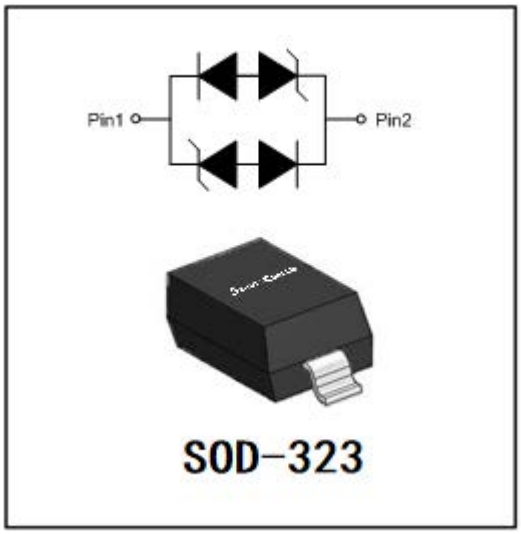
# 1-Line Low Capacitance Bi-directional TVS Diode




## Features

- ●340W peak pulse power (8/20μs)
- ●Ultra low capacitance: 1pF typical
- ●Ultra low leakage: nA level
- ●Operating voltage:3.3V
- ●Low clamping voltage
- ●Protects one power line or data line
- ●Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
  - Air discharge: ±30Kv
  - Contact discharge: ±30kV
  - – IEC61000-4-5 (Lightning) 30A (8/20μs)
- ● Compliant

## Marking Information

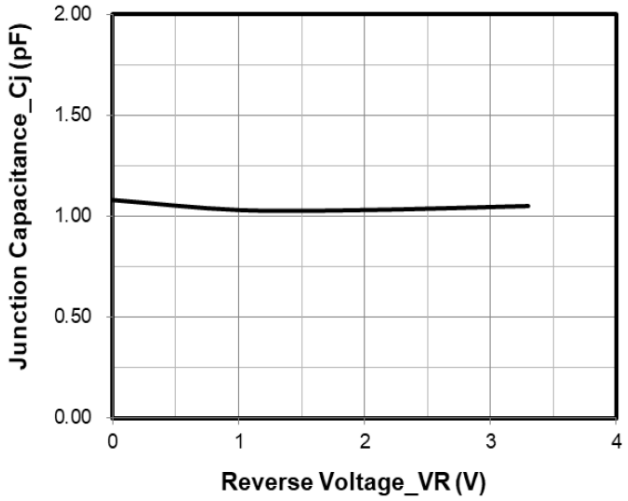

## ■Maximum Ratings

| PARAMETER | SYMBOL | VALUE | UNIT |
|---|---|---|---|
| Peak Pulse Power (8/20μs) | Ppk | 340 | W |
| Peak Pulse Current (8/20μs) | $I_{PP}$ | 21 | A |
| ESD per IEC 61000−4−2 (Air)<br>ESD per IEC 61000−4−2 (Contact) | $V_{ESD}$ | ±30<br>±30 | KV |
| Operating Temperature Range | $T_J$ | −55 to +125 | ℃ |
| Storage Temperature Range | Tstg | −55 to +150 | ℃ |

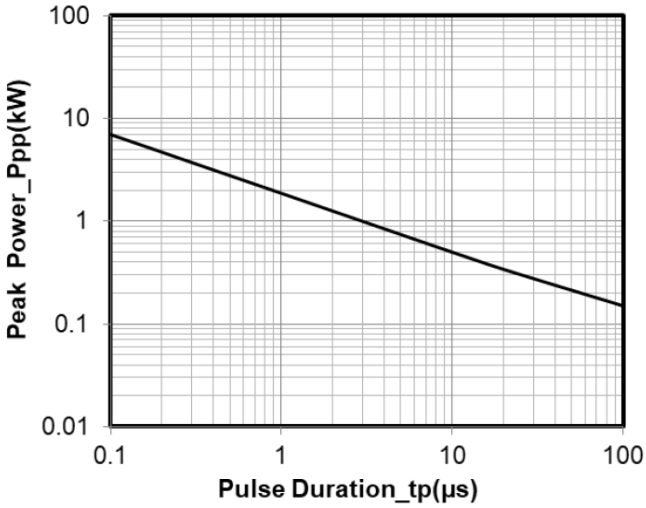
## ■Electrical Characteristics（$T_a$=25℃ Unless otherwise specified）

