1-Line Bi-directional TVS Diode

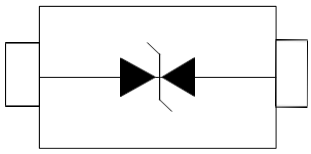
Description

The PESDU1211D5N is designed to protect voltage sensitive components from ESD and transient voltage events. The PESDU1211D5N complies with the IEC 61000-4-2 (ESD) standard with ±30kV air and ±30kV contact discharge. Excellent clamping capability,low leakage,and fast response time.make these parts ideal for ESD protection on designs where board space is at a premium.

Features

- Reverse stand-off voltage:12V Max
- Low leakage current: nA level
- Low Clamping Voltage
- Response time is typically < 1 ns
- Complies with following standards:
  - —IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±30kV
  - —IEC61000-4-5 (Lightning) 9.0A (8/20μs)
- RoHS Compliant

Schematic and Pin Configuration



Graphic symbol

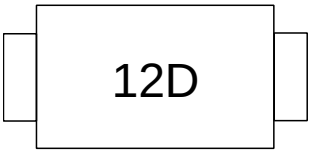
Mechanical Characteristics

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

Applications

- Cellular phones
- Portable devices
- Digital Cameras
- Power supplies

Marking Information



12D = Device Marking Code

Ordering Information

Part Number	Shipping	Reel Size
PESDU1211D5N	3000/Tape & Reel	7 inch

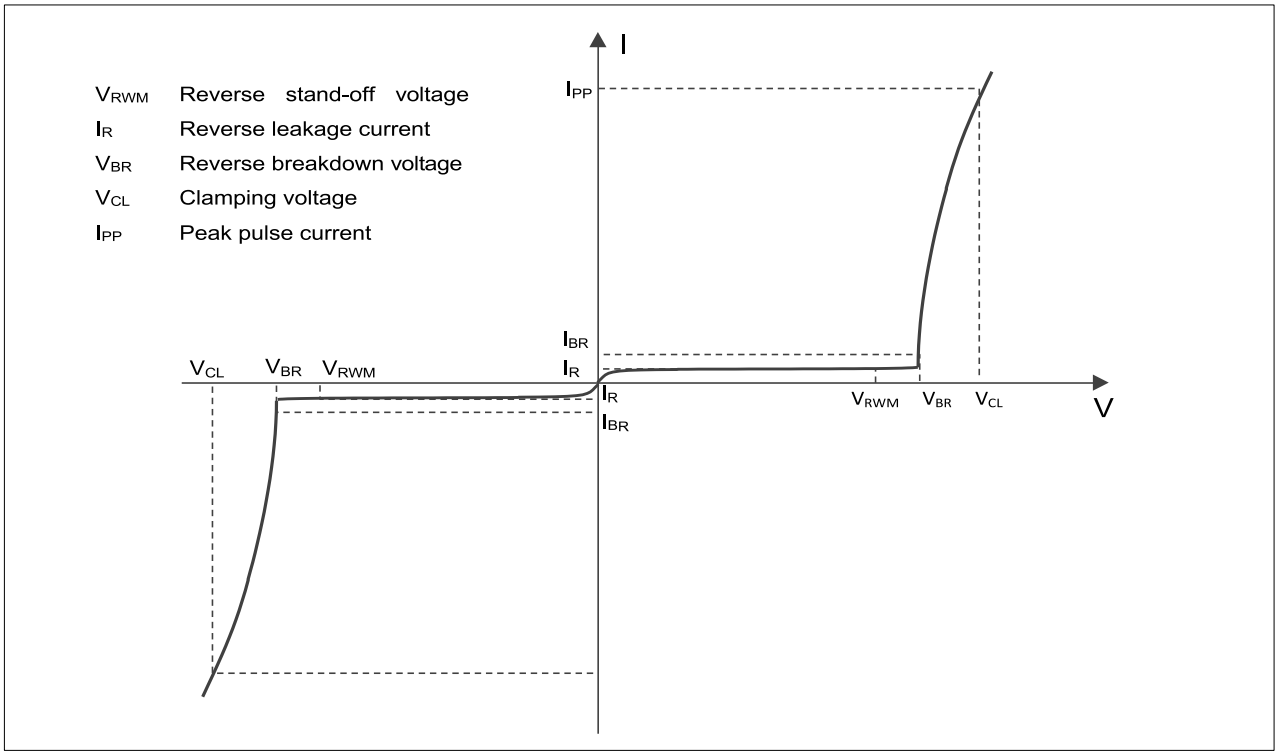
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P_{pk}	162	W
Peak Pulse Current (8/20μs)	I_{PP}	9	A
ESD per IEC 61000−4−2 (Air)	V_{ESD}	±30	kV
ESD per IEC 61000−4−2 (Contact)		±30	
Lead temperature	T_L	260	℃
Operating Temperature Range	T_{OP}	−40 ~ +85	℃
Storage Temperature Range	T_{STG}	−55 ~ +150	℃

