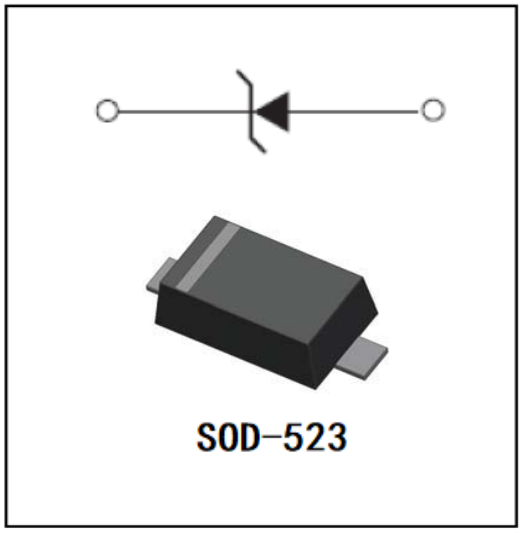
# ESD Protection Diode




## 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:** ZF

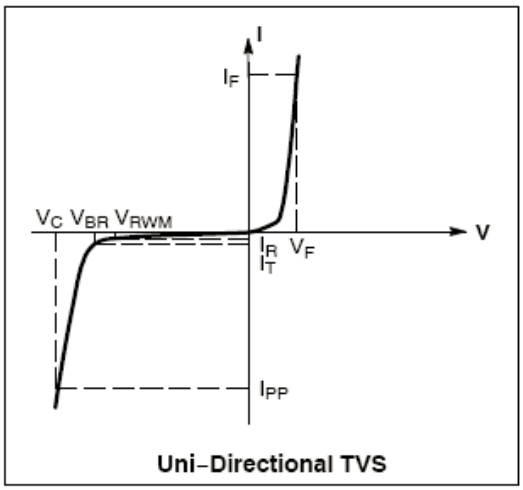
## ■Maximum Ratings

| PARAMETER | SYMBOL | LIMITS | UNIT |
|---|---|---|---|
| Operating Junction & Storage Temperature | $T_J$&$T_{STG}$ | -55 to +150 | ℃ |
| IEC61000-4-2(ESD)Air | $V_{ESD}$ | ±30 | KV |
| IEC61000-4-2(ESD)Contact | | ±30 | KV |
| Peak Pulse Current | $I_{PP}$ (2) | 13 | A |

(1).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=1MHz | C |



Uni-Directional TVS

## ■Electrical Characteristics（$T_a$=25℃ Unless otherwise specified）

| PARAMETER | Symbol | UNIT | Conditions | Min | Typ | Max |
|---|---|---|---|---|---|---|
| Reverse Standoff Voltage | $V_{RWM}$ (1) | V | | | | 5.0 |
| Reverse Leakage Current | $I_R$ | uA | $V_{RWM}$=5.0V | | | 1 |
| Breakdown Voltage | $V_{(BR)}$ | V | $I_T$=1mA | 6.2 | | 7.5 |
| Clamping Voltage | $V_C$ (2) | V | $I_{PP}$=13A， tp=8/20us | | | 17 |
| Forward voltage | $V_F$ | V | $I_F$=10mA | | | 1.2 |
| Peak Power Dissipation | Ppk | W | tp=8/20us | | | 221 |
| Junction Capacitance | $C_J$ | pF | $V_R$=0V,f=1MHz | | 100 | |

(1).Other voltages available upon request.

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

## ■Ordering Information (Example)

| PREFERED P/N | PACKING CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---|---|---|---|---|---|---|
| ESD5V0D5 | F2 | Approximate 0.002 | 8000 | 80000 | 320000 | 7” reel |

