

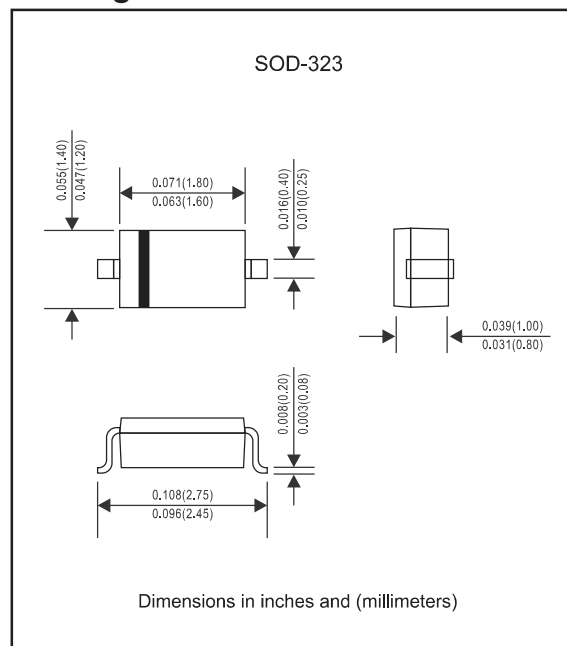
### Features

- Fast switching speed.
- Electrically identical to standard JEDEC.
- Surface mount package ideally suited for automatic insertion.
- Tiny plastic SMD package.
- RoHS Compliant
- Green EMC
- High Conductance.
- Silicon epitaxial planar chip.
- Lead-free parts for green partner, exceeds environmental standards of MIL-STD-19500 /228
- Compliant to Halogen-free

### Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-323
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

### Package Outline



### Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

| PARAMETER                                                                        | Symbol          | 1N4148WS                                                                                                       | UNIT               |
|----------------------------------------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------|--------------------|
| Maximum reverse voltage                                                          | $V_R$           | 75                                                                                                             | V                  |
| Maximum peak reverse voltage                                                     | $V_{RM}$        | 100                                                                                                            | V                  |
| Maximum RMS voltage                                                              | $V_{RMS}$       | 50                                                                                                             | V                  |
| Maximum DC blocking voltage                                                      | $V_{DC}$        | 75                                                                                                             | V                  |
| Maximum average forward current at $T_A = 25^\circ\text{C}$                      | $I_O$           | 150                                                                                                            | mA                 |
| Maximum peak forward surge current, 1.0us                                        | $I_{FSM}$       | 2.0                                                                                                            | A                  |
| Maximum power dissipation derate above $25^\circ\text{C}$                        | $P_D$           | 200                                                                                                            | mW                 |
| Maximum forward voltage                                                          | $V_F$           | 0.715@ $I_F=0.001\text{A}$<br>0.855@ $I_F=0.01\text{A}$<br>1.0@ $I_F=0.05\text{A}$<br>1.25@ $I_F=0.15\text{A}$ | V                  |
| Maximum DC reverse current at rated DC blocking voltage $T_J = 25^\circ\text{C}$ | $I_R$           | 0.025@ $V_R=20\text{V}$<br>1.0@ $V_R=75\text{V}$                                                               | $\mu\text{A}$      |
| Typical junction capacitance (Notes 1)                                           | $C_J$           | 2.0                                                                                                            | pF                 |
| Maximum reverse recovery time (Notes 2)                                          | $t_{rr}$        | 4.0                                                                                                            | ns                 |
| Typical thermal resistance junction to ambient                                   | $R_{\theta JA}$ | 500                                                                                                            | $^\circ\text{C/W}$ |
| Operating junction and Storage Temperature Range                                 | $T_J, T_{STG}$  | -55 to +150                                                                                                    | $^\circ\text{C}$   |

Notes :

