PESD1LIN

1-Line Bi-directional TVS Diode

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Features

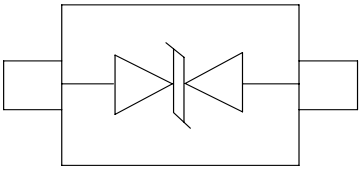
- 160W peak pulse power (8/20μs)
- Low Channel input capacitance
- Ultra low leakage: nA level
- Low clamping voltage
- Protects one data line of the LIN
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±30kV
- RoHS Compliant



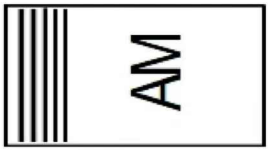
SOD-323

Mechanical Characteristics

- Package: SOD-323
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Terminal Connections: See Diagram Below
- Marking Information: See Below



Circuit diagram

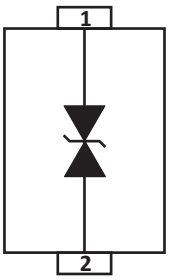


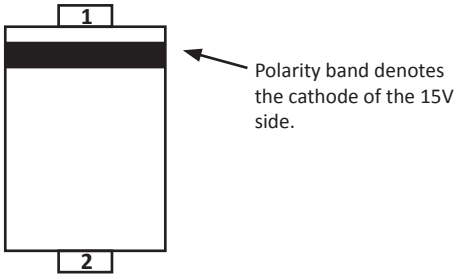
AM= Device code

Marking (Top View)

Applications

- LIN Bus Protection





Ordering Information

Part Number	Packaging	Reel Size
PESD1LIN	3000/Tape & Reel	7 inch

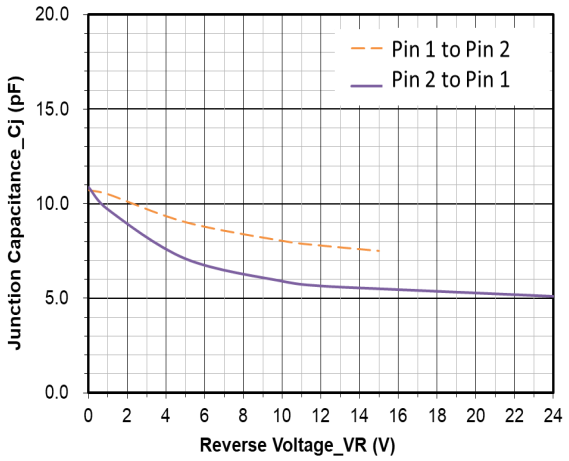
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	160	W
Peak Pulse Current (tp = 8/20μs), Pin 1 to Pin 2 Peak Pulse Current (tp = 8/20μs), Pin 2 to Pin 1	Ipp	5 3	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	−40 to +85	°C
Storage Temperature Range	Tstg	−55 to +150	°C

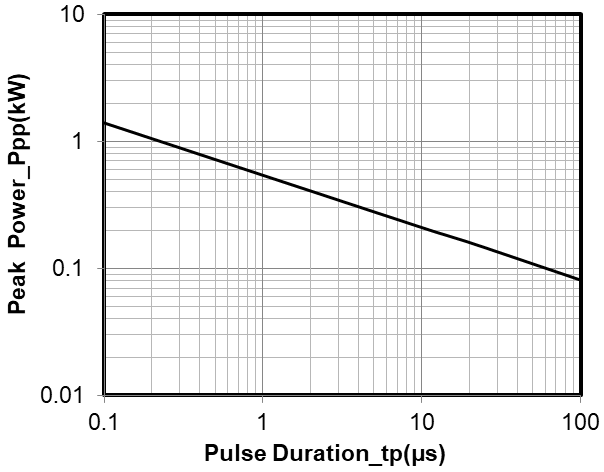
Electrical Characteristics (T_A=25°C unless otherwise specified)

		Pin 1 to 2 (15V TVS)			Pin 2 to 1 (24V TVS)				
Parameter	**Symbol**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Unit**	**Test Condition**
Reverse Working Voltage	V_{RWM}			15			24	V	
Breakdown Voltage	V_{BR}	17.1			25. 4			V	I_T = 1mA
Reverse Leakage Current	I_R			50			50	nA	V_R = V_{RWM}
Clamping Voltage	V_C			25			35	V	I_{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V_C						50	V	I_{PP} = 3A (8 x 20μs pulse)
Clamping Voltage	V_C			35				V	I_{PP} = 5A (8 x 20μs pulse)
Junction Capacitance	C_J			13			13	pF	VR = 0V, f = 1MHz
Junction Capacitance	C_J			10			8	pF	VR = V_{RWM}, f = 1MHz

