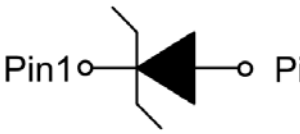
# 1- Line, Uni-directional, Transient Voltage Suppressor






**SOD-523**

## Features

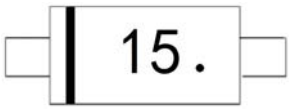
- Stand-off voltage: 15V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±30kV (contact)
  IEC61000-4-5(surge): 10A (8/20μs)
- Low leakage current:
- Ultra low clamping voltage
- RoHS Compliant

## Applications

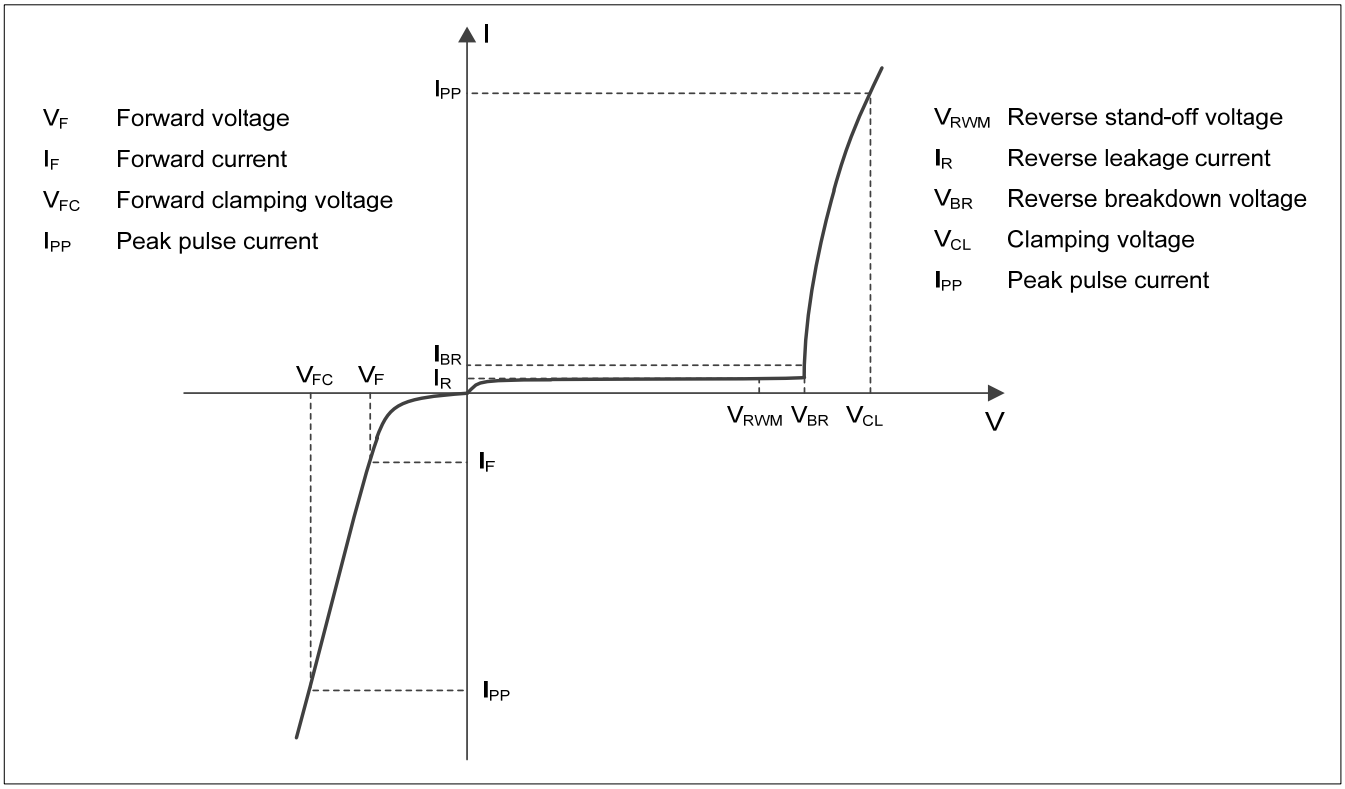
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players

