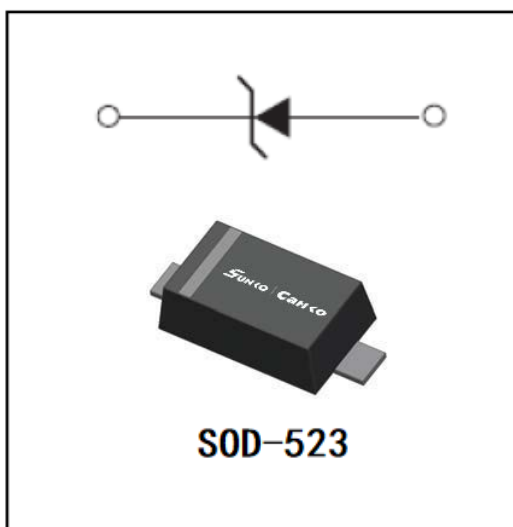


## ESD Protection Diode



### Features

- For sensitive ESD protection
- Low leakage
- Uni-directional ESD protection of one line
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

### Mechanical Data

- **Package:** SOD523
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end
- **Marking:** ZM

### Maximum Ratings

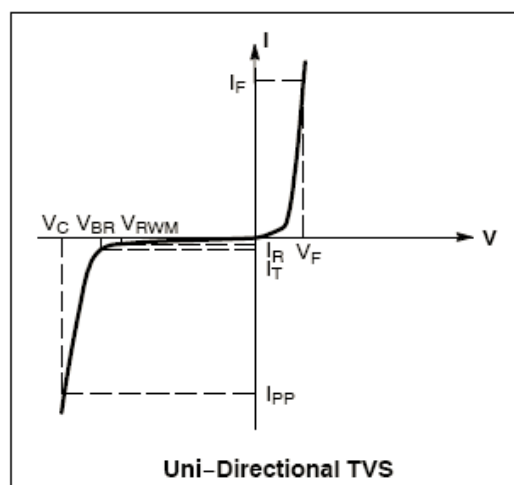
| PARAMETER                                | SYMBOL                  | LIMITS      | UNIT |
|------------------------------------------|-------------------------|-------------|------|
| Operating Junction & Storage Temperature | $T_J$ & $T_{STG}$       | -45 to +125 | °C   |
| IEC61000-4-2(ESD)Air                     | VESD <sup>(1)</sup>     | ± 15        | KV   |
| IEC61000-4-2(ESD)Contact                 |                         | ± 8         | KV   |
| Peak Pulse Current                       | $I_{PP}$ <sup>(2)</sup> | 8           | A    |

(1).Device stressed with ten non-repetitive ESD pulses.

(2).Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.

### Electrical Parameter

| PARAMETER                                | SYMBOL    |
|------------------------------------------|-----------|
| Clamping Voltage@ $I_{PP}$               | $V_C$     |
| Breakdown Voltage@ $I_T$                 | $V_{BR}$  |
| Peak Pulse Current                       | $I_{PP}$  |
| Test Current                             | $I_T$     |
| Reverse Leakage Current@ $V_{RWM}$       | $I_R$     |
| Reverse Standoff Voltage                 | $V_{RWM}$ |
| Forward Voltage@ $I_F$                   | $V_F$     |
| Forward Current                          | $I_F$     |
| Peak Power Dissipation                   | $P_{PK}$  |
| Max. Capacitance @ $V_R=0$ and $f=1$ MHz | C         |



## ■Electrical Characteristics (T<sub>a</sub>=25℃ Unless otherwise specified)

| PARAMETER                | Symbol                          | UNIT | Conditions                 | Min  | Typ | Max  |
|--------------------------|---------------------------------|------|----------------------------|------|-----|------|
| Reverse Standoff Voltage | V <sub>RWM</sub> <sup>(1)</sup> | V    |                            |      |     | 12   |
| Reverse Leakage Current  | I <sub>R</sub>                  | uA   | V <sub>RWM</sub> =12V      |      |     | 0.5  |
| Breakdown Voltage        | V <sub>(BR)</sub>               | V    | I <sub>T</sub> =1mA        | 13.5 |     | 16.5 |
| Clamping Voltage         | V <sub>C</sub> <sup>(2)</sup>   | V    | I <sub>PP</sub> =8A        |      |     | 30   |
| Forward voltage          | V <sub>F</sub>                  | V    | I <sub>F</sub> =10mA       |      |     | 1.1  |
| Junction Capacitance     | C <sub>J</sub>                  | pF   | V <sub>R</sub> =0V, f=1MHz |      | 45  |      |

(1).Other voltages available upon request.

