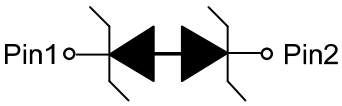
1- Line, Bi-directional, ESD protection diode





SOD-323

Features

- Transient protection for each line according to
  IEC61000-4-2(ESD): ±30kV contact, ±30kV air
  IEC61000-4-5:6A(tp=8/20μs)
- Low leakage current
- Ultra low clamping voltage
- RoHS Compliant
- Part no. with suffix “Q” means AEC-Q101 qualified

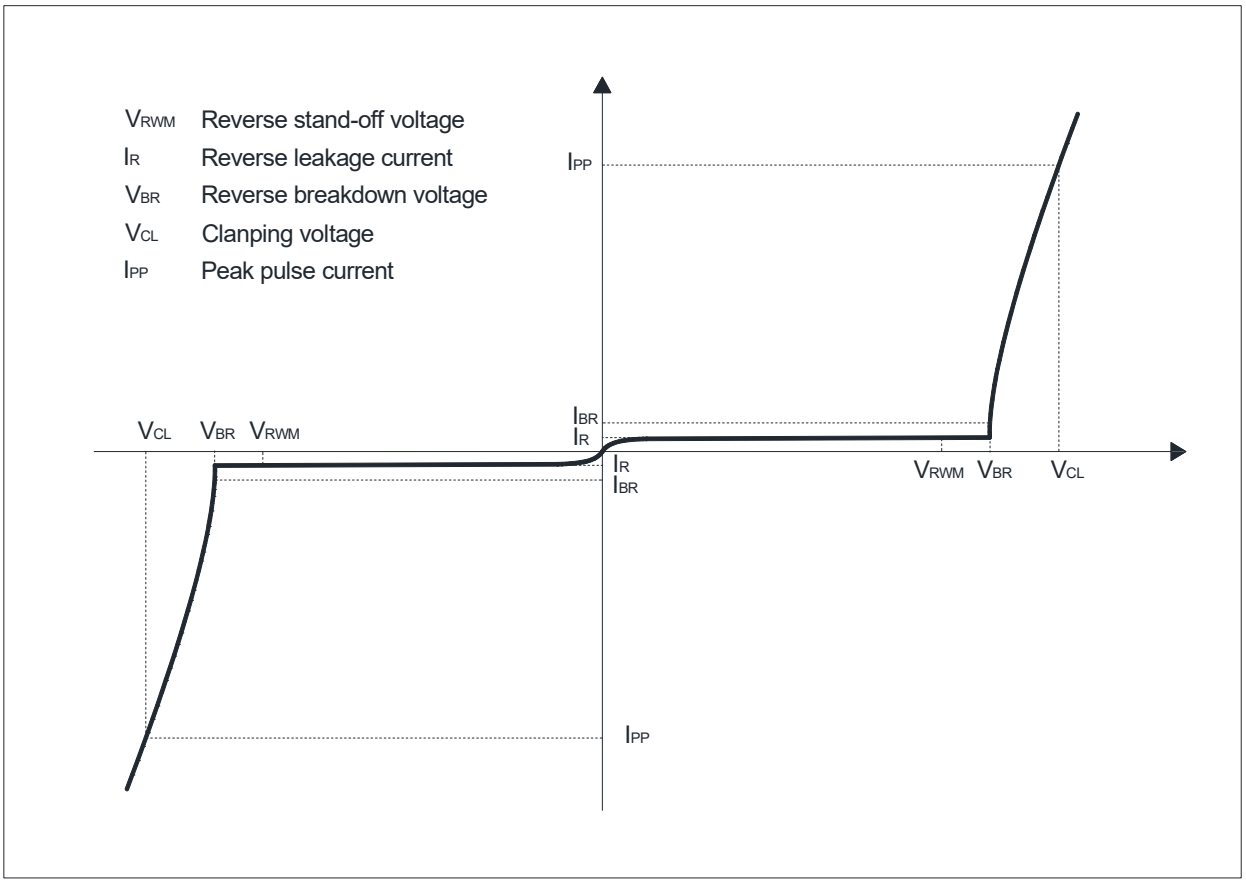
Applications

- Switches / Buttons
- Test Equipment/Instrumentation
- Point-of-Sale Terminals
- Medical Equipment
- Notebooks / Desktops / Servers
- Computer Peripherals
- CAN Bus protection
- Automotive applications

Mechanical Data

- Package: SOD-323
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound
- Moisture Sensitivity: Level 1 per J-STD-020

■Definitions of electrical characteristics



■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	300	W
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	-55~150	℃
Storage temperature	T_{STG}	-55~150	℃

Notes:

CAUTION: Stresses above those listed in “Absolute Maximum Ratings” may cause permanent damage to the component. This is a stress only rating and operation of the component at these or any other conditions above those indicated in the operational sections of this specification is not implied.