## ■ Characteristics (Typical)

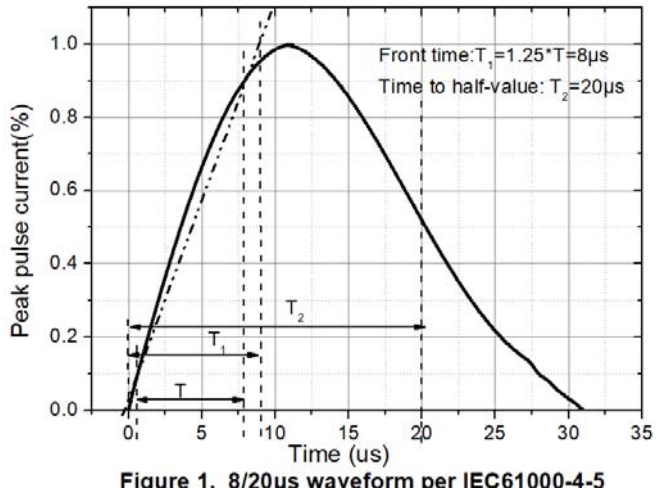



Figure 1. 8/20us waveform per IEC61000-4-5

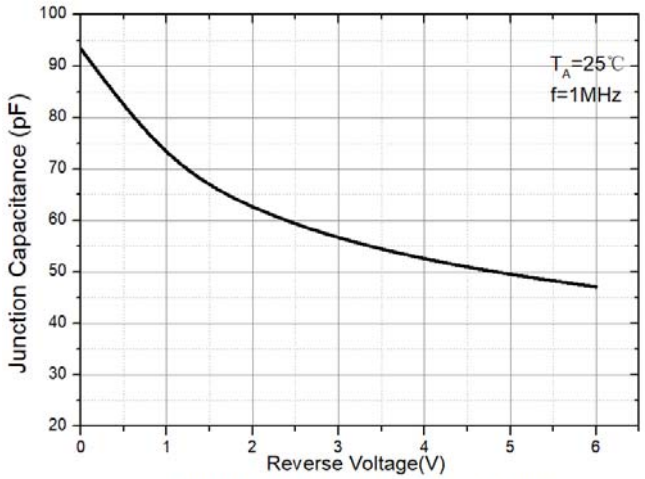



Figure2.Capacitance Characteristics

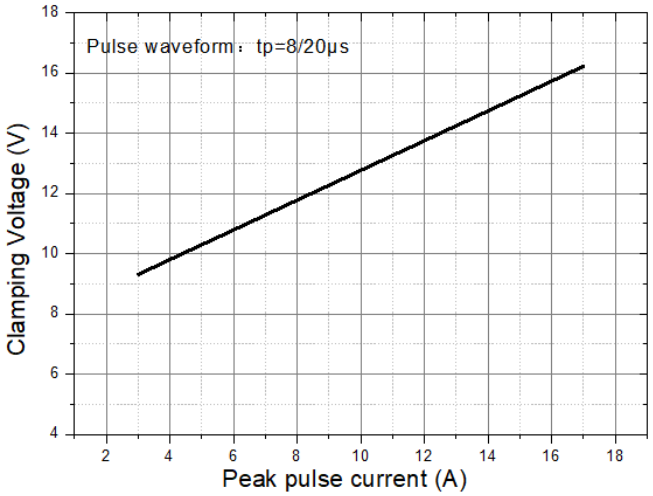



Figure 3. Clamping voltage vs. Peak pulse current

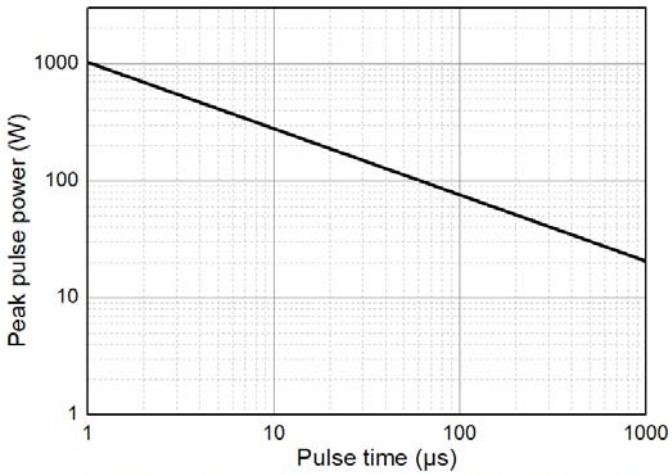
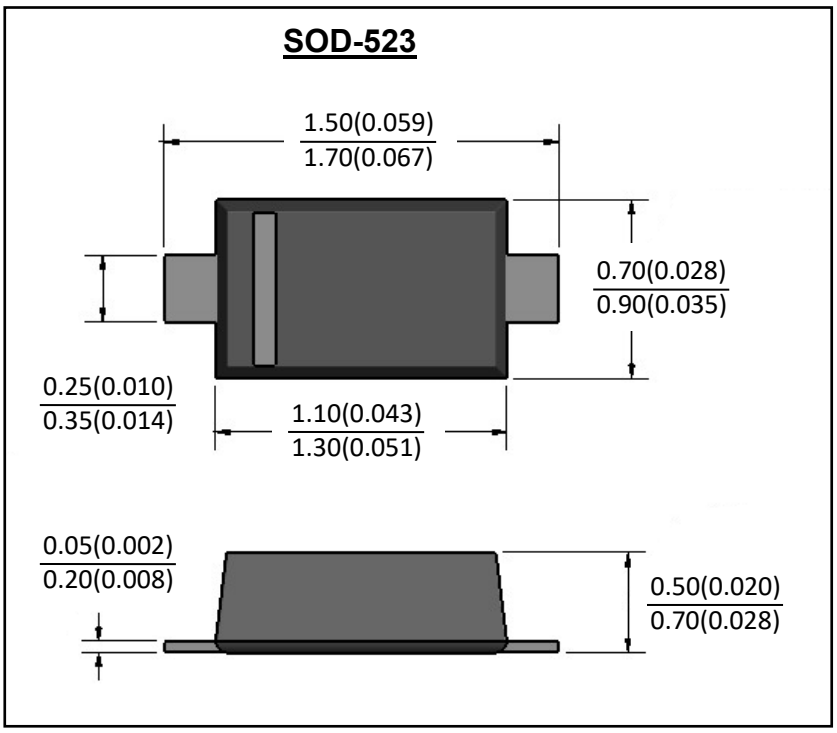
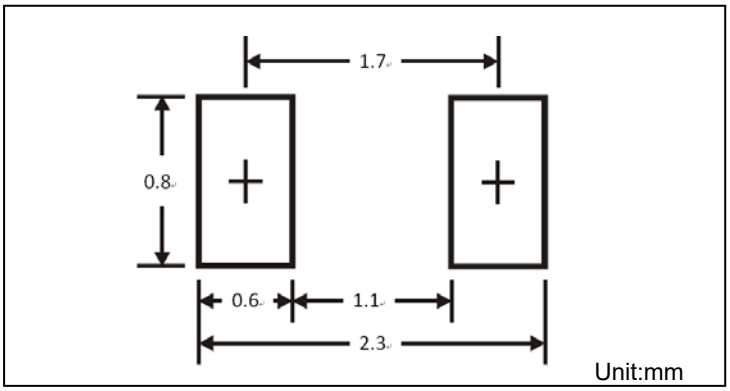



Figure 4 Non-repetitive peak pulse power vs. Pulse time

## ■ Outline Dimensions




## ■ Soldering Footprint



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