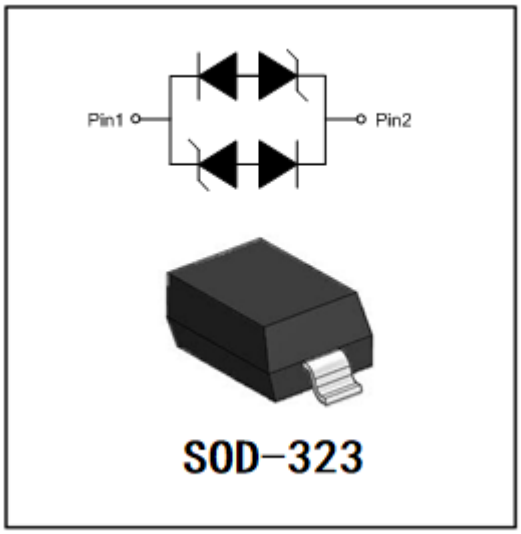
1-Line Low Capacitance Bi-directional TVS Diode



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)
- ●RoHS Compliant

Marking Information

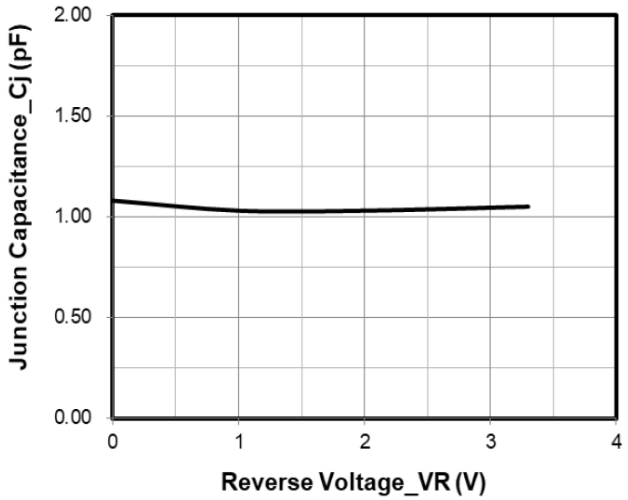
■Maximum Ratings

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) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±30 ±30	KV
Operating Temperature Range	T_J	−55 to +125	℃
Storage Temperature Range	Tstg	−55 to +150	℃

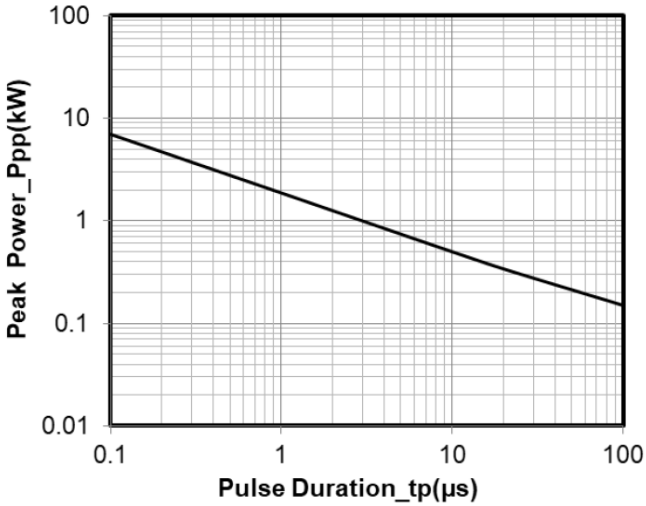
■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	CONDITIONS	MIN	TYP	MAX
Reverse Working Voltage	V_{RWM}	V				3.3
Punch-Through Voltage	V_{PT}	V	I_T =2μA	3.5		
Breakdown Voltage	V_{BR}	V	I_T = 50mA	2.8		
Reverse hold voltage	V_{HOLD}	V		2.8		
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	

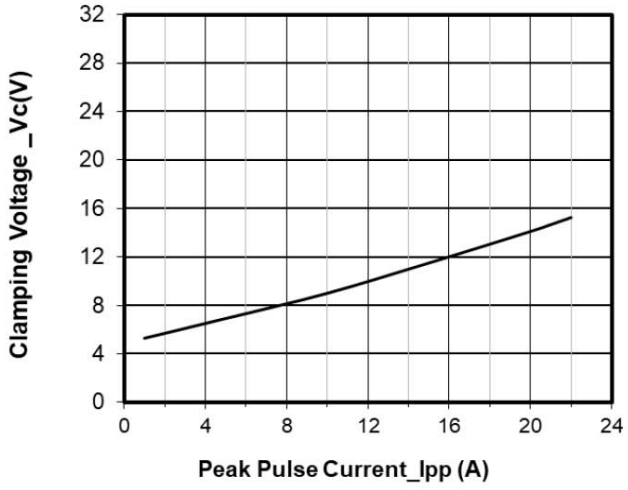
■ Characteristics (Typical)



