

## 1N4148W FAST SWITCHING DIODE



### Features

- Small Package
- Low Reverse Current
- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Mechanical Data

- Case: SOD-123, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking: T4
- Weight: 0.01 grams(approx)

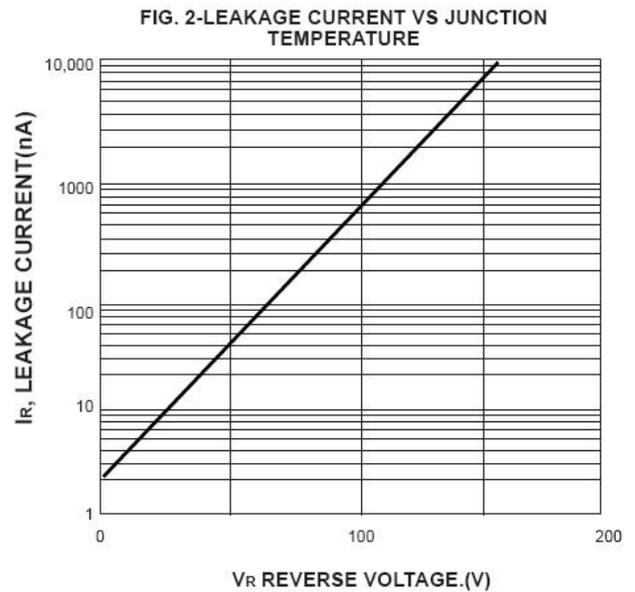
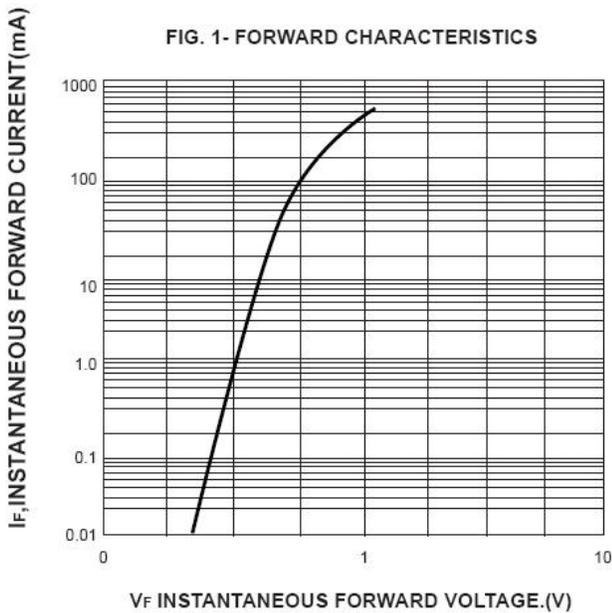
### Maximum Ratings @T<sub>A</sub>=25°C unless otherwise specified

| Characteristic   | Symbol   | Limits      | Unit |
|--|--|-------------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | 75          | V    |
| RMS Reverse Voltage  | V <sub>R(RMS)</sub>                                    | 53          | V    |
| Forward Continuous Current   | I <sub>F</sub>   | 300         | mA   |
| Average Rectified Output Current   | I <sub>O</sub>   | 150         | mA   |
| Non-Repetitive Peak Forward Surge Current @t=8.3ms                                     | I <sub>FSM</sub>                                       | 2.0         | A    |
| Power Dissipation  | P <sub>D</sub>   | 400         | mW   |
| Typical Thermal Resistance, Junction to Ambient  | R <sub>θJA</sub>                                       | 315         | °C/W |
| Junction Temperature Range   | T <sub>J</sub>   | -55 to +125 | °C   |
| Storage Temperature Range  | T <sub>STG</sub>                                       | -55 to +150 | °C   |