| PARAMETER | SYMBOL | UNIT | CONDITIONS | MIN | TYP | MAX |
|---|---|---|---|---|---|---|
| Reverse Working Voltage | $V_{RWM}$ | V | | | | 3.3 |
| Reverse breakdown voltage | $V_{BR}$ | V | $I_{BR}$ = 1mA | 3.5 | | |
| Reverse Leakage Current | $I_R$ | μA | $V_{RWM}$ = 3.3V | | | 0.2 |
| Clamping Voltage | $V_C$ | V | $I_{PP}$ = 1A (8/20μs pulse) | | | 7 |
| Clamping Voltage | $V_C$ | V | $I_{PP}$ = 21A (8/20μs pulse) | | | 16 |
| Junction Capacitance | $C_J$ | pF | $V_R$ = 0V, f = 1MHz | | 1 | 1.5 |

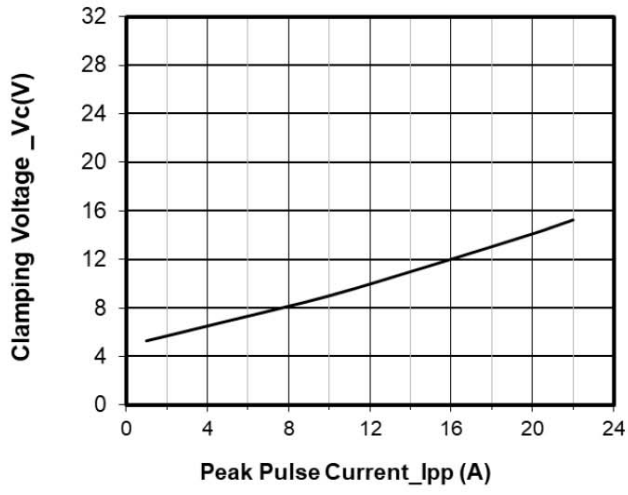
## ■ Characteristics (Typical)