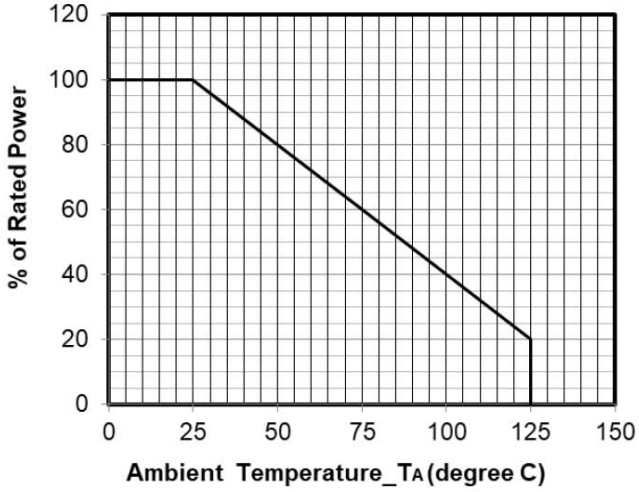
Junction Capacitance vs. Reverse Voltage



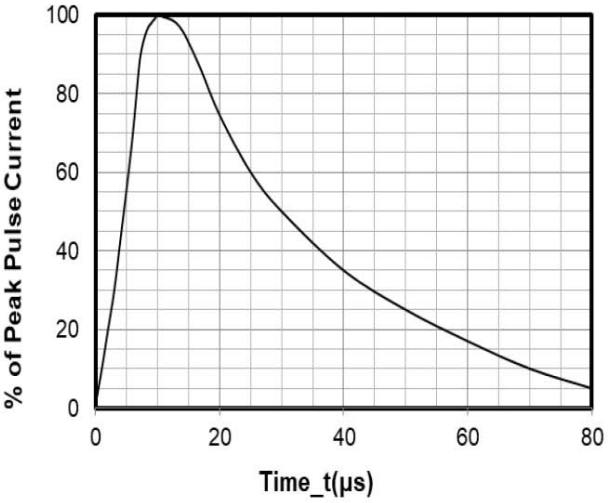
Peak Pulse Power vs. Pulse Time



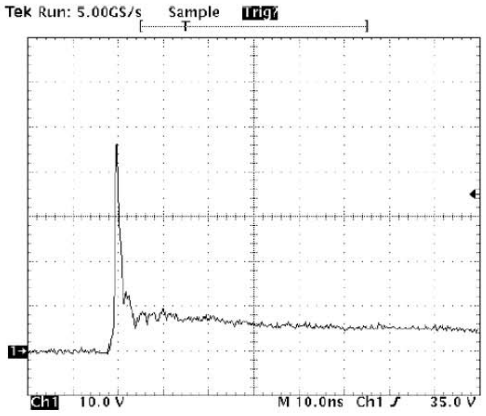
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



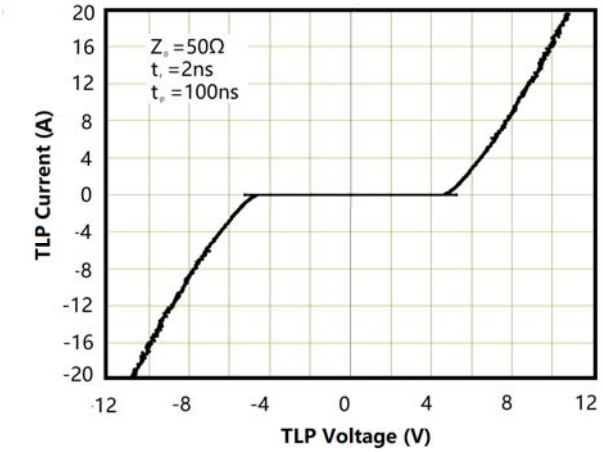
8 X 20μs Pulse Waveform



Note：Data is taken with a 10x attenuator

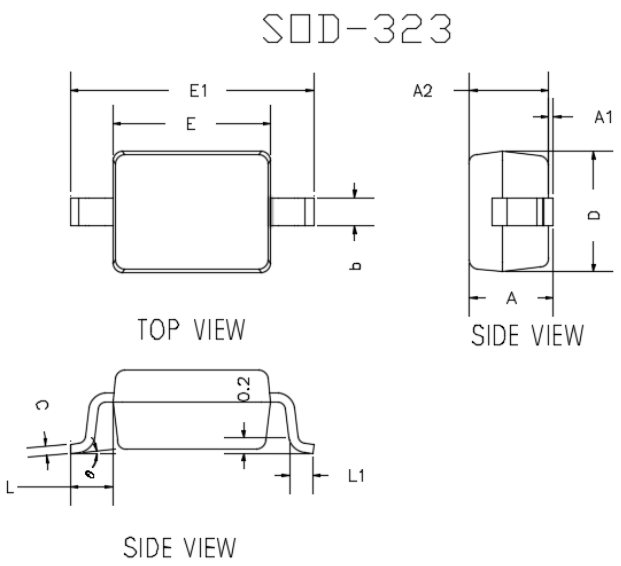
ESD Clamping Voltage

8 kV Contact per IEC61000−4−2



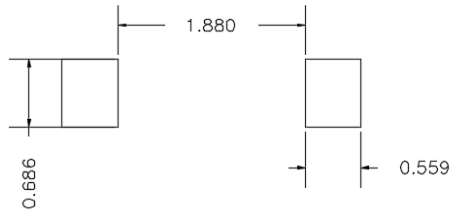
TLP Measurement

■ 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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