## Mechanical Data

- Package: SOD-523
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound
- Moisture Sensitivity: Level 1 per J-STD-020
- Marking Information: See Below




## ■Definitions of electrical characteristics



## ■Maximum Ratings

| PARAMETER | SYMBOL | LIMITS | UNIT |
|---|---|---|---|
| Peak pulse power ($t_p$ = 8/20μs) | $P_{pk}$ | 400 | W |
| Peak pulse current ($t_p$ = 8/20μs) | $I_{PP}$ | 10 | A |
| ESD according to IEC61000-4-2 air discharge | $V_{ESD}$ | ±30 | KV |
| ESD according to IEC61000-4-2 contact discharge | | ±30 | |
| Junction temperature | $T_J$ | 155~125 | ºC |
| Storage temperature | $T_{STG}$ | -55~150 | ºC |

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

| PARAMETER | Symbol | UNIT | Conditions | Min | Typ | Max |
|---|---|---|---|---|---|---|
| Reverse maximum working voltage | $V_{RWM}$ | V | | | | 15 |
| Reverse leakage current | $I_R$ | μA | $V_{RWM}$ = 15V | | | 0.5 |
| Reverse breakdown voltage | $V_{BR}$ | V | $I_{BR}$ = 1mA | 16.5 | | |
| Clamping voltage [1)] | $V_{CL}$ | V | $I_{PP}$ = 1A, $t_p$ = 8/20μs | | | 24 |
| | | V | $I_{PP}$ = 10A, $t_p$ = 8/20μs | | | 40 |
| Junction capacitance | $C_J$ | pF | $V_R$ = 0V, f = 1MHz | | 45 | 55 |

Notes:
(1). Non-repetitive current pulse, according to IEC61000-4-5.

## ■Ordering Information (Example)

| PREFERED P/N | PACKING CODE | UNIT WEIGHT(mg) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---|---|---|---|---|---|---|
| ESD15VD5 | F2 | Approximate 2 | 8000 | 80000 | 320000 | 7” reel |

