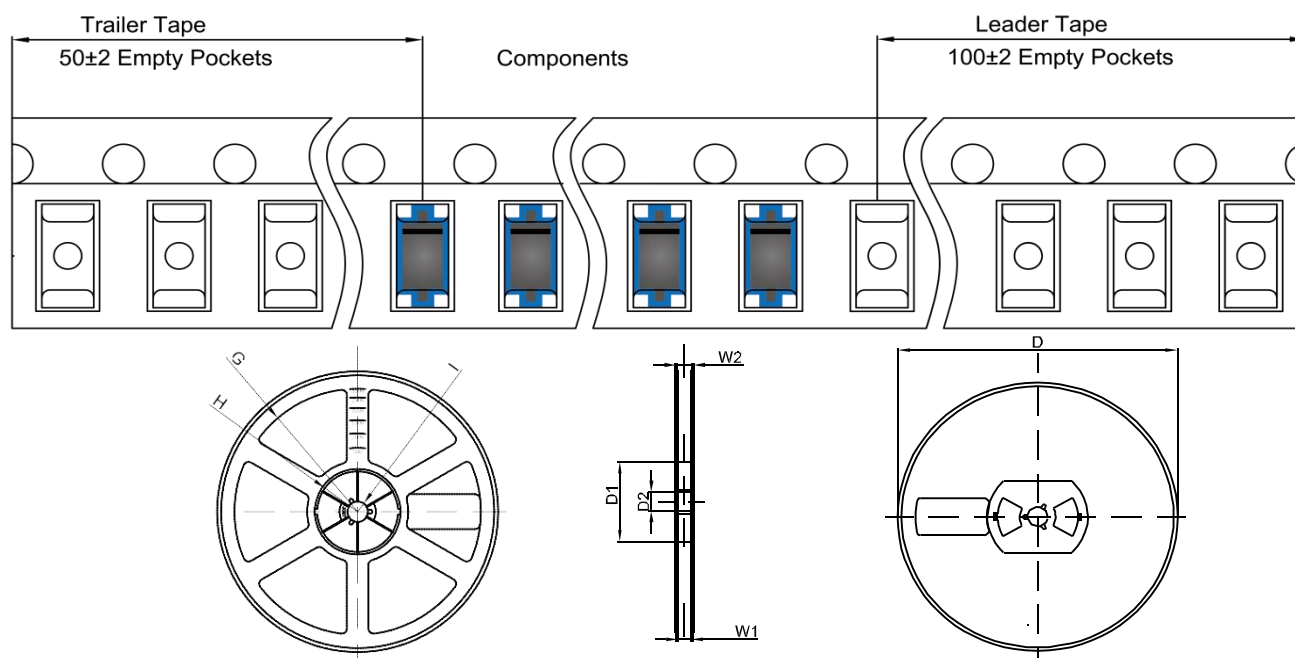
#### SOD-123 Embossed Carrier Tape



#### SOD-123 Tape Leader and Trailer

| DIMENSIONS ARE IN MILLIMETER |      |      |      |       |      |      |      |      |      |      |
|------------------------------|------|------|------|-------|------|------|------|------|------|------|
| TYPE                         | A    | B    | C    | d     | E    | F    | P0   | P    | P1   | W    |
| SOD-123                      | 1.85 | 3.95 | 1.57 | Ø1.55 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |
| TOLERANCE                    | ±0.1 | ±0.1 | ±0.1 | ±0.1  | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 |

#### SOD-123 Reel



| DIMENSIONS ARE IN MILLIMETER |      |       |       |     |        |       |      |       |
|------------------------------|------|-------|-------|-----|--------|-------|------|-------|
| REEL OPTION                  | D    | D1    | D2    | G   | H      | I     | W1   | W2    |
| 7" DIA                       | Ø178 | 54.40 | 13.00 | R78 | R25.60 | R6.50 | 9.50 | 12.30 |
| TOLERANCE                    | ±2   | ±1    | ±1    | ±1  | ±1     | ±1    | ±1   | ±1    |