

## FEATURES

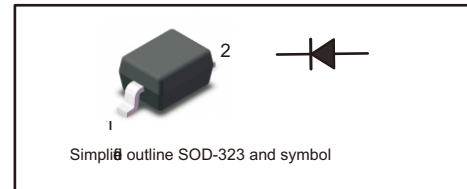
- For surface mounted applications
- Glass Passivated Chip Junction
- Fast reverse recovery time
- Ideal for automated placement
- Lead free in comply with EU RoHS 2011/65/EU directives

## MECHANICAL DATA

- Case: SOD-323
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 5.48mg / 0.00019oz

## PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |



## Absolute Maximum Ratings at 25°C

| Parameter                                                              | Symbols                            | 1N4148WSP     | Units |
|------------------------------------------------------------------------|------------------------------------|---------------|-------|
| Maximum Repetitive Peak Reverse Voltage                                | $V_{RRM}$                          | 100           | V     |
| Maximum RMS voltage                                                    | $V_{RMS}$                          | 75            | V     |
| Average Rectified Forward Current                                      | $I_{F(AV)}$                        | 150           | mA    |
| Non-repetitive Peak Forward Surge Current<br>at 1s<br>at 1ms<br>at 1us | $I_{FSM}$                          | 0.5<br>1<br>4 | A     |
| Total Power Dissipation                                                | $P_{tot}$                          | 400           | mW    |
| Typical Thermal Resistance (1)                                         | $R_{\theta JA}$<br>$R_{\theta JC}$ | 340<br>120    | °C/W  |
| Operating and Storage Temperature Range                                | $T_j$ $T_{stg}$                    | -55 ~ +150    | °C    |

(1) P.C.B. mounted with 5\*5mm copper pad areas.

## Characteristics at $T_a = 25^\circ\text{C}$

| Parameter                                                                                                                                                                                                      | Symbols     | 1N4148WSP                      | Units         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------|---------------|
| Reverse Breakdown Voltage at $I_R=1\mu\text{A}$                                                                                                                                                                | $V_{(BR)R}$ | 75                             | V             |
| Maximum Forward Voltage<br>at 1 m A<br>at 10 m A<br>at 50 m A<br>at 150 m A                                                                                                                                    | $V_F$       | 0.715<br>0.855<br>1.00<br>1.25 | V             |
| Peak Reverse Current<br>at $V_R=20\text{V}$ $T_j=25^\circ\text{C}$<br>at $V_R=75\text{V}$ $T_j=25^\circ\text{C}$<br>at $V_R=25\text{V}$ $T_j=150^\circ\text{C}$<br>at $V_R=75\text{V}$ $T_j=150^\circ\text{C}$ | $I_R$       | 0.025<br>1<br>30<br>50         | $\mu\text{A}$ |
| Typical Junction Capacitance $f=1\text{MHz}, V_R=0\text{V}$                                                                                                                                                    | $C_j$       | 5                              | pF            |
| Typical Reverse Recovery Time (2)                                                                                                                                                                              | $t_{rr}$    | 4                              | ns            |

(2) Measured with  $I_F=I_R=10\text{mA}$ ,  $I_{rr}=0.1\text{A}$ ,  $R_L=100\Omega$