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

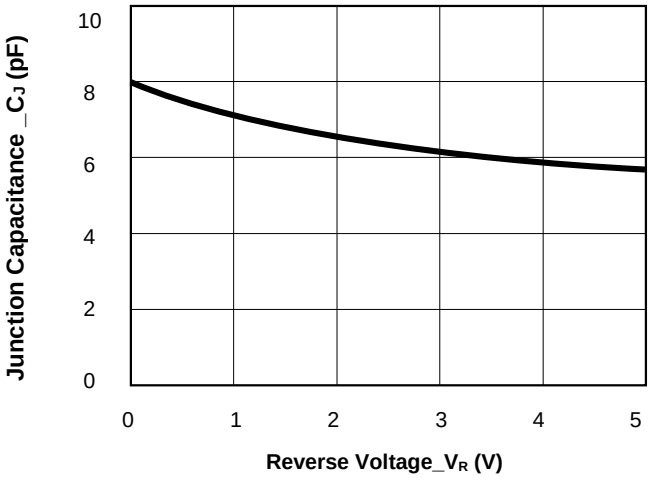
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			12	V	
Breakdown Voltage	V_{BR}	13		16	V	I_T = 1mA
Reverse Leakage Current	I_R			200	nA	V_{RWM} = 12V
Clamping Voltage	V_C			15	V	I_{PP} = 1.0A (8/20μs pulse)
Clamping Voltage	V_C		17	18	V	I_{PP} = 9.0A (8/20μs pulse)
Junction Capacitance	C_J		8	10	pF	V_R = 0V, f = 1MHz

Electrical characteristics (T_A = 25℃, unless otherwise noted)

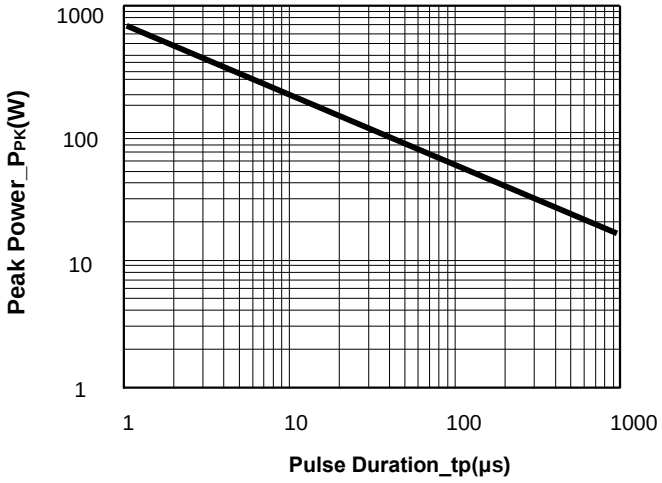


Definitions of electrical characteristics

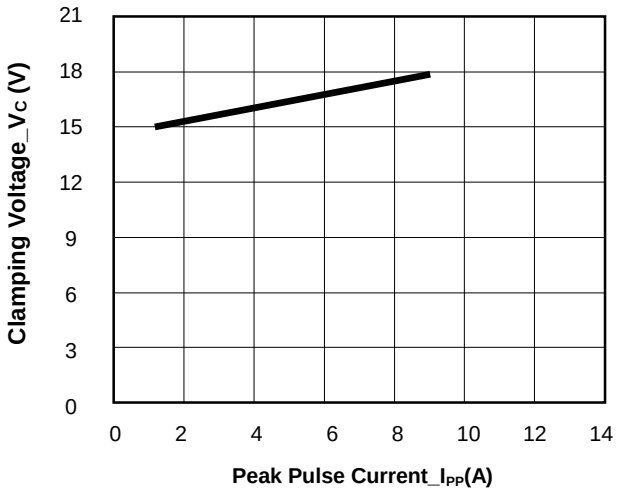
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



