## ESD Protection Diode in SOD-923

## Features

■ 100 Watts peak pulse power ( $\mathrm{tp}=8 / 20 \mu \mathrm{~s}$ )

- Tiny SOD923 package

■ Bidirectional configurations

- Protects one I/O port
- Low clamping voltage

■ Low Leakage current

- ESD-immunity acc. IEC 61000-4-2 $\pm 30 \mathrm{KV}$ contact $\pm 30 \mathrm{KV}$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 8A (8/20 $\mu \mathrm{s}$ )


## Mechanical Data

- Case: SOD923 (plastic package).

Lead free; RoHS compliant

- Molding Compound Flammability Rating: UL 94 V-0
- Terminals: High temperature soldering guaranteed: $260^{\circ} \mathrm{C} / 10 \mathrm{sec}$. at terminals


## Applications

- Computers and peripherals
- Communication systems
- Notebook
- Cellular handsets and accessories
- Portable electronics
- Audio and video equipment


## Absolute Maximum Ratings

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

| Parameter | Symbol | Value | Unit |
| :--- | :---: | :---: | :---: |
| ESD Air Discharge per <br> IEC 61000-4-2 | $\mathrm{V}_{\text {ESD }}$ | $\pm 30$ | kV |
| ESD Contact Discharge per <br> IEC 61000-4-2 | $\mathrm{V}_{\text {ESD }}$ | $\pm 30$ | kV |
| Peak pulse power 8/20 $\mu$ s waveform | $\mathrm{P}_{\text {PPM }}$ | 100 | W |
| Peak pulse current 8/20 $\mu$ s waveform | $\mathrm{I}_{\text {PPM }}$ | 8 | A |
| Operating Temperature | $\mathrm{T}_{\mathrm{J}}$ | -55 to +125 | ${ }^{\circ} \mathrm{C}$ |
| Storage Temperature | $\mathrm{T}_{\text {STG }}$ | -55 to +150 | ${ }^{\circ} \mathrm{C}$ |

## Electrical Characteristics

( $\mathrm{T}_{\mathrm{A}}=25^{\circ} \mathrm{C}$ unless otherwise specified)

| Parameter | Test Conditions | Synbol | Min. | Typ. | Max. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Reverse Stand-Off Voltage |  | $\mathrm{V}_{\mathrm{RWM}}$ |  |  | 5 |
| Max. Reverse current | at $\mathrm{V}_{\mathrm{R}}=5 \mathrm{~V}$ | IR |  |  | 1 |
| Max. Clamping voltage | at $\mathrm{I}_{\mathrm{PP}}=8 \mathrm{~A}$, Acc. IEC $61000-4-5$ | $\mathrm{~V}_{\mathrm{C}}$ |  |  |  |
| Min. Reverse Breakdown Voltage | at $\mathrm{I}_{\mathrm{R}}=1 \mathrm{~mA}$ | $\mathrm{~V}_{\mathrm{BR}}$ | 6.0 | 6.8 | 13 |
| Capacitance | at $\mathrm{V}_{\mathrm{R}}=0 \mathrm{~V} ; \mathrm{f}=1 \mathrm{MHz}$ | $\mathrm{C}_{\mathrm{D}}$ |  | V |  |

Typical Characteristics ( $\mathrm{T}_{\text {amb }}=25^{\circ} \mathrm{C}$ unless otherwise specified)


## Package Dimensions



| $\operatorname{Dim}$ | millmeters |  |
| :---: | :---: | :---: |
|  | min | max |
| A | 0.34 | 0.40 |
| B | 0.07 | 0.17 |
| C | 0.55 | 0.65 |
| D | 0.75 | 0.85 |
| E | 0.95 | 1.05 |
| F | 0.05 | 0.15 |
| G | 0.15 | 0.25 |

## Part number system

|  | CES D923 NC | 5 V |
| :---: | :---: | :---: |
| Product series (ESD) |  |  |
| Package (SOD-923) |  |  |
| Capacitance type (Normal capacitance) |  |  |
| Working voltage (5V) |  |  |
| Directional (Bidirectional) |  |  |

## Ordering inormation

| Order code | Package | Packaging option | Base quantity | Packaging specification |
| :---: | :---: | :---: | :---: | :---: |
| CESD923NC5VB | SOD-923 | Tape and reel | 8000 pcs $/$ reel | EIA STD RS-481 |

## Revision history

| Date | Revision |  |
| :---: | :---: | :--- |
| 23-May-2016 | 1.0 | Initial release |

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