

1-Line Bidirectional ESD Protection Diode

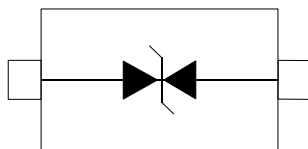
Description

The PESDU0511D5N 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

Features

- Low Capacitance 15 pF(Typ)
- Reverse stand-off voltage:5.0V Max
- Low leakage current: nA Level
- Low Clamping Voltage
- Response time is typically < 1 ns
- IEC61000-4-2 Level 4 ESD Protection

Schematic and Pin Configuration

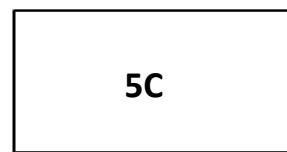


Graphic symbol

Applications

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

Marking Information



5C= Device Marking Code

Ordering information

Part Number	Packaging	Package
PESDU0511D5N	3000/Tape & Reel	SOD523

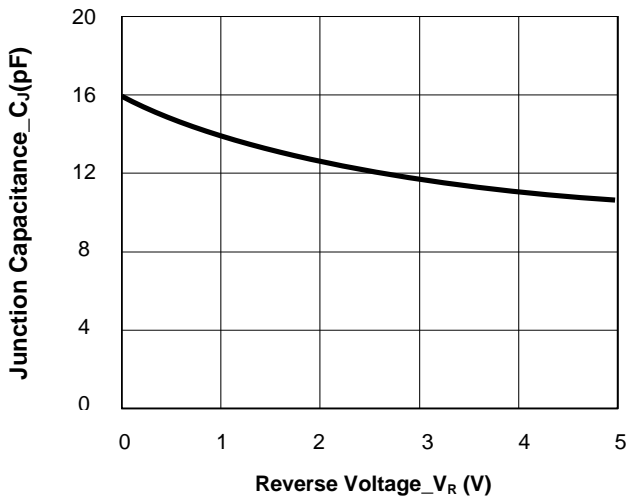
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

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}	-55 to +125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

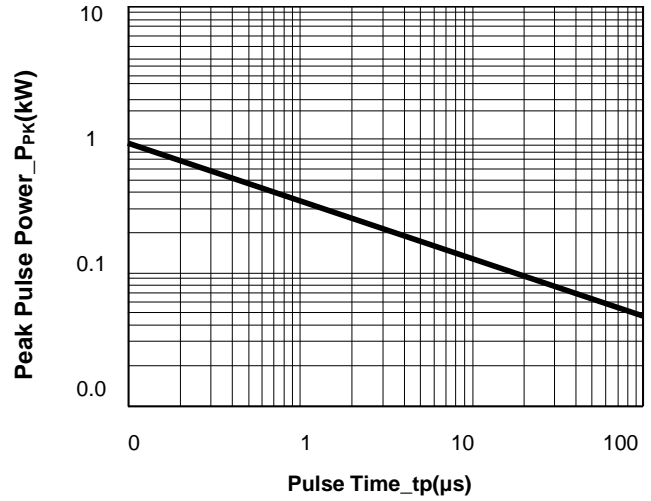
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			5.0	V	Any I/O pin to ground
Breakdown Voltage	V _{BR}	5.6			V	I _T = 1mA, any I/O pin to ground
Reverse Leakage Current	I _R			100	nA	V _{RWM} = 5.0V, any I/O pin to ground
Clamping Voltage	V _C			10.0	V	I _{PP} = 9A (8/20μs pulse)
Junction Capacitance	C _J		15	18	pF	V _R = 0V, f = 1MHz

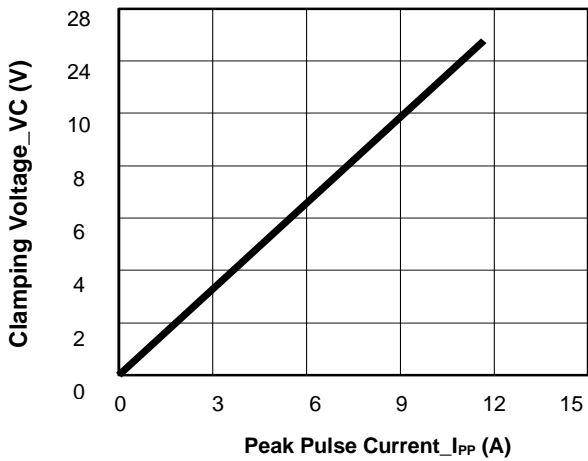
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