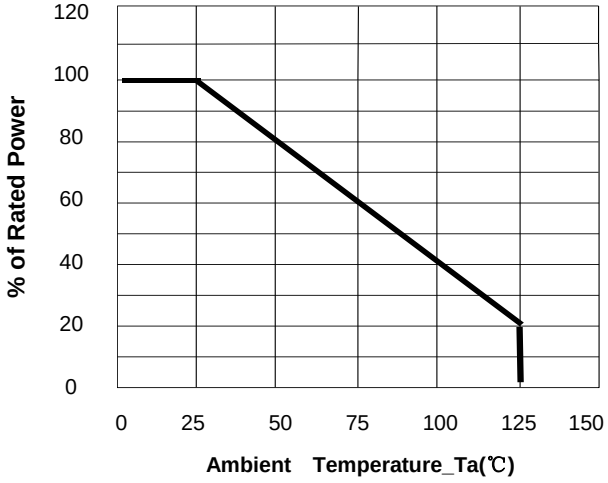
Junction Capacitance vs. Reverse Voltage



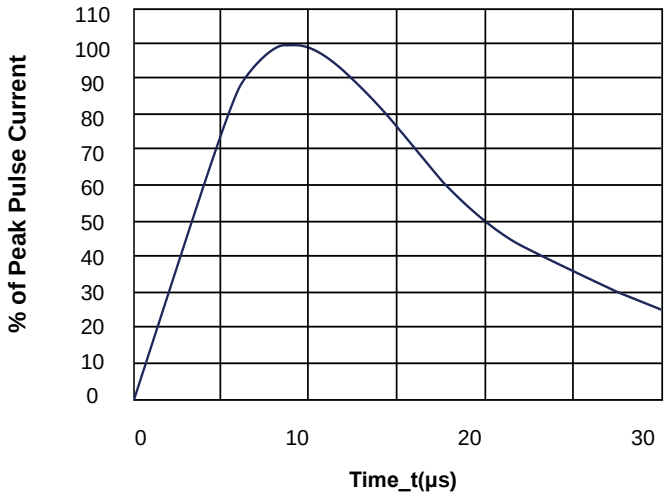
Peak Pulse Power vs. Pulse Time



Clamping Voltage vs. Peak Pulse Current

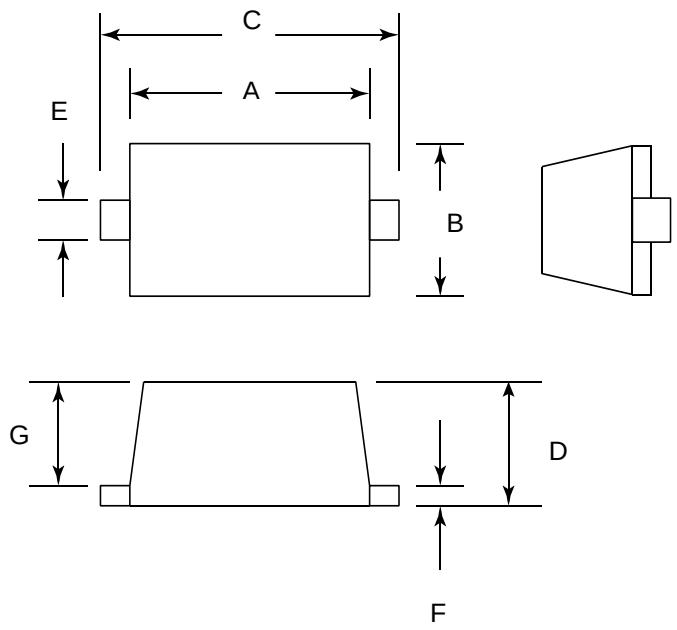


Power Derating Curve



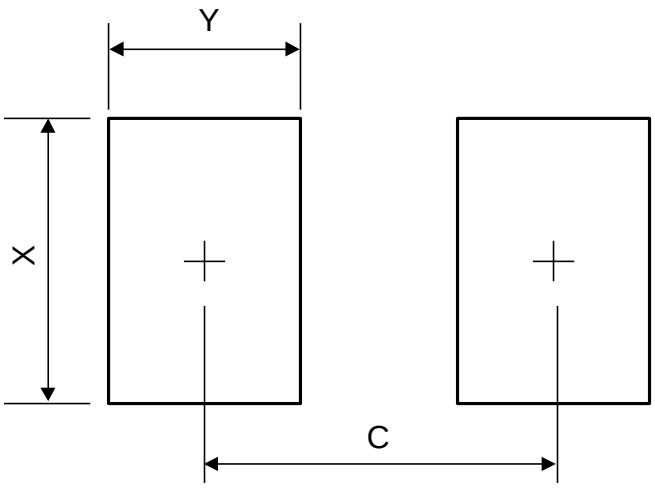
8/20μs Pulse Waveform

SOD523 Package Outline Drawing



SYM	DIMENSIONS			
	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.10	1.30	0.043	0.051
B	0.70	0.90.	0.028	0.035
C	1.50	1.70	0.059	0.067
D	0.50	0.70	0.020	0.028
E	0.25	0.35	0.010	0.014
F	0.10	0.20	0.004	0.008
G	0.50	0.70	0.020	0.028