(2).Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5

## ■Ordering Information (Example)

| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(g)    | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| ESD12VD5      | F2           | Approximate 0.002 | 8000                 | 80000                   | 320000                     | 7" reel       |

## ■ Characteristics (Typical)

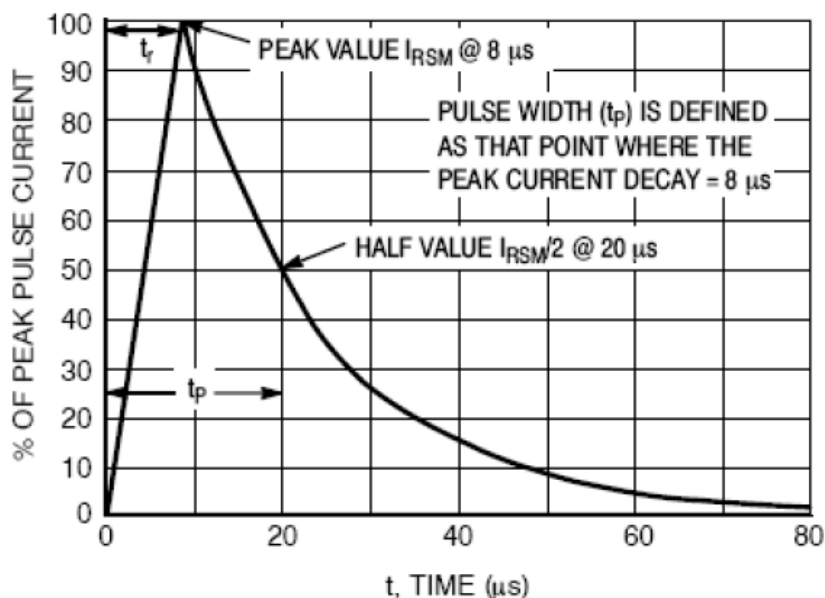
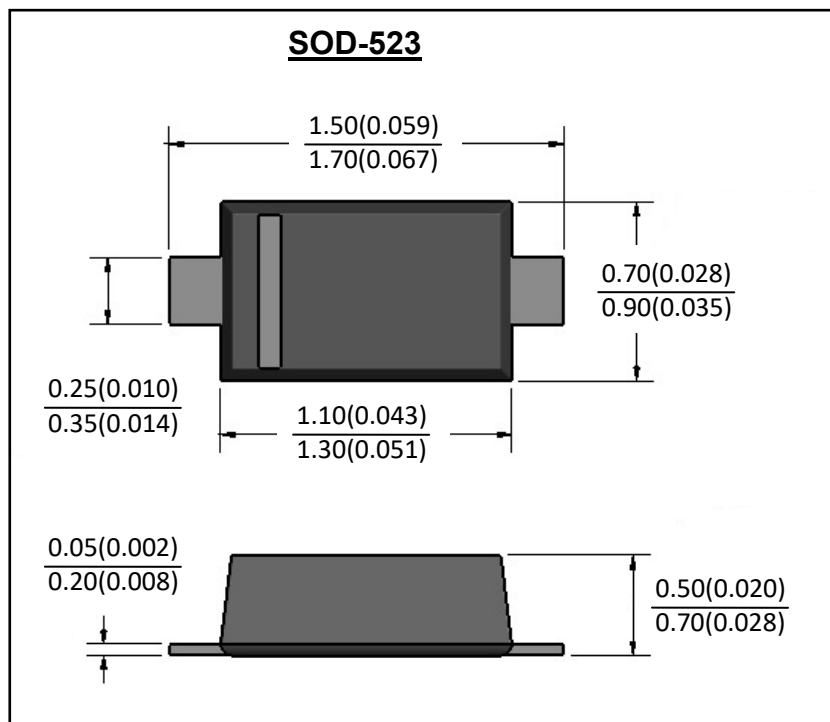
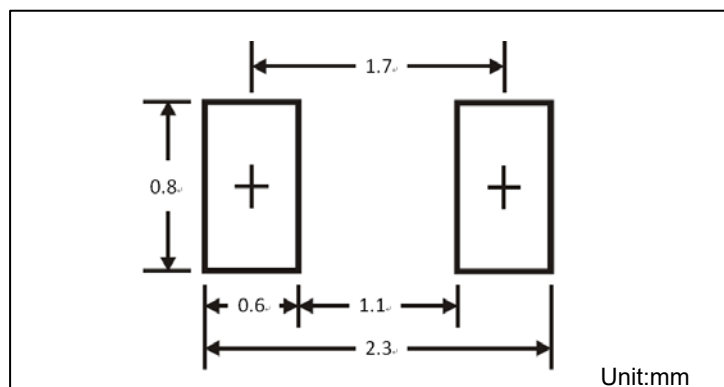


Figure 1. 8 x 20 μs Pulse Waveform

## ■ Outline Dimensions



## ■ Soldering Footprint



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