



SEMICONDUCTOR

ESD9D5C

Bi-Directional TVS

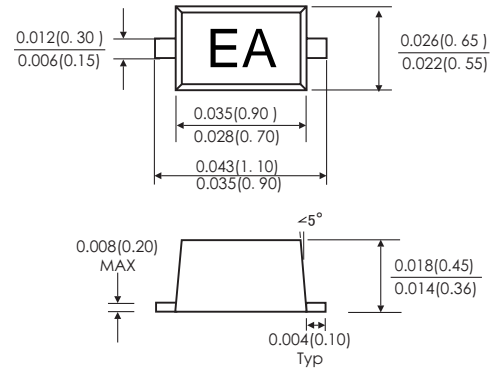
## FEATURES

- Bi-Directional Transient Voltage Suppressor
- Low capacitance and Low Leakage
- ESD Protection, IEC61000-4-2 level4
- Low clamping voltage
- RoHS Compliant

## MECHANICAL DATA

- Case: SOD-923 molded plastic body
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0

### SOD-923



Dimensions in inches and (millimeters)



## Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$ )

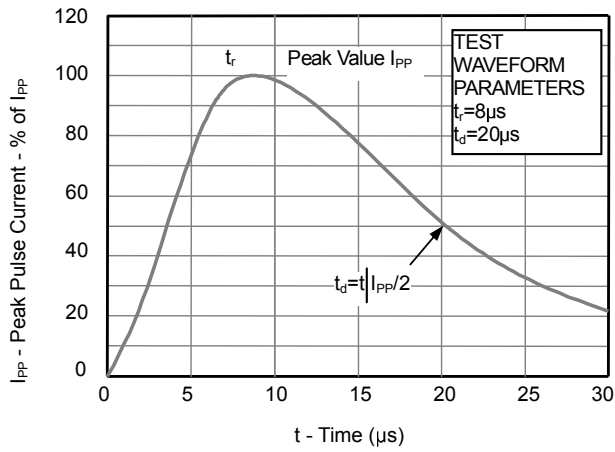
| Parameter  | Symbol | Value       | Unit             |
|--|--------|-------------|------------------|
| Peak Pulse Power ( $t_p=8/20\mu\text{s}$ )                   | PPP    | 40          | W                |
| Maximum Reverse Peak Pulse Current ( $t_p=8/20\mu\text{s}$ ) | IPP    | 5.0         | A                |
| ESD VOLTAGE IEC61000-4-2 Air                                 | VESD   | 15          | KV               |
| ESD VOLTAGE IEC61000-4-2 Contact                             |        | 8           |                  |
| Operating temperature range                                  | TJ     | -55 to +125 | $^\circ\text{C}$ |
| Storage temperature range                                    | TSTG   | -55 to +150 | $^\circ\text{C}$ |

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

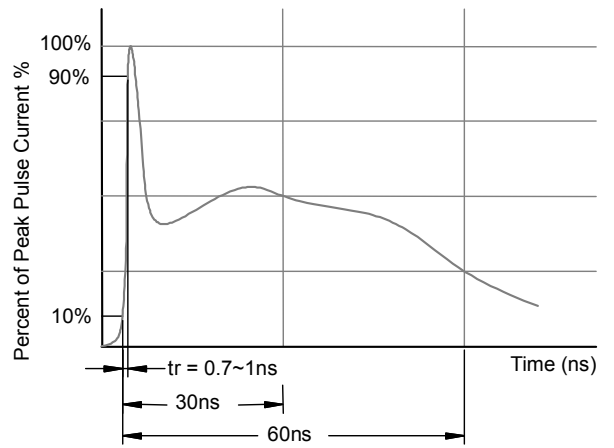
| Parameter                    | Symbol    | Conditions                                 | Min | Typ  | Max | Unit          |
|------------------------------|-----------|--|-----|------|-----|---------------|
| Reverse Working Peak Voltage | $V_{RWM}$ | $I_R=1\mu\text{A}$                         |     |      | 5.0 | V             |
| Reverse Breakdown Voltage    | $V_{BR}$  | $I_T=1\text{mA}$                           | 6.0 |      |     | V             |
| Reverse Current              | $I_R$     | $V_{RWM}=5\text{V}$                        |     |      | 1.0 | $\mu\text{A}$ |
| Clamping Voltage             | $V_C$     | $I_{PP}=5\text{A}$ , $t_p=8/20\mu\text{s}$ |     |      | 9.0 | V             |
| Diode Capacitance            | $C_D$     | $V_R=0\text{V}$ , $f=1\text{MHZ}$          |     | 13.5 |     | pF            |

# CHARACTERISTIC CURVES ESD9D5C

**Fig1. 8/20 $\mu$ s Pulse Waveform**



**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**

