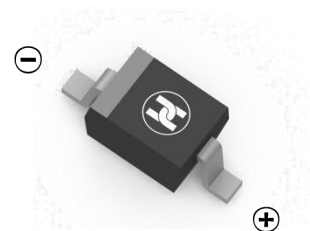


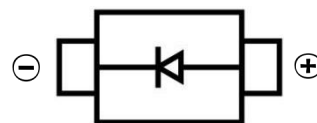
## SCHOTTKY BARRIER DIODE

### FEATURES

- High breakdown voltage
- Low turn-on voltage
- Guard ring construction for transient protection
- Surface Mount device



**SOD-323**



### MECHANICAL DATA

- Case: SOD-323
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.005 grams (approximate)

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

| Parameter                                                                         | Symbol          | Limit    | Unit               |
|-----------------------------------------------------------------------------------|-----------------|----------|--------------------|
| Peak repetitive peak reverse voltage                                              | $V_{RRM}$       | 100      | V                  |
| Working peak reverse voltage                                                      | $V_{RWM}$       |          |                    |
| Forward continuous current                                                        | $I_F$           | 150      | mA                 |
| Repetitive peak forward current (Note 1) @ $t_p < 1.0\text{s}$ , Duty Cycle < 50% | $I_{FRM}$       | 350      | mA                 |
| Non-repetitive Peak Forward surge current @ $t = 8.3\text{ms}$                    | $I_{FSM}$       | 750      | mA                 |
| Power dissipation                                                                 | $P_D$           | 200      | mW                 |
| Thermal resistance junction to ambient air                                        | $R_{\theta JA}$ | 500      | $^\circ\text{C/W}$ |
| Junction temperature                                                              | $T_j$           | 125      | $^\circ\text{C}$   |
| Storage temperature                                                               | $T_{STG}$       | -40~+150 | $^\circ\text{C}$   |

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

| Parameter                         | Symbol | Test Conditions                    | Min | Typ | Max  | Unit          |
|-----------------------------------|--------|------------------------------------|-----|-----|------|---------------|
| Reverse breakdown voltage(Note 2) | $V_R$  | $I_R = 100\mu\text{A}$             | 100 |     |      | V             |
| Reverse voltage leakage current   | $I_R$  | $V_{R1} = 1.5\text{V}$             |     |     | 0.3  | $\mu\text{A}$ |
|                                   |        | $V_{R2} = 10\text{V}$              |     |     | 0.8  |               |
|                                   |        | $V_{R3} = 50\text{V}$              |     |     | 2    |               |
|                                   |        | $V_{R4} = 75\text{V}$              |     |     | 5    |               |
| Forward voltage(Note 2)           | $V_F$  | $I_{F1} = 0.1\text{mA}$            |     |     | 0.25 | V             |
|                                   |        | $I_{F2} = 10\text{mA}$             |     |     | 0.45 |               |
|                                   |        | $I_{F3} = 250\text{mA}$            |     |     | 1    |               |
| Diode capacitance                 | $C_T$  | $V_R = 0, f = 1\text{MHz}$         |     | 20  |      | pF            |
|                                   |        | $V_R = 1\text{V}, f = 1\text{MHz}$ |     | 10  |      |               |

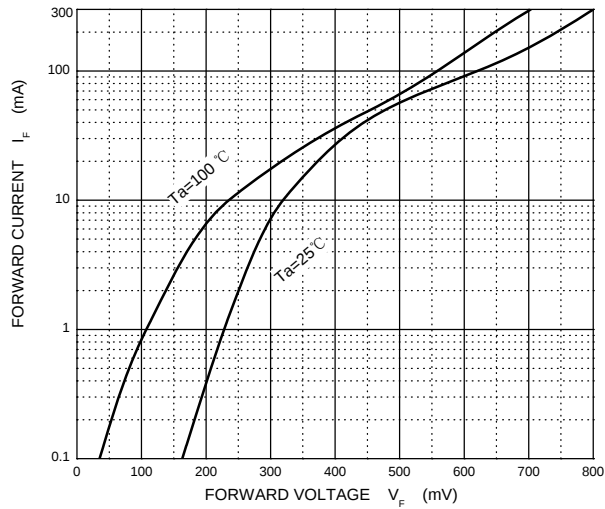
Notes: 1. Part mounted on FR-4 board with recommended pad layout.