1.  $C_J$  at  $V_R = 0\text{V}$ ,  $f = 1\text{MHz}$

2. From  $I_F = 10\text{mA}$  to  $I_R = 1\text{mA}$ ,  $V_R = 6\text{V}$ ,  $R_L = 100\Omega$

## Rating and characteristic curves (1N4148WS)

Fig. 1 TYPICAL FORWARD CHARACTERISTICS

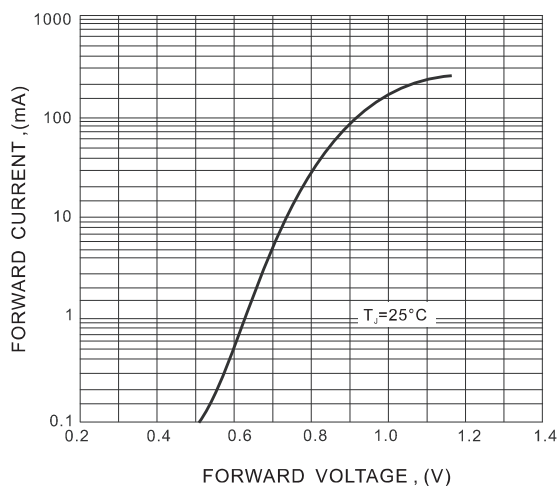


Fig. 2 TYPICAL REVERSE CHARACTERISTICS

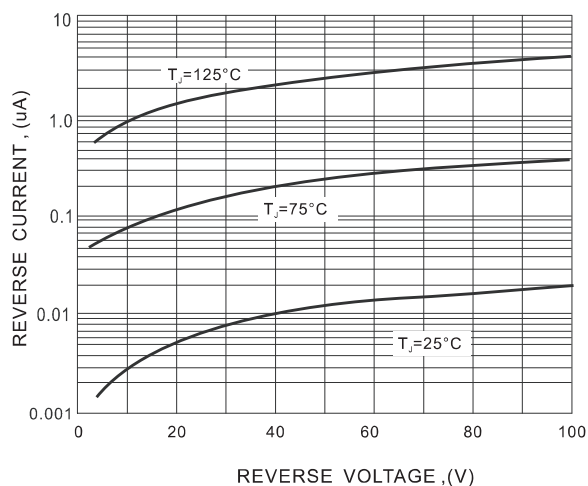
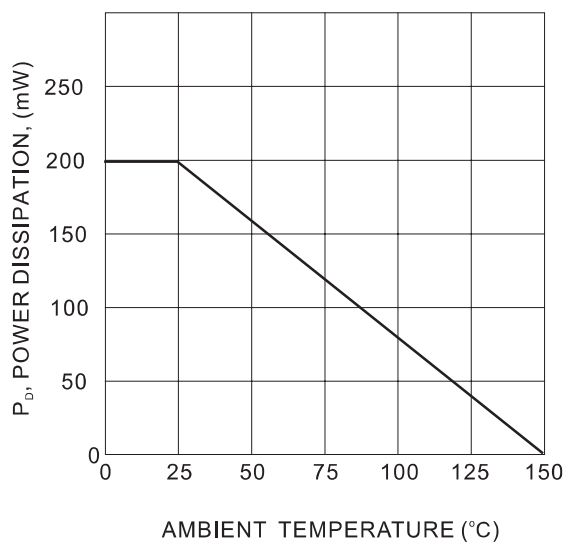


Fig. 3 POWER DERATING CURVE



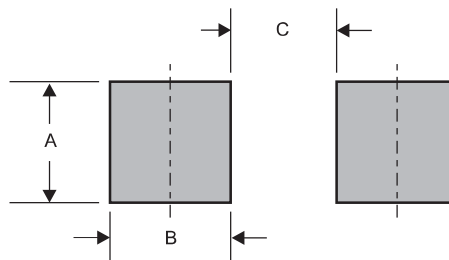
## Pinning information

| Pin                        | Simplified outline                                                                | Symbol                                                                              |
|----------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Pin1 cathode<br>Pin2 anode |  |  |

## Marking

| Type number | Marking code |
|-------------|--------------|
| 1N4148WS    | T4           |

## Suggested solder pad layout



Dimensions in inches and (millimeters)

| PACKAGE | A            | B            | C            |
|---------|--------------|--------------|--------------|
| SOD-323 | 0.033 (0.83) | 0.025 (0.63) | 0.063 (1.60) |