

1-Line Uni-directional TVS Diode

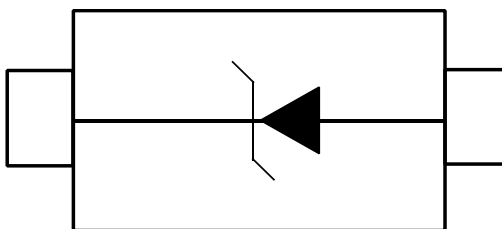
Description

The PESDU2471D1FT is an uni-directional TVS diode, to provide fast-response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive data and power lines. The PESDU2471D1FT complies with the IEC 61000-4-2 (ESD) standard with $\pm 30\text{kV}$ and air $\pm 30\text{kV}$ contact discharge. It is assembled into a SOD-123FL lead-free package. The small size and high ESD/surge protection make PESDU2471D1FT an ideal choice to protect cellphone, digital cameras, audio players and many other portable applications.

Features

- Protects one data or power line
- Low operating voltage: 24V
- Ultra low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD)immunity test
Air discharge: $\pm 30\text{kV}$
Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 200A (8/20 μs)
- RoHS Compliant

Pin Configuration



Circuit and Pin schematic

Mechanical Characteristics

- Package: SOD-123FL
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Marking Information: See Below

Applications

- Fast-charge battery chargers
- Power management system
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals

Marking Information



24A= Device Marking Code

Ordering Information

Part Number	Shipping	Real Size
PESDU2471D1FT	3000/Tape & Reel	7 inch

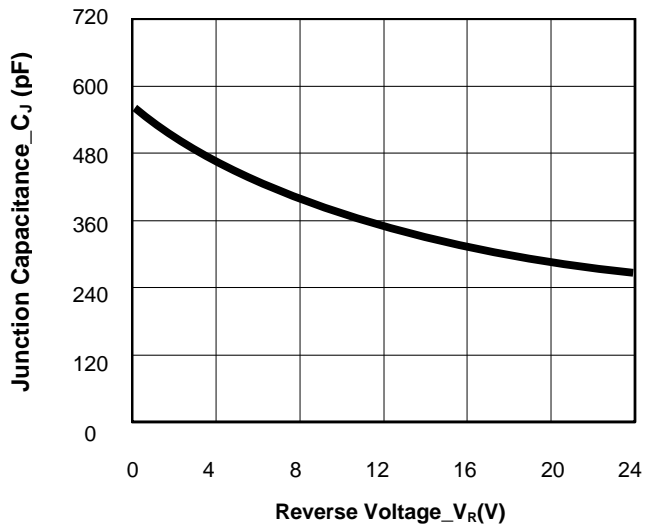
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P _{PK}	7400	W
Peak Pulse Current (8/20μs)	I _{PP}	200	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

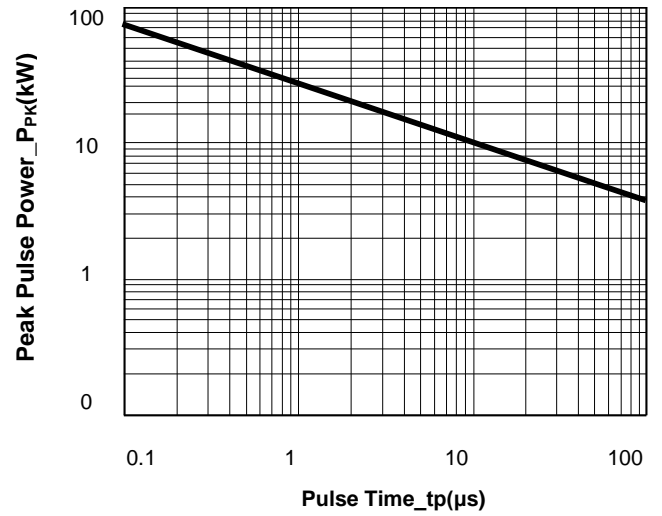
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			24	V	
Breakdown Voltage	V _{BR}	25			V	I _T = 1mA
Reverse Leakage Current	I _R			1	μA	V _{RWM} = 24V
Clamping Voltage	V _C			32	V	I _{PP} = 150A (8/20μs pulse)
Clamping Voltage	V _C			37	V	I _{PP} = 200A (8/20μs pulse)
Junction Capacitance	C _J		590		pF	V _R = 0V, f = 1MHz

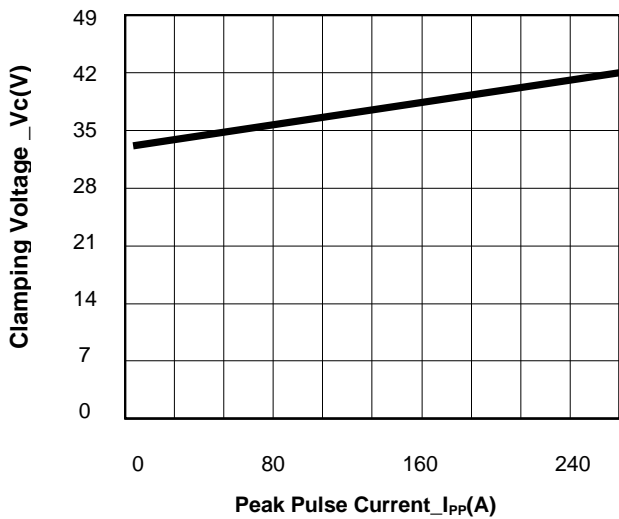
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