2. Short duration pulse test used to minimize self-heating effect.

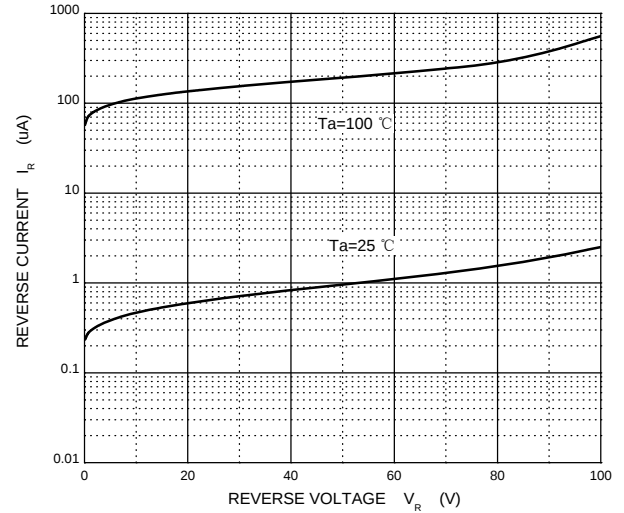
SCHOTTKY BARRIER DIODE

**Typical Characteristics**

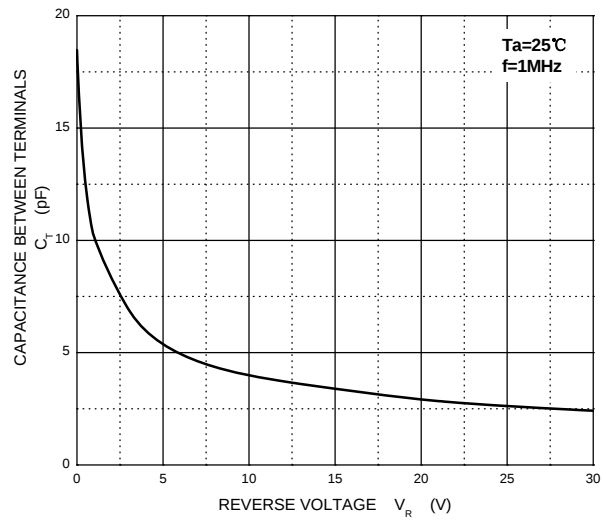
**Forward Characteristics**



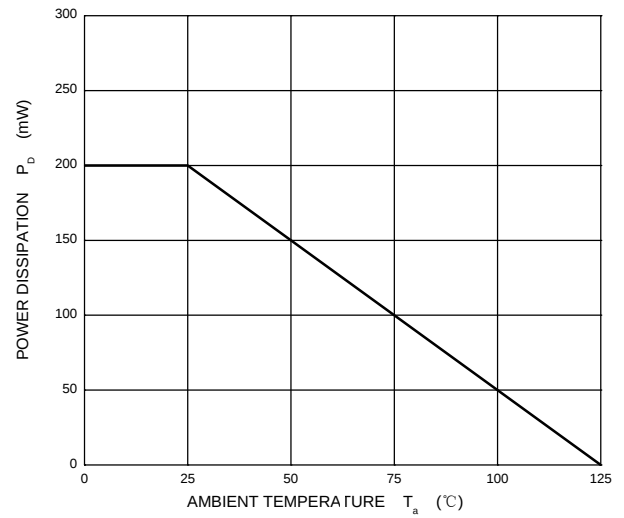
**Reverse Characteristics**



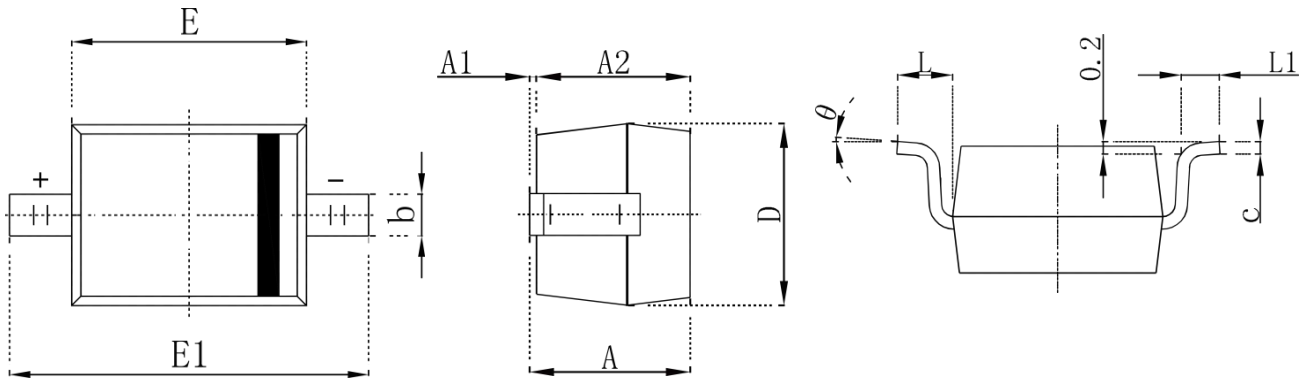
**Capacitance Characteristics**



**Power Derating Curve**

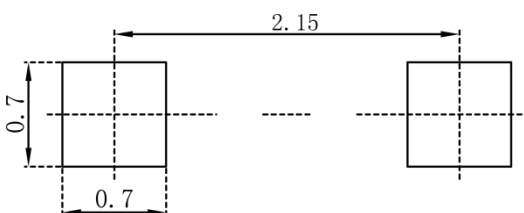


### SOD-323 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min.                      | Max.  | Min.                 | Max.  |
| A      |                           | 1.000 |                      | 0.039 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.800                     | 0.900 | 0.031                | 0.035 |
| b      | 0.250                     | 0.350 | 0.010                | 0.014 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 1.200                     | 1.400 | 0.047                | 0.055 |
| E      | 1.600                     | 1.800 | 0.063                | 0.071 |
| E1     | 2.250                     | 2.750 | 0.100                | 0.108 |
| L      | 0.475 REF                 |       | 0.019 REF            |       |
| L1     | 0.250                     | 0.400 | 0.010                | 0.016 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |

