

## Features

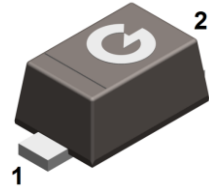
- Fast switching speed
- High conductance
- MSL 1

HF

## Mechanical Data

- Case: SOD-523
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

1 CATHODE 2 ANODE



SOD-523

## Ordering Information

| Part Number | Package | Shipping Quantity      | Marking Code |
|-------------|---------|------------------------|--------------|
| 1N4148WT    | SOD-523 | 3000 pcs / Tape & Reel | T4           |

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

| Parameter                                             | Symbol              | Value | Unit |
|-------------------------------------------------------|---------------------|-------|------|
| Non-Repetitive Peak Reverse Voltage                   | V <sub>RM</sub>     | 100   | V    |
| Peak Repetitive Peak Reverse Voltage                  | V <sub>RRM</sub>    | 75    | V    |
| Working Peak Reverse Voltage                          | V <sub>RWM</sub>    | 75    | V    |
| DC Blocking Voltage                                   | V <sub>R</sub>      | 75    | V    |
| RMS Reverse Voltage                                   | V <sub>R(RMS)</sub> | 53    | V    |
| Forward Current                                       | I <sub>F</sub>      | 125   | mA   |
| Peak Forward Surge Current, 1μs Single Half-sine-wave | I <sub>FSM</sub>    | 2     | A    |
| Peak Forward Surge Current, 1s Single Half-sine-wave  | I <sub>FSM</sub>    | 1     | A    |

## Thermal Characteristics

| Parameter                            | Symbol           | Value      | Unit |
|--------------------------------------|------------------|------------|------|
| Power Dissipation                    | P <sub>D</sub>   | 150        | mW   |
| Thermal Resistance Junction-to-Air   | R <sub>θJA</sub> | 833        | °C/W |
| Thermal Resistance Junction-to-Case  | R <sub>θJC</sub> | 561        | °C/W |
| Thermal Resistance Junction-to-Lead  | R <sub>θJL</sub> | 829        | °C/W |
| Operating Junction Temperature Range | T <sub>J</sub>   | -65 ~ +150 | °C   |
| Storage Temperature Range            | T <sub>STG</sub> | -65 ~ +150 | °C   |

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

| Parameter                    | Symbol      | Test Condition                                                          | Min. | Typ. | Max.  | Unit          |
|------------------------------|-------------|-------------------------------------------------------------------------|------|------|-------|---------------|
| Reverse Breakdown Voltage    | $V_{(BR)R}$ | $I_R = 10\mu\text{A}$                                                   | 75   | -    | -     | V             |
| Forward Voltage              | $V_F$       | $I_F = 1\text{mA}$                                                      | -    | -    | 0.715 | V             |
|                              |             | $I_F = 10\text{mA}$                                                     | -    | -    | 0.855 | V             |
|                              |             | $I_F = 50\text{mA}$                                                     | -    | -    | 1.000 | V             |
|                              |             | $I_F = 150\text{mA}$                                                    | -    | -    | 1.250 | V             |
| Maximum Peak Reverse Current | $I_R$       | $V_R = 20\text{V}$                                                      | -    | -    | 25    | nA            |
|                              |             | $V_R = 75\text{V}$                                                      | -    | -    | 1     | $\mu\text{A}$ |
| Total Capacitance            | $C_J$       | $V_R = 0\text{V}, f = 1.0\text{MHz}$                                    | -    | -    | 2     | pF            |
| Reverse Recovery Time        | $t_{rr}$    | $I_F = I_R = 10\text{mA}$<br>$I_{rr} = 0.1 \times I_R, R_L = 100\Omega$ | -    | -    | 4     | ns            |

Ratings and Characteristics Curves (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)

