SOD-123

## Features



MARKING: T4

- Fast Switching Device (TRR <4.0 nS)
- Power Dissipation of 500 mW
- High Stability and High Reliability
- Low reverse leakage


## Mechanical Data

- SOD-123 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- EpoxyUL:94V-0
- Mounting Position: Any


## Maximum Ratings \& Thermal Characteristics

(Ratings at $25^{\circ} \mathrm{C}$ ambient temperature unless otherwise specified.)

| Parameters | Symbol | Value | Unit |
| :---: | :---: | :---: | :---: |
| Reverse Voltage | VR | 75 | V |
| Peak Reverse Voltage | VRM | 100 | V |
| Power Dissipation | Pd | 500 | mW |
| Operating junction temperature | Tj | 150 | ${ }^{\circ} \mathrm{C}$ |
| Storage temperature range | Tstg | -65-+150 | ${ }^{\circ} \mathrm{C}$ |
| Thermal Resistance from Junction to Ambient | R ө JA | 250 | ${ }^{\circ} \mathrm{C} / \mathrm{W}$ |
| Average Rectified Current | Io | 150 | mA |
| Non-repetitive Peak Forward Current | Ifm | 300 | mA |
| Peak Forward Surge Current @tp=1us; TA=25 ${ }^{\circ} \mathrm{C}$ | Ifsm | 2.0 | A |

Valid provided that electrodes are kept at ambient temperature.

## Electrical Characteristics

(Ratings at $25^{\circ} \mathrm{C}$ ambient temperature unless otherwise specified).

| Symbols | Parameter | Test Condition | Limits |  | Unit |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Min | Max |  |
| Bv | Breakdown Voltage | IR $=100 \mathrm{uA}$ | 100 |  | V |
|  |  | $\mathrm{IR}=5 \mathrm{u}$ A | 75 |  |  |
| IR | Reverse Leakage Current | $\mathrm{VR}=20 \mathrm{~V}$ | --- | 25 | nA |
|  |  | $\mathrm{VR}=75$ | --- | 5 | uA |
| VF | Forward Voltage | $\mathrm{IF}=10 \mathrm{~mA}$ | --- | 1.00 | V |
|  |  | $\mathrm{IF}=100 \mathrm{~mA}$ | --- | 1.25 |  |
| TRR | Reverse Recovery Time | $\mathrm{IF}=\mathrm{IR}=10 \mathrm{~mA}$, | --- | 4 | nS |
|  |  | $\mathrm{Irr=0.1XIR}$ |  |  |  |
|  |  | $\mathrm{RL}=100 \Omega$ |  |  |  |
| C | Capacitance | $\mathrm{VR}=0 \mathrm{~V}, \mathrm{f}=1 \mathrm{MHZ}$ | --- | 4 | pF |

Forward characteristics


Leakage current versus junction temperature


Admissible power dissipation versus ambient temperature


Reverse capacitance VS. reverse boltage


Admissible repetitive peak forward current VS. pulseduration

tp (s)

## SOD-123 PACKAGE OUTLINE



| Symbol | Dimensions In Millimeters |  | Dimensions In Inches |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Min | Max | Min | Max |  |  |  |  |
| A | 1.050 | 1.250 | 0.041 | 0.049 |  |  |  |  |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |  |  |  |  |
| A2 | 1.050 | 1.150 | 0.041 | 0.045 |  |  |  |  |
| b | 0.450 | 0.650 | 0.018 | 0.026 |  |  |  |  |
| C | 0.080 | 0.150 | 0.003 | 0.006 |  |  |  |  |
| D | 1.500 | 1.700 | 0.059 | 0.067 |  |  |  |  |
| E | 2.600 | 2.800 | 0.102 | 0.110 |  |  |  |  |
| E1 | 3.550 | 3.850 | 0.140 | 0.152 |  |  |  |  |
| L |  |  |  |  |  | $0.500 R E F$ |  | 0.020 REF |
| L1 | $0^{\circ}$ | 0.450 | 0.010 | 0.018 |  |  |  |  |
| 日 |  |  |  |  |  |  |  |  |

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