### SOD-323 Suggested Pad Layout



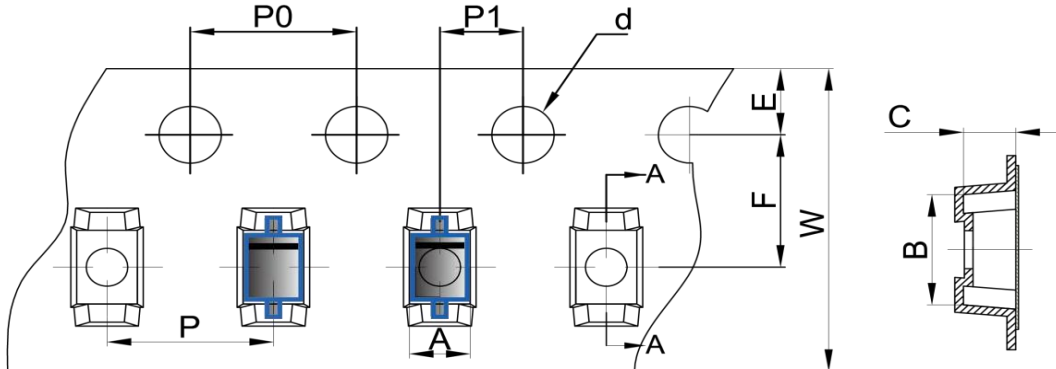
#### Note:

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

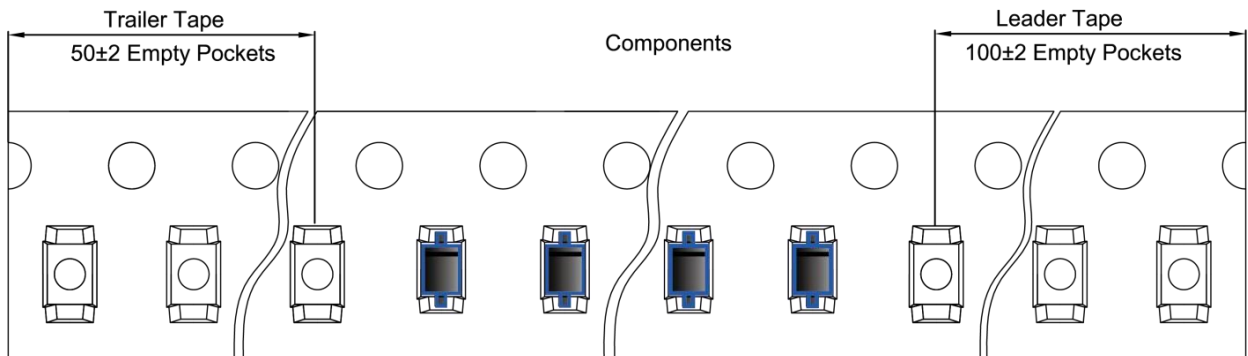
**SOD-323 Tape and Reel**

**SOD-323 Embossed Carrier Tape**

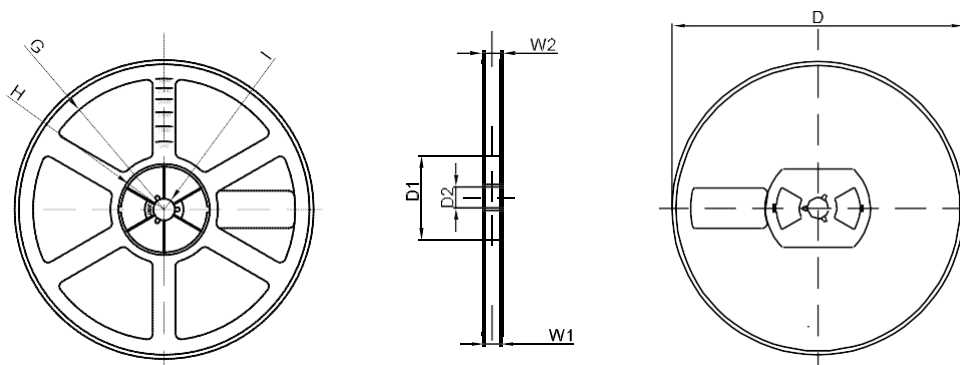


| DIMENSIONS ARE IN MILLIMETER |      |      |      |       |      |      |      |      |      |      |
|------------------------------|------|------|------|-------|------|------|------|------|------|------|
| TYPE                         | A    | B    | C    | d     | E    | F    | P0   | P    | P1   | W    |
| SOD-323                      | 1.48 | 3.3  | 1.25 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8    |
| TOLERANCE                    | ±0.1 | ±0.1 | ±0.1 | ±0.1  | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 |

**SOD-323 Tape Leader and Trailer**



**SOD-323 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    |