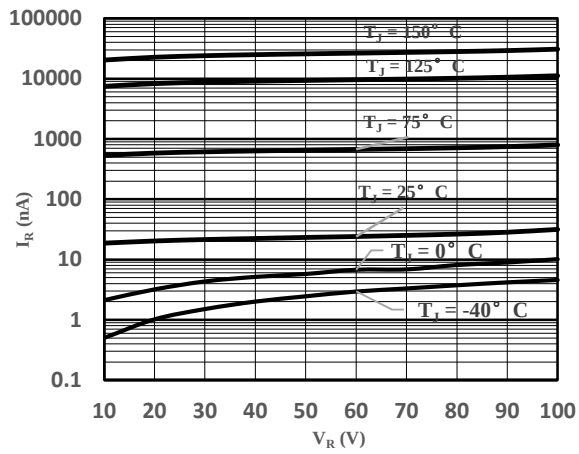


Fig 1 Typical Reverse Characteristic

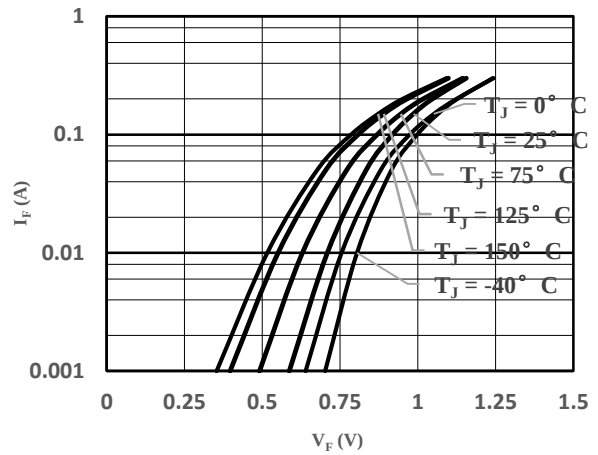


Fig 2 Typical Forward Characteristics

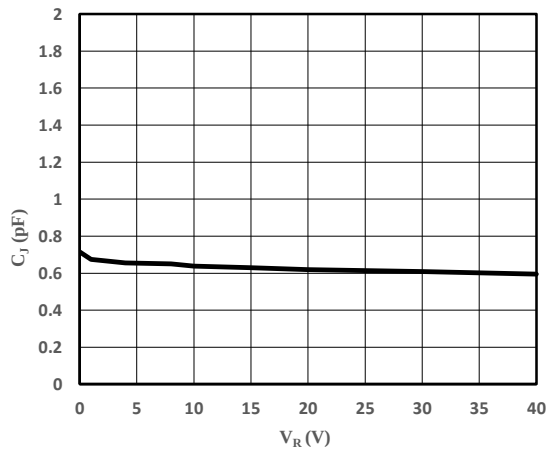


Fig 3 Capacitance vs. Reverse Voltage

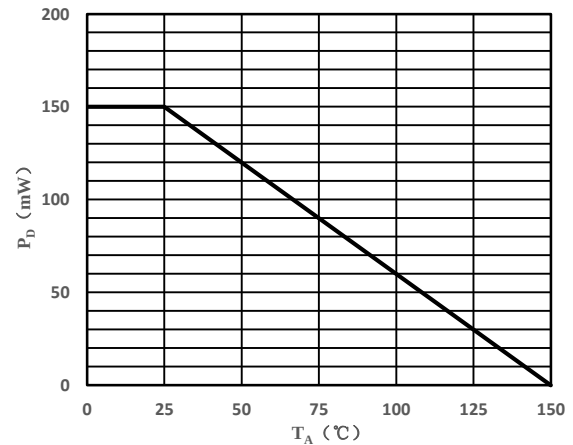
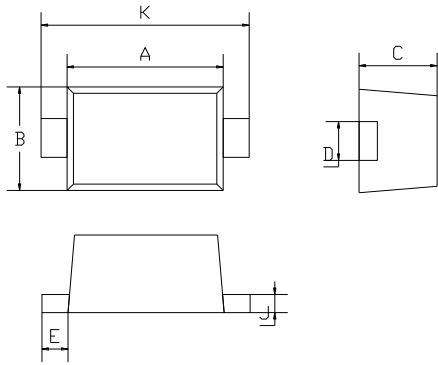


Fig 4 Power Derating Curve

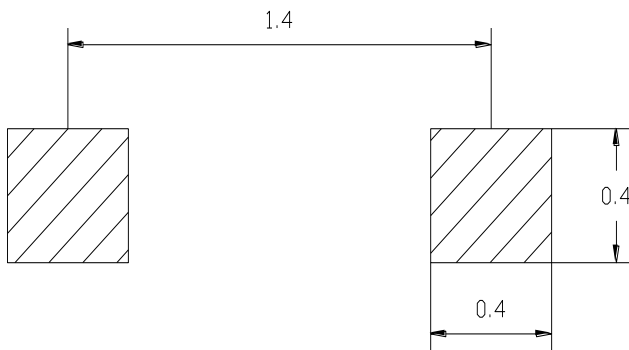
## Package Outline Dimensions (Unit: mm)



| SOD-523   |      |      |
|-----------|------|------|
| Dimension | Min. | Max. |
| A         | 1.10 | 1.30 |
| B         | 0.70 | 0.90 |
| C         | 0.50 | 0.70 |
| D         | 0.25 | 0.35 |
| E         | 0.15 | 0.25 |
| J         | 0.05 | 0.15 |
| K         | 1.50 | 1.70 |

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### SOD-523



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