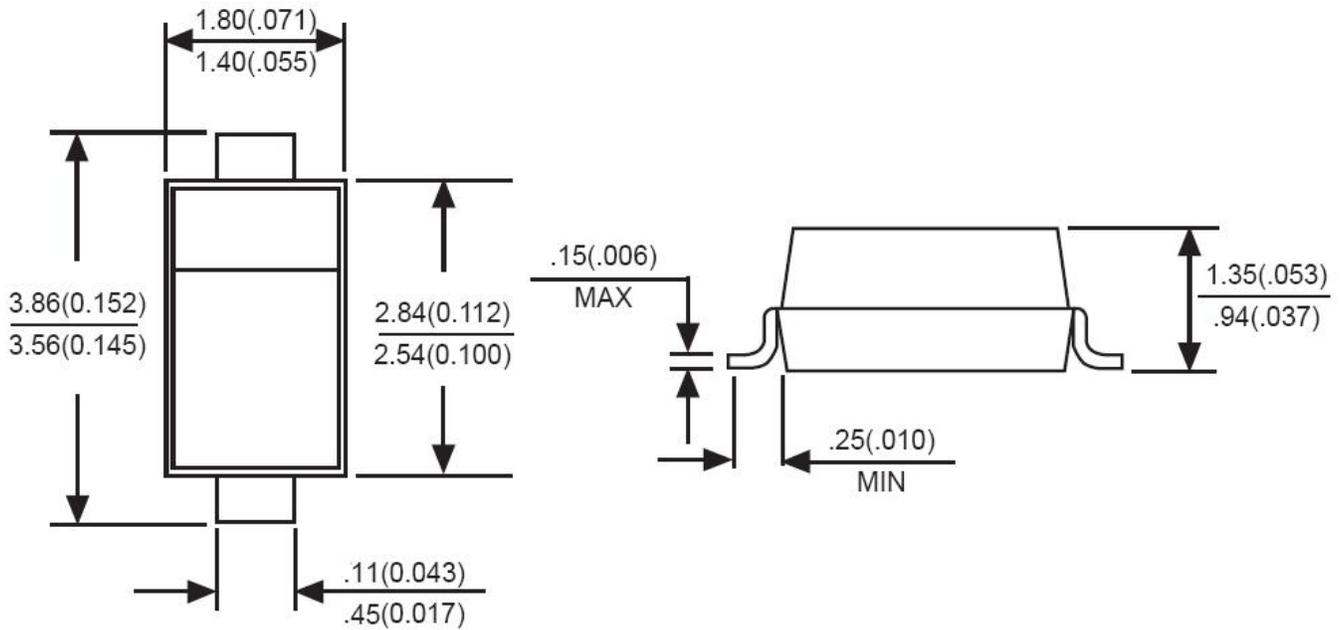
**Electrical Characteristics @ $T_A=25^\circ\text{C}$  unless otherwise specified**

| Characteristic          | Symbol   | Min | Max                            | Units               | Test Condition   |
|-------------------------|----------|-----|--------------------------------|---------------------|--|
| Forward Voltage         | $V_{FM}$ | -   | 0.715<br>0.855<br>1.00<br>1.25 | V                   | @ $I_F=1\text{mA}$<br>@ $I_F=10\text{mA}$<br>@ $I_F=50\text{mA}$<br>@ $I_F=150\text{mA}$ |
| Reverse Leakage Current | $I_{RM}$ | -   | 2.5<br>25                      | $\mu\text{A}$<br>nA | @ $V_R=75\text{V}$<br>@ $V_R=20\text{V}$   |
| Capacitance             | $C_T$    | -   | 2                              | pF                  | $V_R=0\text{V}$ , $f=1.0\text{MHz}$  |
| Reverse Recovery Time   | $t_{rr}$ | -   | 4                              | ns                  | $I_F=I_R=10\text{mA}$<br>$I_{rr}=0.1 \times I_R$ , $R_L=100\Omega$                       |

**Ratings and Characteristics Curves**



**Mechanical Dimensions SOD-123(Millimeters/Inches)**



**Ordering Information**

| Device  | Package           | Shipping       |
|---------|-------------------|----------------|
| 1N4148W | SOD-123 (Pb-Free) | 3000pcs / reel |

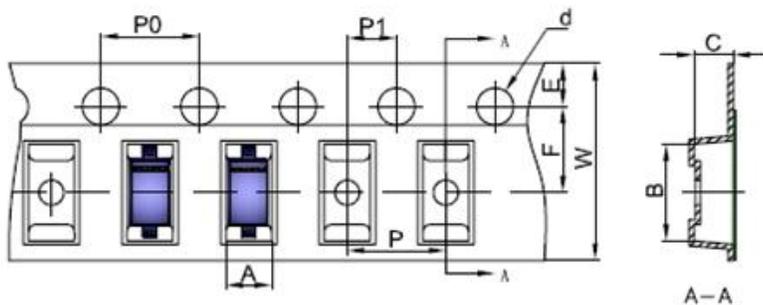
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**



T4 = Marking code

**Carrier Tape Specification SOD-123**



| SYMBOL | Millimeters |      |
|--------|-------------|------|
|        | Min.        | Max. |
| A      | 1.80        | 1.90 |
| B      | 3.89        | 3.99 |
| C      | 1.52        | 1.62 |
| d      | 1.45        | 1.65 |
| E      | 1.65        | 1.85 |
| F      | 3.40        | 3.60 |
| P      | 3.90        | 4.10 |
| P0     | 3.90        | 4.10 |
| P1     | 1.90        | 2.10 |
| W      | 7.90        | 8.30 |

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