

## Silicon Epitaxial Switching Diode

### Feature:

- Fast Switching Diode



Marking : 1N4148WS = W2 with cathode band

### Absolute Maximum Ratings

| Description  | Symbol      | Value       | Unit             |
|--|-------------|-------------|------------------|
| Continuous Reverse Voltage   | $V_R$       | 75          | V                |
| Repetitive Peak Reverse Voltage  | $V_{RRM}$   | 100         |                  |
| Average Rectified Current Half Wave Rectification with Resistive Load $f \geq 50$ Hz | $*I_F (AV)$ | 150         | mA               |
| Surge Forward Current $t < 1$ s and $T_j = 25^\circ\text{C}$                         | $I_{FSM}$   | 350         |                  |
| Power Dissipation at $T_{amb} = 25^\circ\text{C}$                                    | $*P_{tot}$  | 200         | mW               |
| Junction Temperature   | $T_j$       | 150         | $^\circ\text{C}$ |
| Storage Temperature Range  | $T_{stg}$   | -65 to +150 |                  |

### Thermal Resistance

|                                 |                 |     |                             |
|---------------------------------|-----------------|-----|-----------------------------|
| Junction to Ambient in Free Air | $*R_{th (j-a)}$ | 650 | $^\circ\text{C} / \text{W}$ |
|---------------------------------|-----------------|-----|-----------------------------|

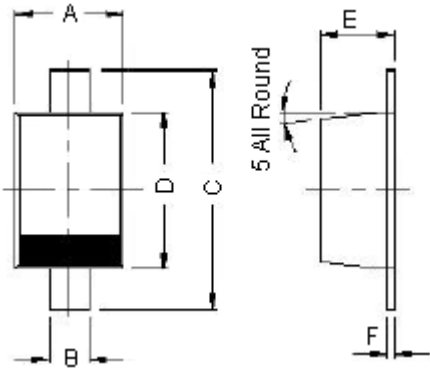
\*Valid provided that electrodes are kept at ambient temperature

### Electrical Characteristics ( $T_{amb} = 25^\circ\text{C}$ unless specified otherwise)

| Description     | Symbol | Test Condition                          | Minimum | Maximum | Unit          |
|-----------------|--------|---|---------|---------|---------------|
| Forward Voltage | $V_F$  | $I_F = 10$ mA                           | -       | 1       | V             |
| Reverse Current | $I_R$  | $V_R = 20$ V                            | -       | 25      | nA            |
|                 |        | $V_R = 20$ V, $T_j = 150^\circ\text{C}$ |         | 50      |               |
|                 |        | $V_R = 75$ V                            | -       | 5       | $\mu\text{A}$ |

| Dynamic Characteristics                                      |                   |          |   |      |     |    |
|--|-------------------|----------|---|------|-----|----|
| Diode Capacitance  | Diode Capacitance | $C_d$    | $V_R = 0 \text{ V}, f = 1 \text{ MHz}$  | -    | 4   | pF |
| Voltage Rise When Switching On<br>(Tested with 50 ms Pulses) |                   | $V_{fr}$ | Tested with = 50 mA Pulses,<br>$t_p = 0.1 \mu\text{s}$ , Rise Time = <30 ns,<br>$t_p = (5 \text{ to } 100) \text{ KHZ}$ | -    | 2.5 | ns |
| Reverse Recovery Time  |                   | $t_{rr}$ | $I_F = 10 \text{ mA}$ , to $I_R = 60 \text{ mA}$<br>$R_L = 100 \Omega$<br>Measured at $I_R = 1 \text{ mA}$              | -    | 4   | ns |
| Rectification Efficiency                                     |                   | $\eta_V$ | $f = 100 \text{ MHz}, V_{RF} = 2 \text{ V}$   | 0.45 | -   | -  |

## Package SOD - 323 FL



Dimensions : Millimetres

Cathode is Marked by Band

| Dimension | Minimum | Maximum |
|-----------|---------|---------|
| A         | 1.15    | 1.35    |
| B         | 0.25    | 0.4     |
| C         | 2.3     | 2.8     |
| D         | 1.6     | 1.8     |
| E         | 0.8     | 1.1     |
| F         | 0       | 0.15    |

Dimensions : Millimetres

## Part Number Table

| Description                           | Part Number |
|---------------------------------------|-------------|
| Diode, H Speed, 100 V, 0.15 A, SOD323 | 1N4148WS    |

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