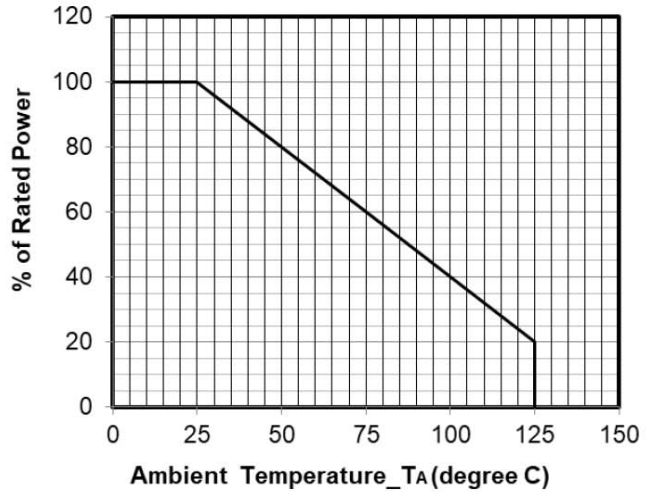

**Junction Capacitance vs. Reverse Voltage**



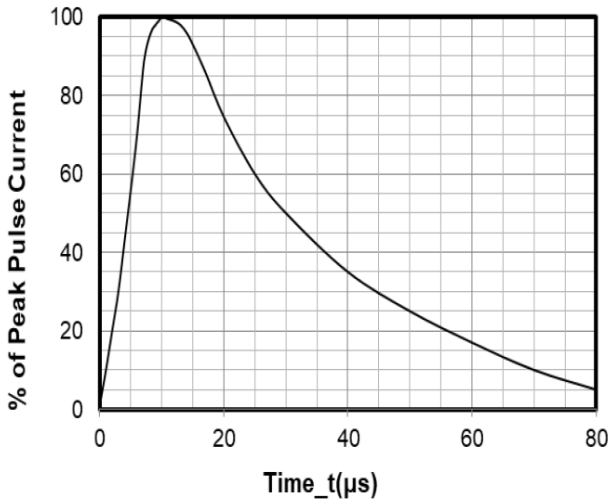

**Peak Pulse Power vs. Pulse Time**



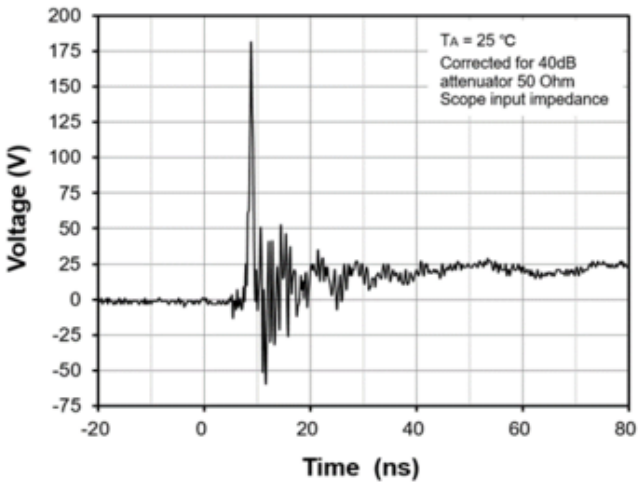

**Clamping Voltage vs. Peak Pulse Current**

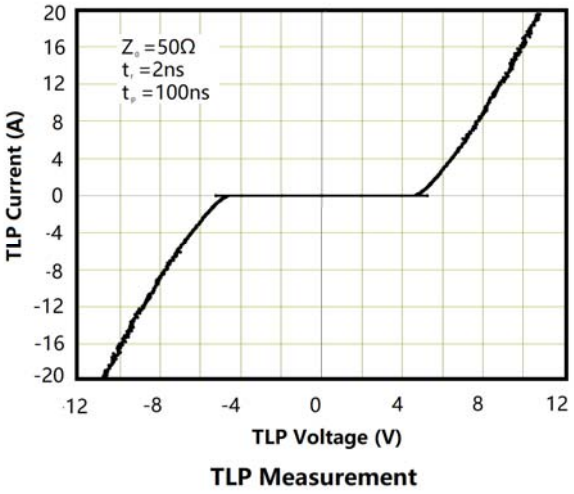



**Power Derating Curve**



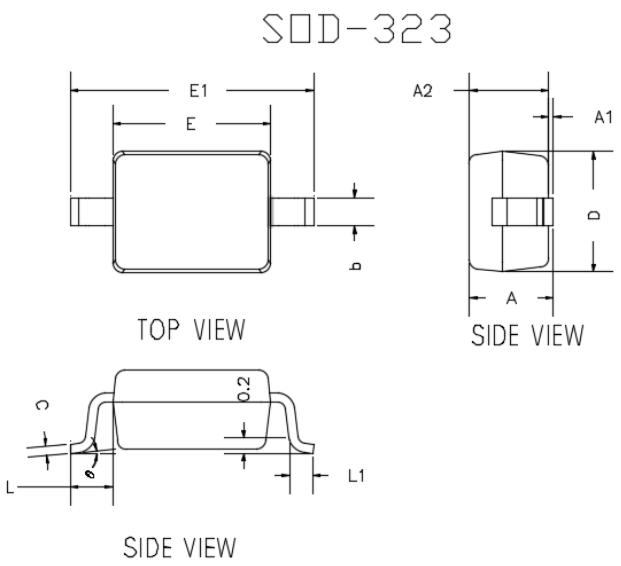

8 X 20μs Pulse Waveform



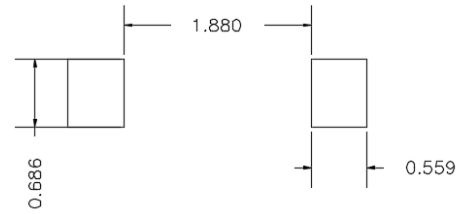

TLP Measurement

## ■ Outline Dimensions




| DIMENSIONS | | | | |
|---|---|---|---|---|
| DIM | INCHES | | MM | |
| | MIN | MAX | MN | MAX |
| A | --- | 0.0393 | --- | 1.0000 |
| A1 | 0.0000 | 0.0039 | 0.0000 | 0.1000 |
| A2 | 0.0314 | 0.0354 | 0.8000 | 0.9000 |
| b | 0.0098 | 0.0157 | 0.2500 | 0.4000 |
| c | 0.0031 | 0.0059 | 0.0800 | 0.1500 |
| D | 0.0472 | 0.0551 | 1.2000 | 1.4000 |
| E | 0.0629 | 0.0709 | 1.6000 | 1.8000 |
| E1 | 0.0984 | 0.1063 | 2.5000 | 2.7000 |
| L | 0.0187TYP | | 0.475TYP | |
| L1 | 0.0098 | 0.0157 | 0.250 | 0.400 |
| θ | 0° | 8° | 0° | 8° |

## ■ Soldering Footprint




UNIT：mm

SUGGESTED SOLDER PAD LAYOUT

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