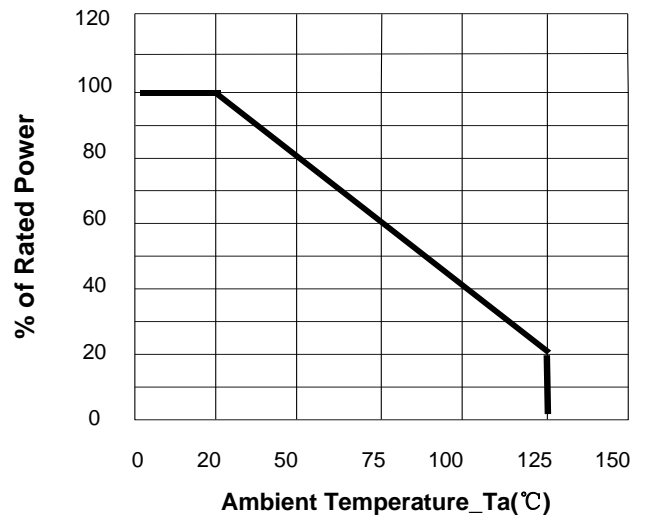
Junction Capacitance vs. Reverse Voltage



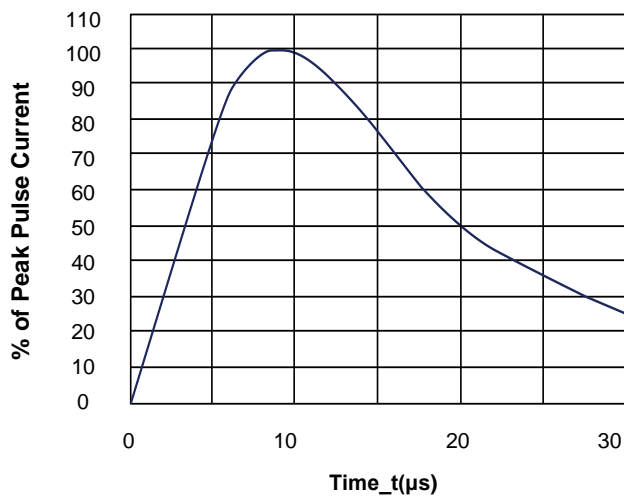
Peak Pulse Power vs. Pulse Time



Clamping Voltage vs. Peak Pulse Current

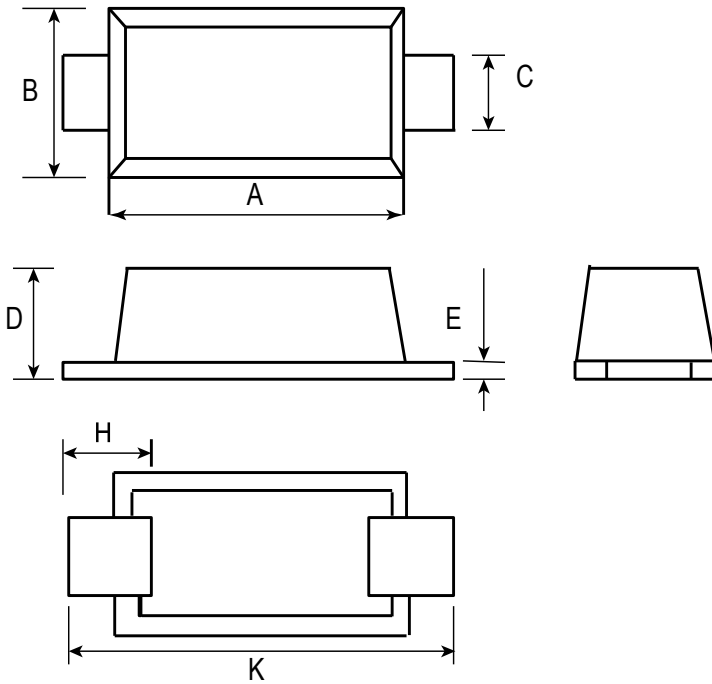


Power Derating Curve



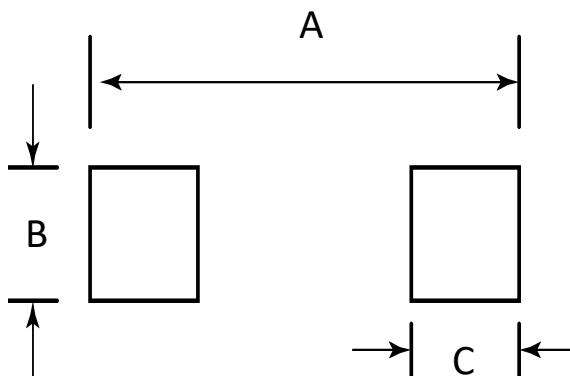
8/20μs Pulse Waveform

SOD-123FL Package Outline Drawing



DIM	Millimeters		
	Min	Nom	Max
A	2.70	2.80	2.90
B	1.80	1.90	2.00
C	0.80	1.00	1.20
D			1.00
E	0.10	0.20	0.30
H	0.35		0.85
K	3.50		3.90

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
A	4.19	0.165
B	1.20	0.048
C	0.90	0.036