1-Line Bidirectional ESD Protection Diode

Description

The PESDU3311D5N is designed to protect voltage sensitive components from ESD and transient voltage events. 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

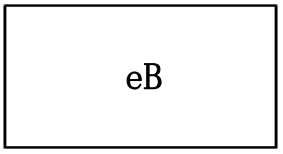
Applications

- Cell phones
- Audio equipment
- Portable devices
- Digital cameras
- Power supplies

Features

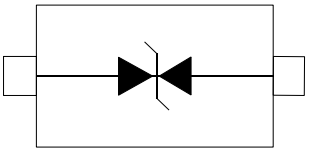
- Low Capacitance 15 pF(Max)
- Reverse stand-off voltage: 3.3V Max
- Low leakage current: nA Level
- Low Clamping Voltage
- Response time is typically < 1 ns
- IEC61000−4−2 Level 4 ESD Protection

Marking Information



eB= Device Marking Code

Schematic and Pin Configuration



Graphic symbol

Ordering nformation

Part Number	Packaging	Package
PESDU3311D5N	3000/Tape & Reel	SOD523

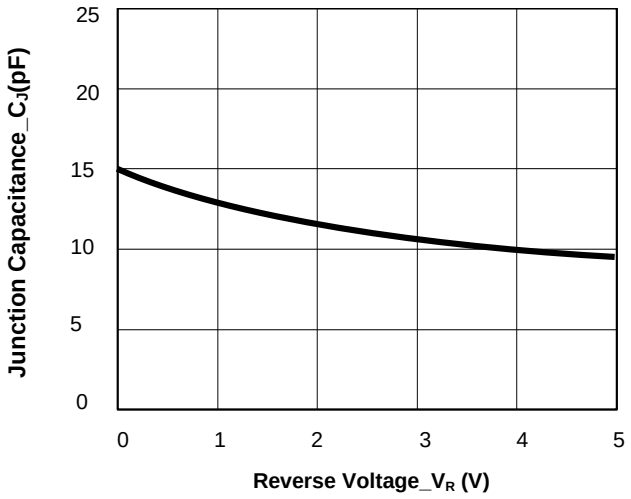
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P_{PK}	90	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	
Operating Temperature Range	T_{OP}	−40 to +125	℃
Storage Temperature Range	T_{STG}	−55 to +150	℃

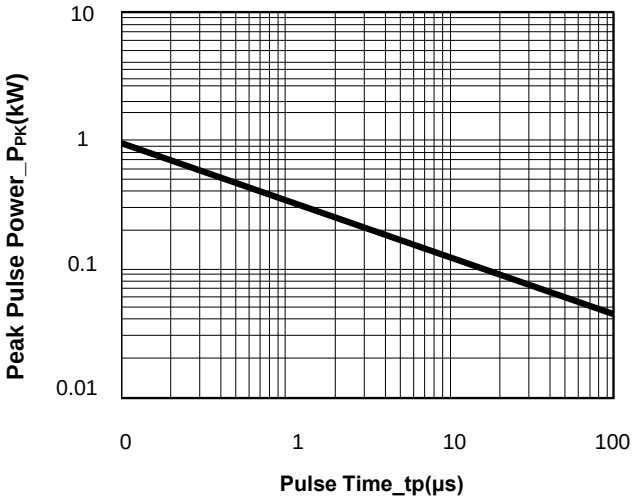
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			3.3	V	
Breakdown Voltage	V_{BR}	4.5			V	I_T = 1mA
Reverse Leakage Current	I_R			100	nA	V_{RWM} = 3.3V
Clamping Voltage	V_C			10	V	I_{PP} = 9A (8/20μs pulse)
Junction Capacitance	C_J			15	pF	V_R = 0V, f = 1MHz

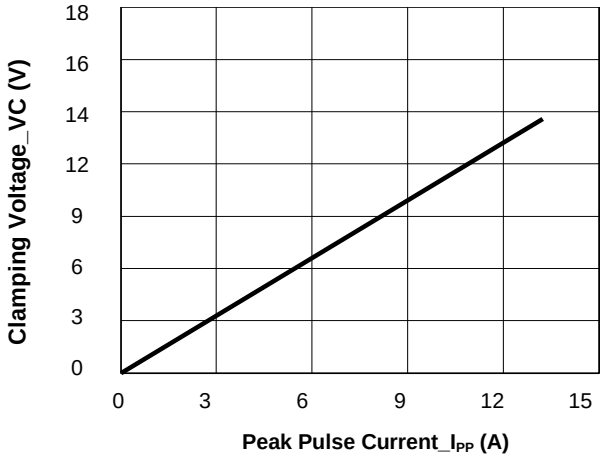
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