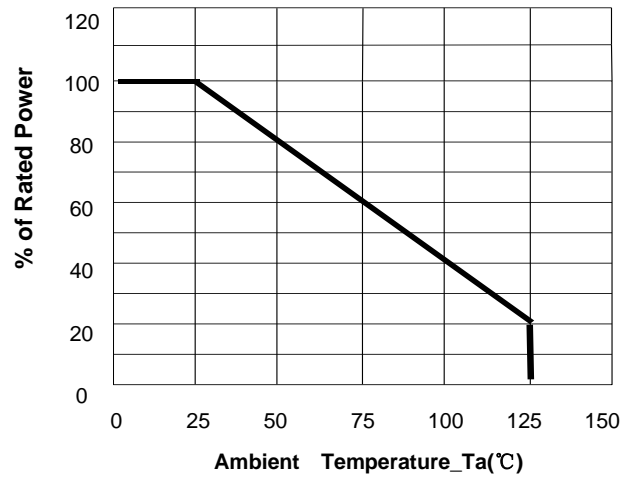
Junction Capacitance vs. Reverse Voltage



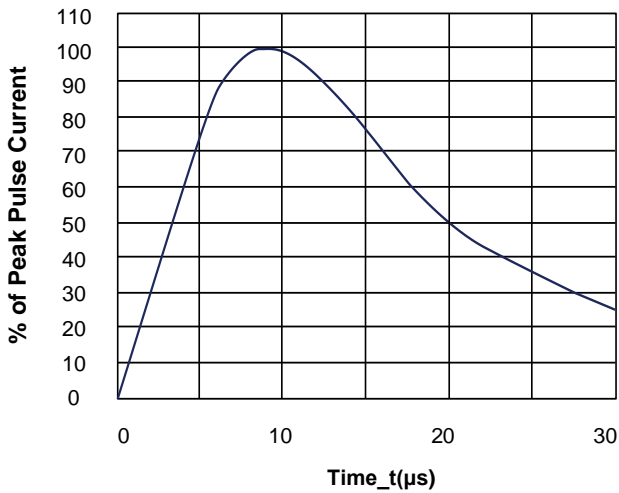
Peak Pulse Power vs. Pulse Time



Clamping Voltage vs. Peak Pulse Current

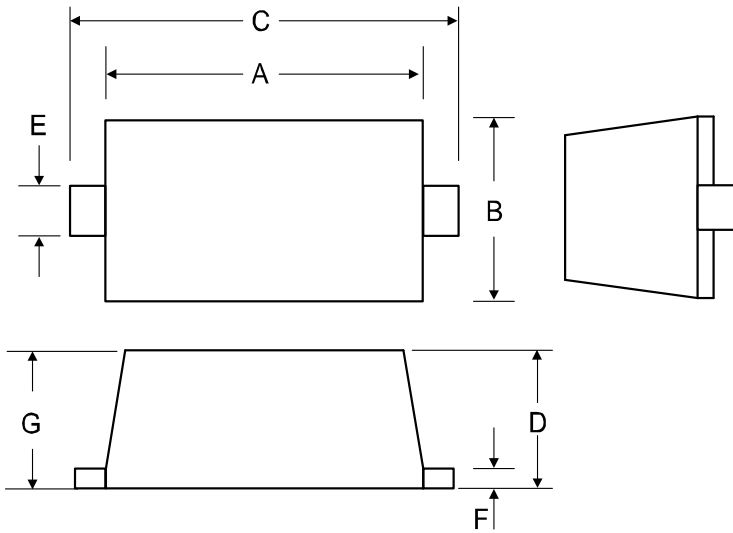


Power Derating Curve



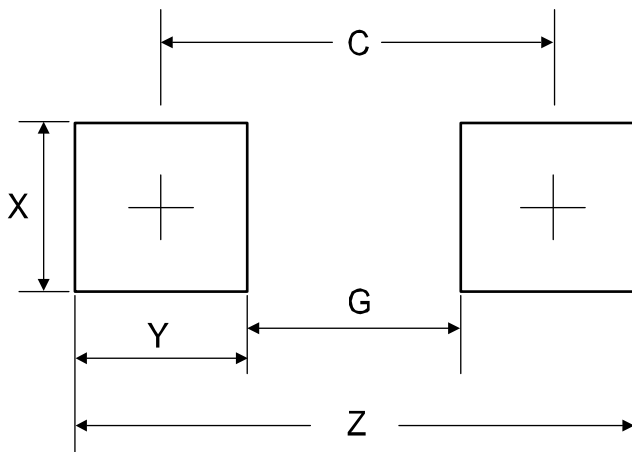
8/20μs Pulse Waveform

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