Fig.1 Power Derating Curve

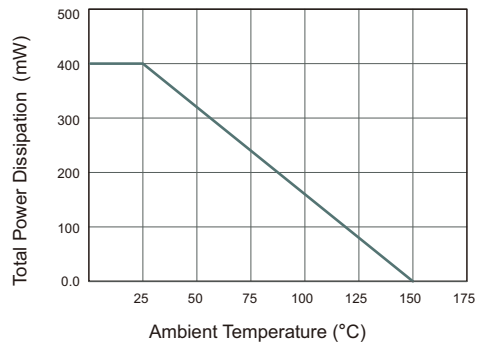


Fig.2 Typical Reverse Characteristics

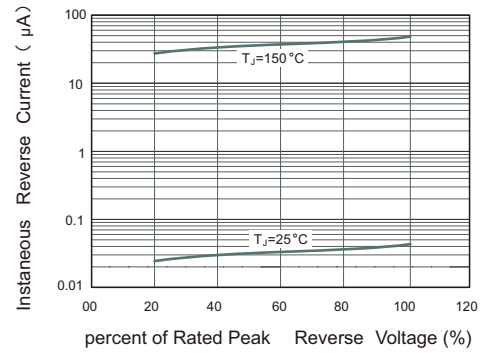


Fig.3 Typical Instantaneous Forward Characteristics

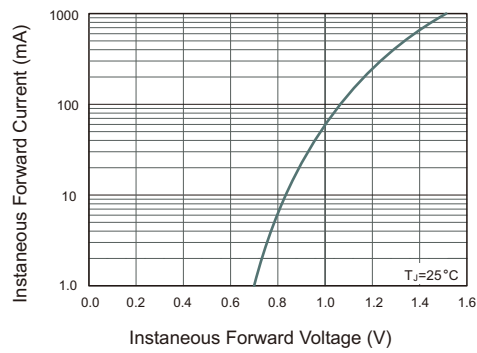
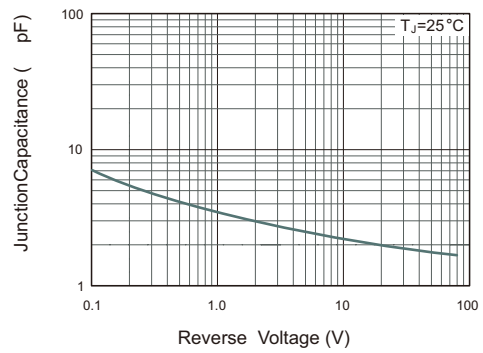


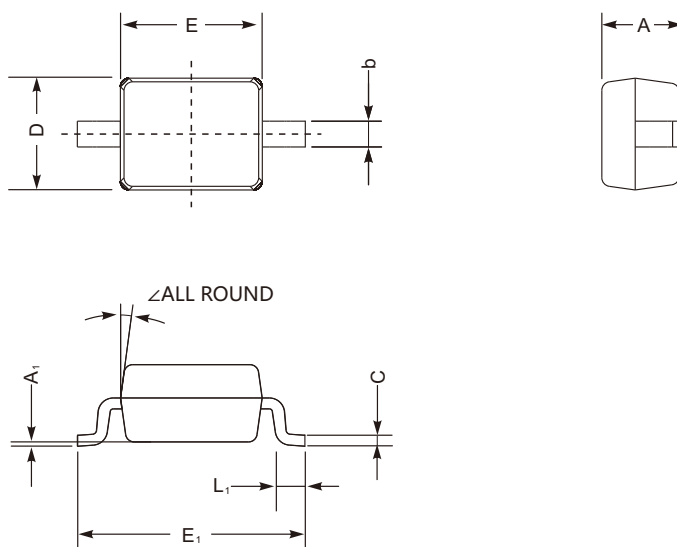
Fig.4 Typical Junction Capacitance



## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

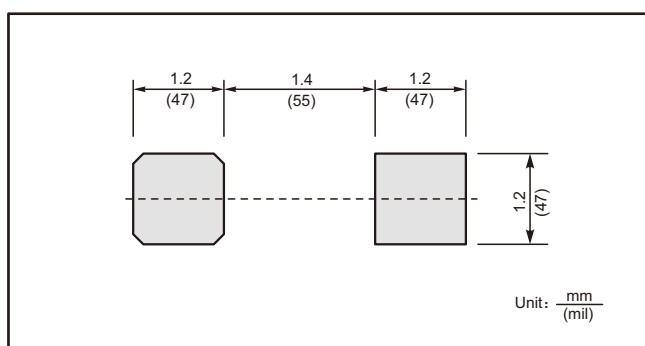
SOD-323



SOD-323 mechanical data E<sub>1</sub>

| UNIT |     | A   | C    | D   | E   | b    | L <sub>1</sub> | A <sub>1</sub> |     | ∠  |
|------|-----|-----|------|-----|-----|------|----------------|----------------|-----|----|
| mm   | max | 1.1 | 0.15 | 1.4 | 1.8 | 2.75 | 0.4            | 0.45           | 0.2 | 9° |
|      | min | 0.8 | 0.08 | 1.2 | 1.4 | 2.55 | 0.25           | 0.2            | —   |    |
| mil  | max | 43  | 5.9  | 55  | 70  | 108  | 16             | 16             | 8   |    |
|      | min | 32  | 3.1  | 47  | 55  | 100  | 9.8            | 7.9            | —   |    |

## The recommended mounting pad size



## Marking

| Type number | Marking code |
|-------------|--------------|
| 1N4148WSP   | T4           |