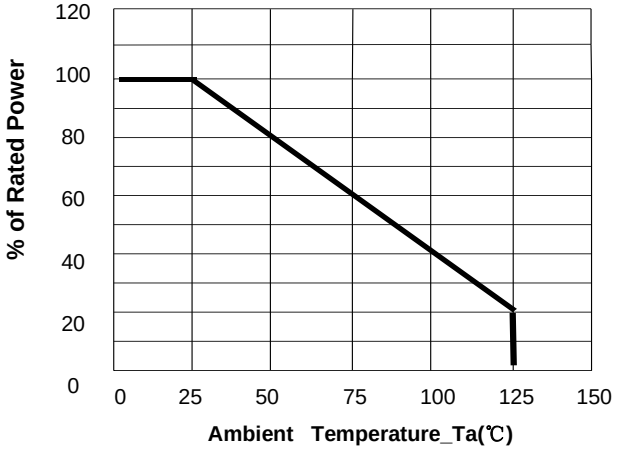
Junction Capacitance vs. Reverse Voltage



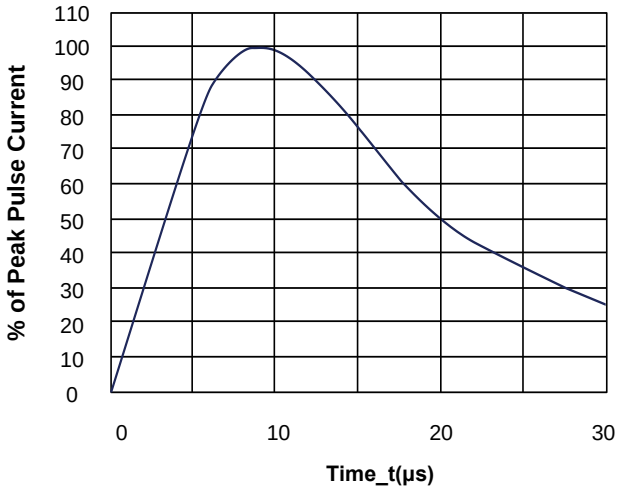
Peak Pulse Power vs. Pulse Time



Clamping Voltage vs. Peak Pulse Current

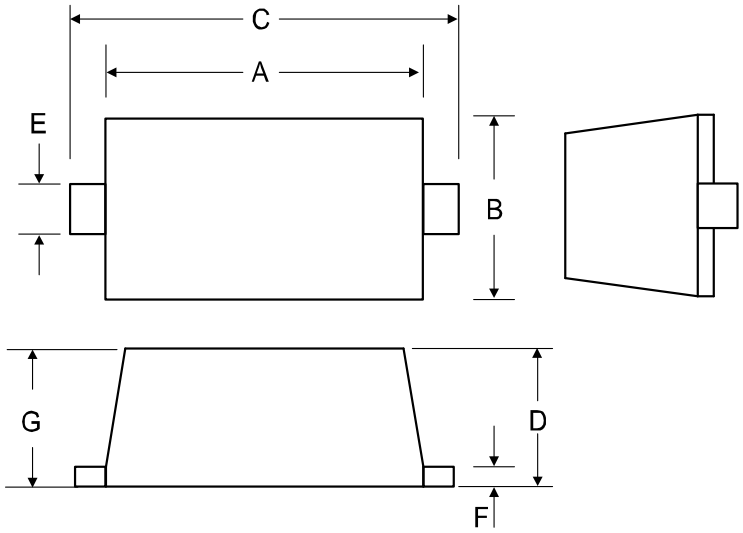


Power Derating Curve



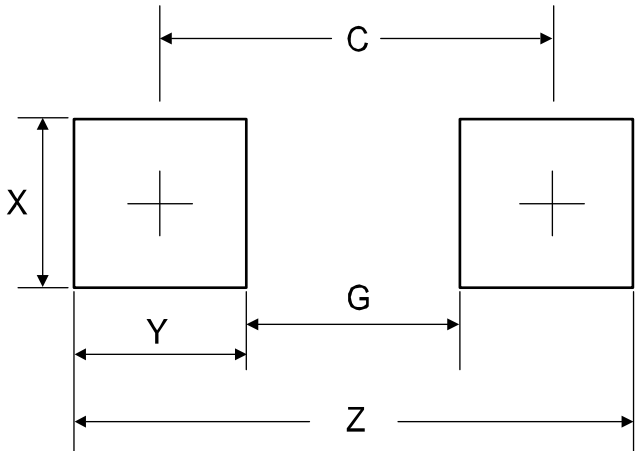
8/20μs Pulse Waveform

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	1.70	0.067
G	1.10	0.043
X	0.80	0.031
Y	0.60	0.024
Z	2.30	0.091