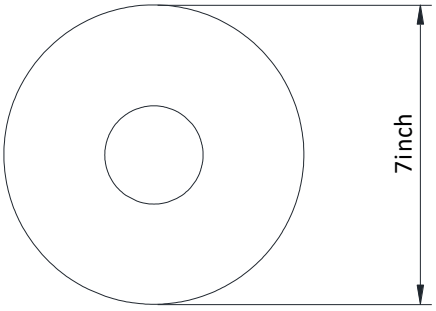
Suggested Land Pattern



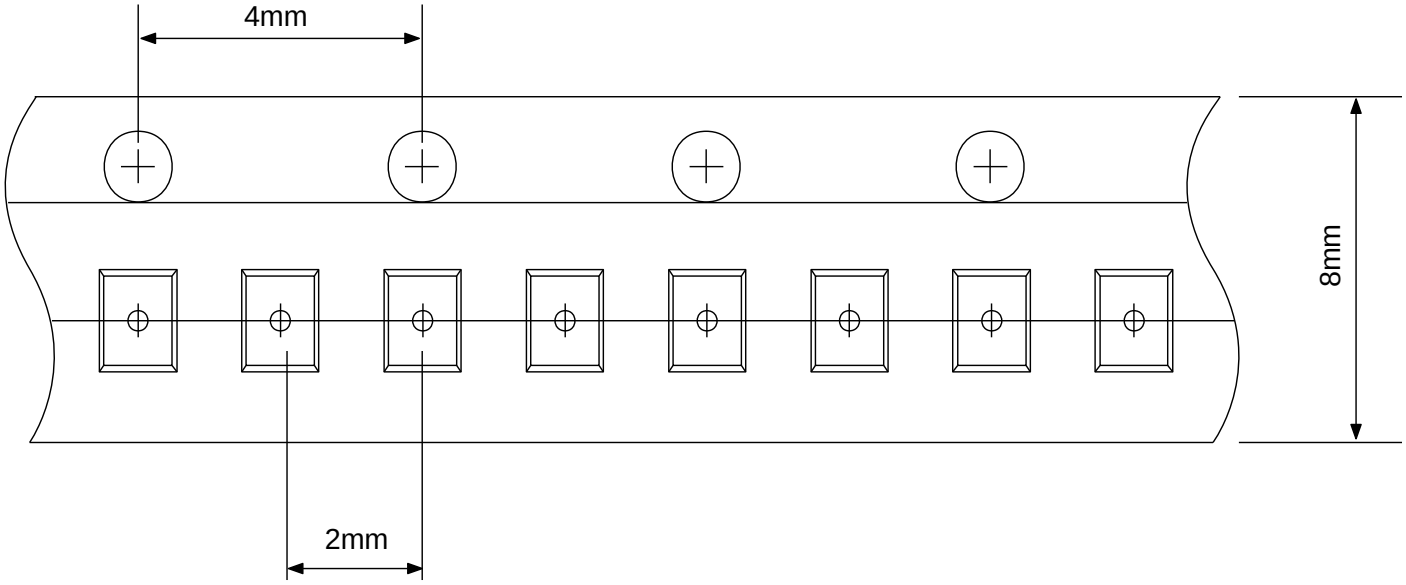
SYM	DIMENSIONS	
	MILLIMETERS	INCHES
C	1.42	0.056
X	0.70	0.028
Y	0.60	0.024

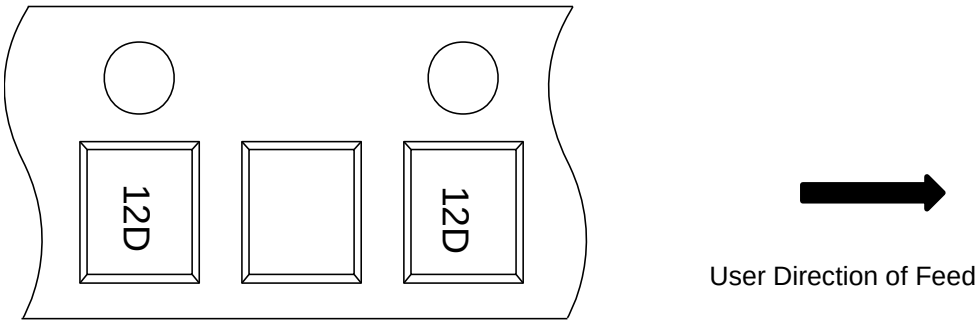
TAPE AND REEL INFORMATION

Reel Dimensions



Tape Dimensions





User Direction of Feed

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