■Electrical Characteristics（T_J=25℃）

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse Standoff Voltage	V_{RWM}	V				27
Reverse breakdown voltage	V_{BR}	V	I_{BR} = 1mA	28		38
Reverse leakage current	I_R	μA	V_{RWM} = 27V			0.5
Clamping voltage [1)]	V_{CL}	V	I_{PP} = 1A, t_p = 8/20μs		34	43
			I_{PP} = 3A, t_p = 8/20μs		38	45
			I_{PP} = 6A, t_p = 8/20μs		43	50
Peak Pulse Current	I_{PP}	A	t_p = 8/20μs			6
Junction capacitance	C_J	pF	V_R = 0V, f = 1MHz		16	30

Notes:
(1). Non-repetitive current pulse, according to IEC61000-4-5.
(2). TLP parameter: Z_0 = 50Ω, t_p = 100ns, t_r = 2ns, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.

■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD27VD3B	F2	Approximate 4.5	3000	30000	120000	7 reel

■ Characteristics (Typical)

Fig.1: Non-Repetitive Peak Pulse Power vs. Pulse Time

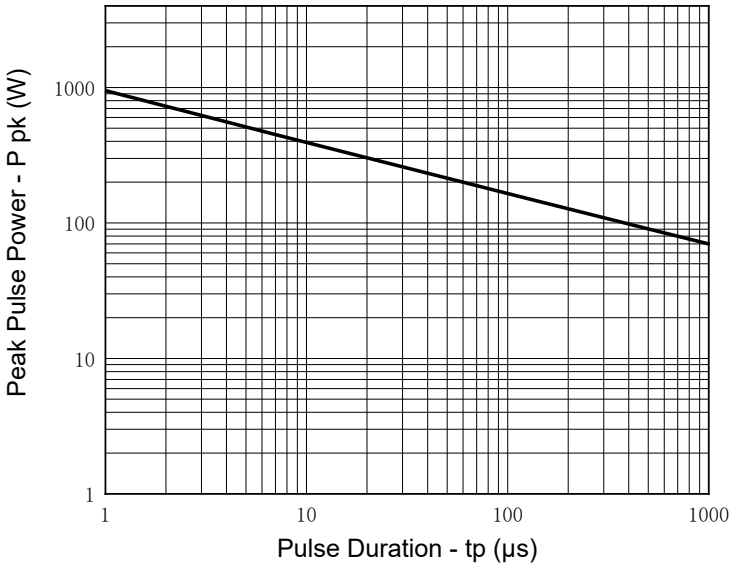


Fig.2 Capacitance vs. Reverse voltage

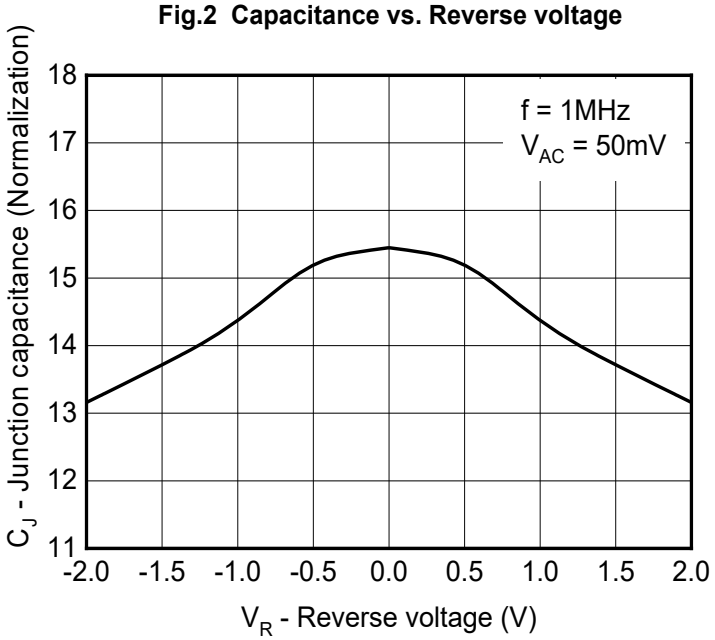


Fig.3: Power Derating Curve

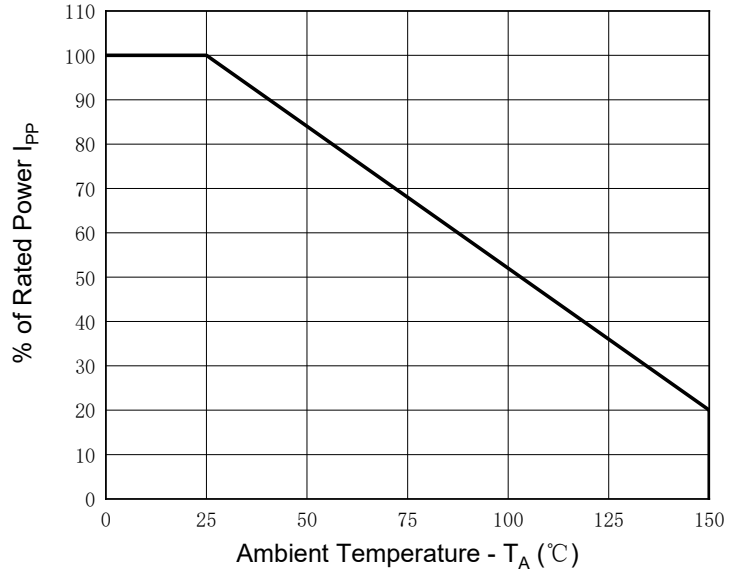


Fig.4: 8/20μs Pulse Waveform

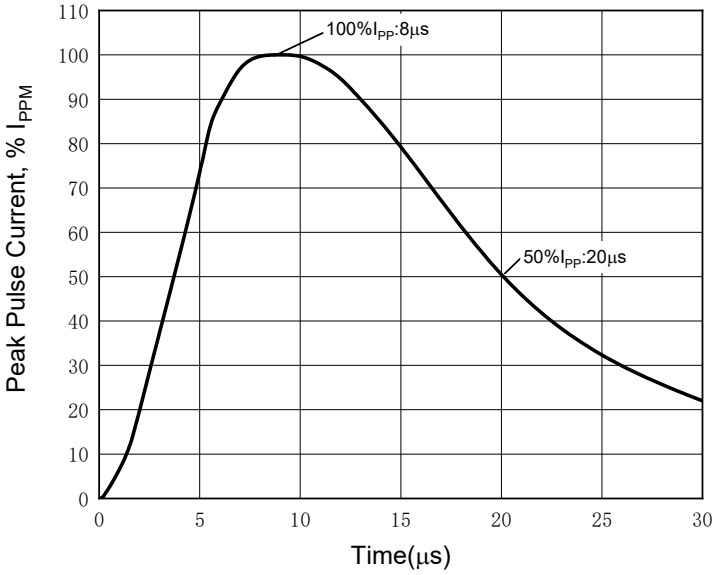
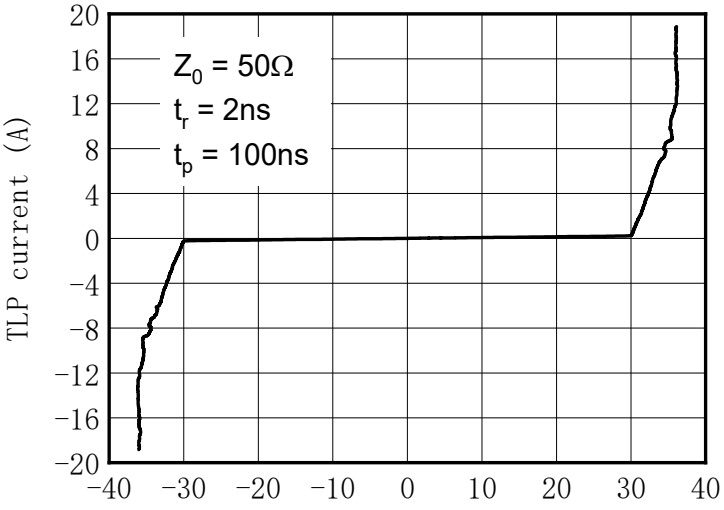
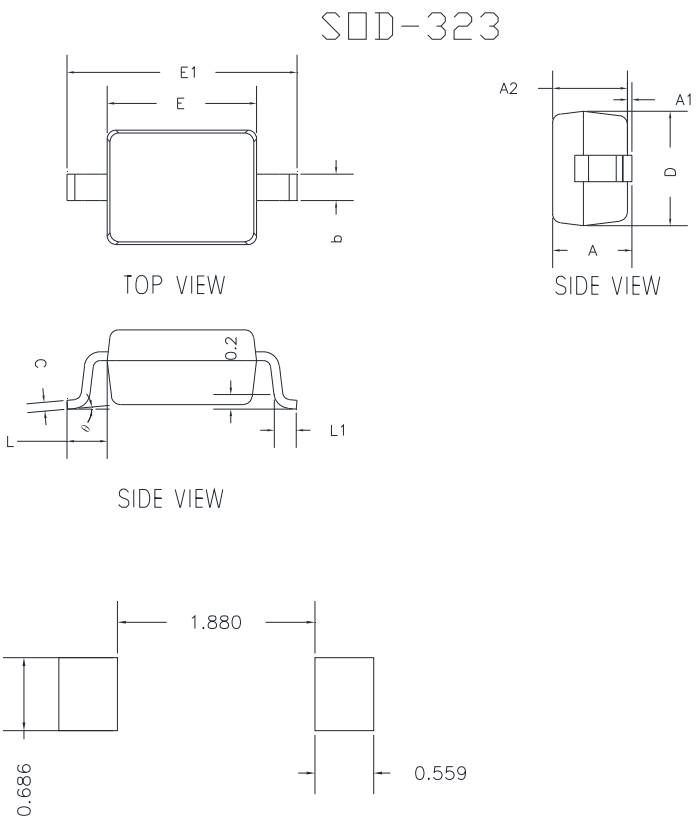


Fig.5 TLP Measurment



■ Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN		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°

UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

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