## ■ Characteristics (Typical)

**Fig.1 8/20μs waveform per IEC61000-4-5**

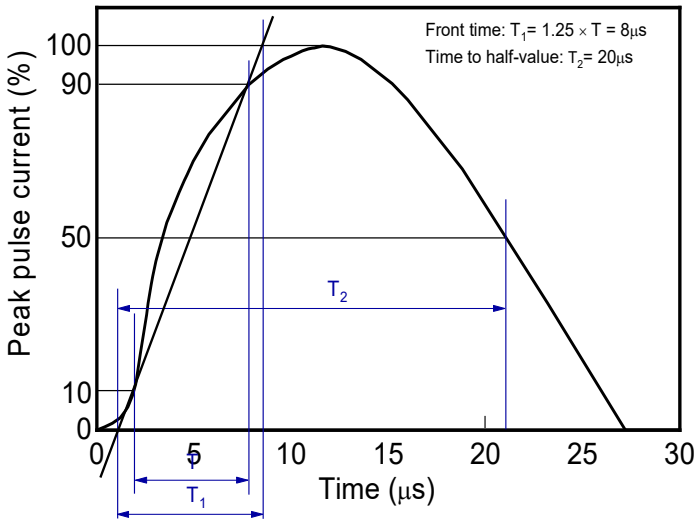



**Fig.2 Contact discharge current waveform per IEC61000-4-2**

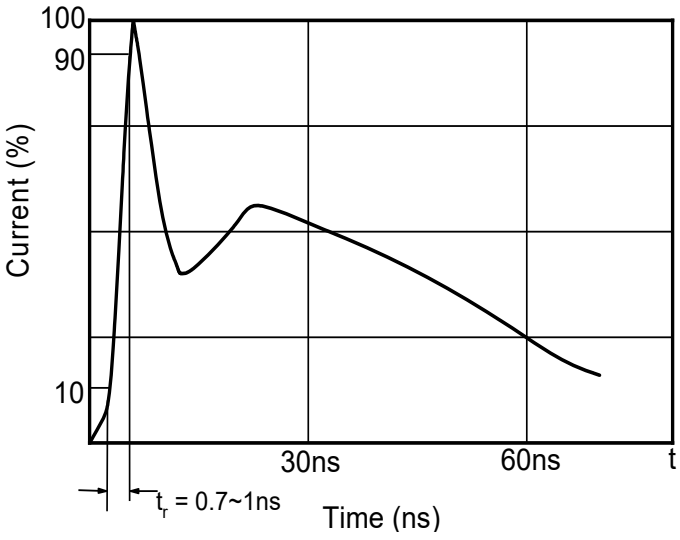



**Fig.3 Clamping voltage vs. Peak pulse current**

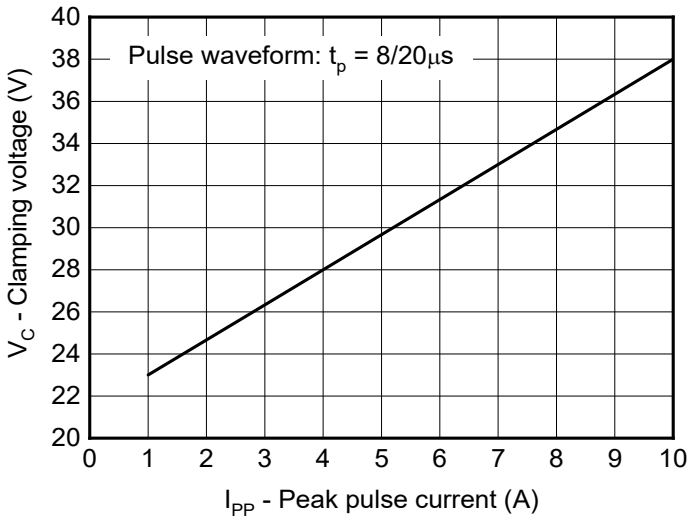



**Fig.4 Capacitance vs. Reverse voltage**

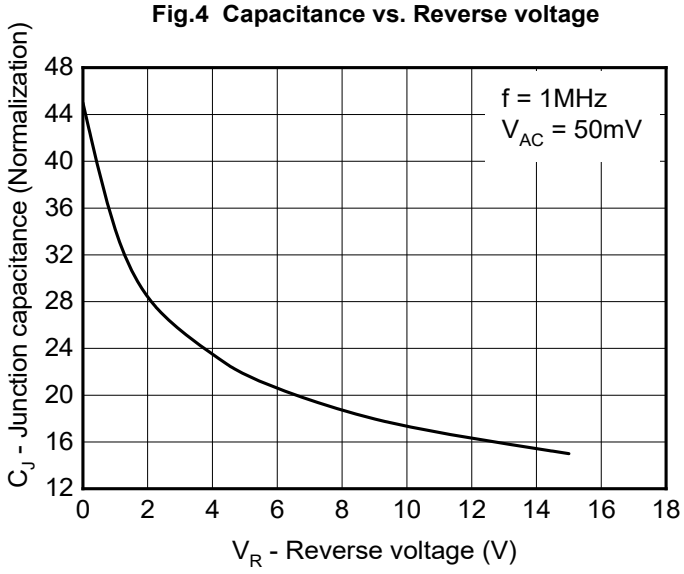



**Fig.5 Non-repetitive peak pulse power vs. Pulse time**

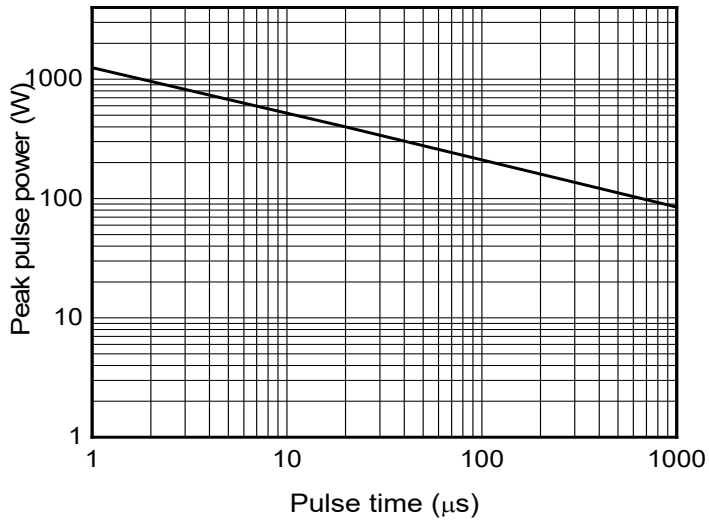
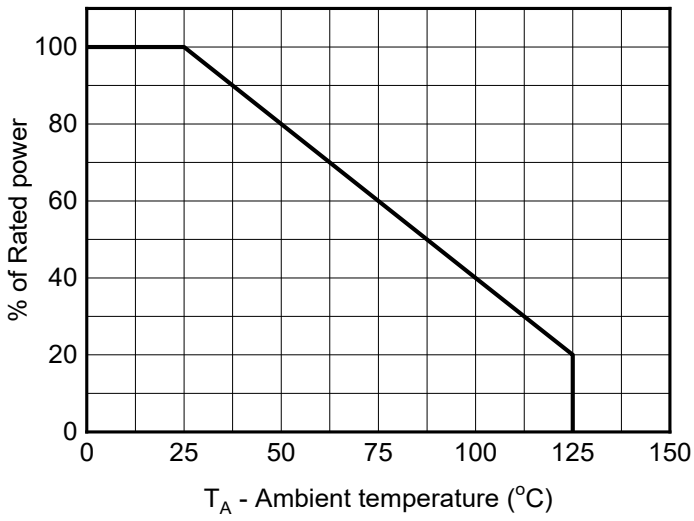
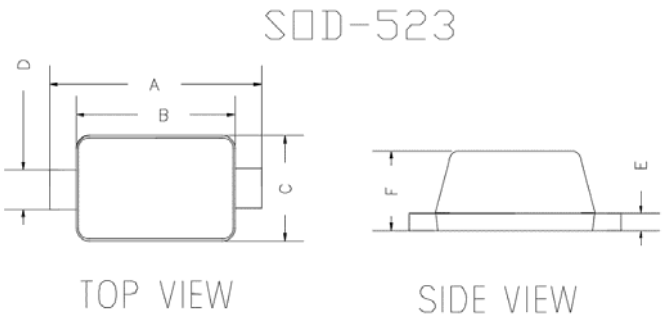



**Fig.6 Power derating vs. Ambient temperature**

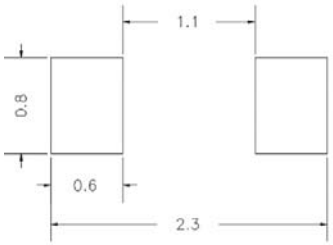


## ■ Outline Dimensions




| DIMENSIONS | | | | |
|---|---|---|---|---|
| DIM | INCHES | | MM | |
| | MIN | MAX | MN | MAX |
| A | 0.059 | 0.067 | 1.500 | 1.700 |
| B | 0.043 | 0.051 | 1.100 | 1.300 |
| C | 0.028 | 0.035 | 0.700 | 0.900 |
| D | 0.010 | 0.014 | 0.250 | 0.350 |
| E | 0.002 | 0.008 | 0.050 | 0.200 |
| F | 0.020 | 0.028 | 0.500 | 0.700 |

## ■ Soldering Footprint




UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

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