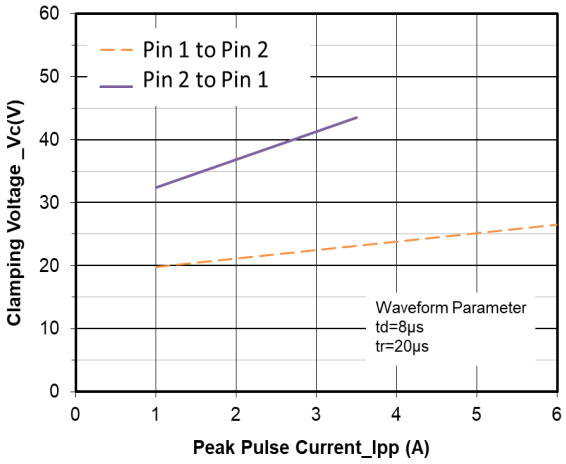
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



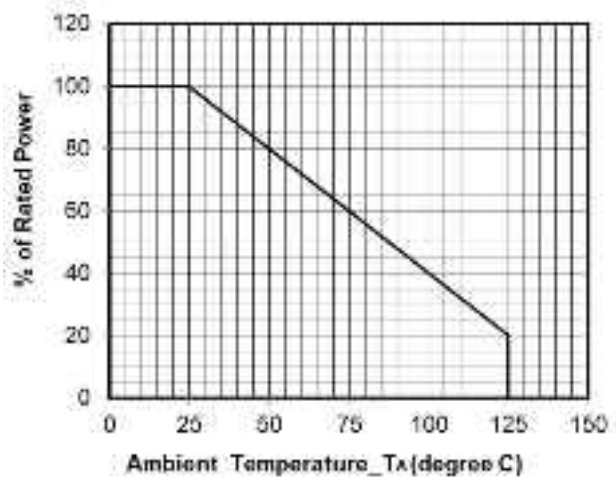
Junction Capacitance vs. Reverse Voltage



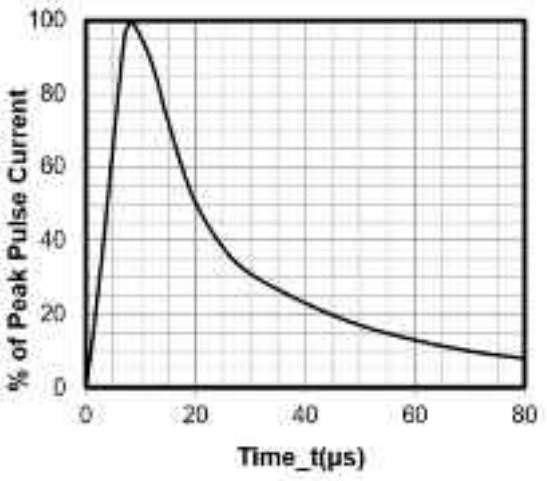
Peak Pulse Power vs. Pulse Time



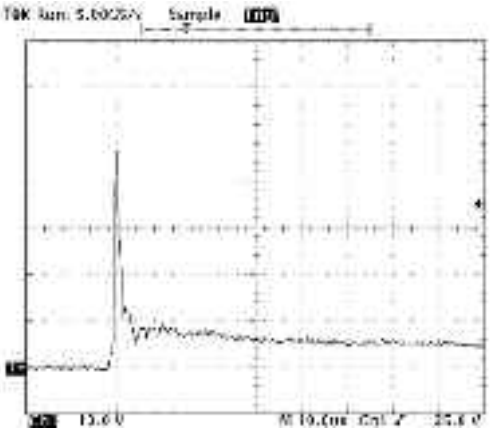
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform

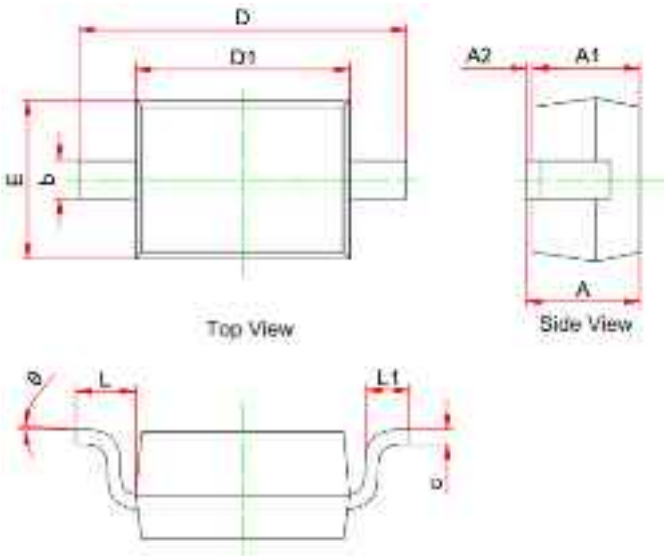


Note：Data is taken with a 10x attenuator

ESD Clamping Voltage

8 kV Contact per IEC61000−4−2

SOD-323 Package Outline Drawing



	MILLIMETERS		
	MIN	NOM	MAX
A	0.800	- -	1.100
A1	0.800	- -	0.900
A2	0.000	- -	0.100
b	0.250	- -	0.400
c	0.080	- -	0.177
D1	1.600	1.700	1.800
D	2.300	- -	2.800
E	1.150	- -	1.400
L	0.475REF		
L1	0.100	- -	0.500
Θ	0°	- -	8°

Suggested Land Pattern



Unit：mm