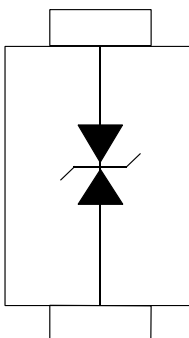


W 1-Line Bi-directional TVS Diode**Description**

The PESDUU0561D5L is a bi-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 line. The PESDU0561D5L complies with the IEC 61000-4-2 (ESD) with $\pm 30\text{kV}$ air and $\pm 30\text{kV}$ contact discharge. It is assembled into an ultra-small SOD-523 lead-free package. The small size and high ESD protection make PESDU0561D5L an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

Features

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

Dimensions and Pin Configuration

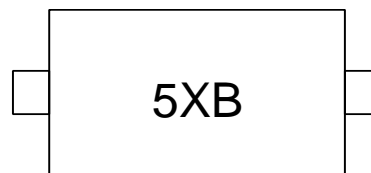
Circuit and Pin Schematic

Mechanical Characteristics

- Package: SOD-523
- Case Material: "Green" Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Marking Information: See Below

Applications

- Cellular Handsets & Accessories
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- MP3 players

Marking Information

5XB = device marking code

Ordering Information

Part Number	Shipping	Reel Size
PESDU0561D5L	5000/Tape & Reel	7 inch

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

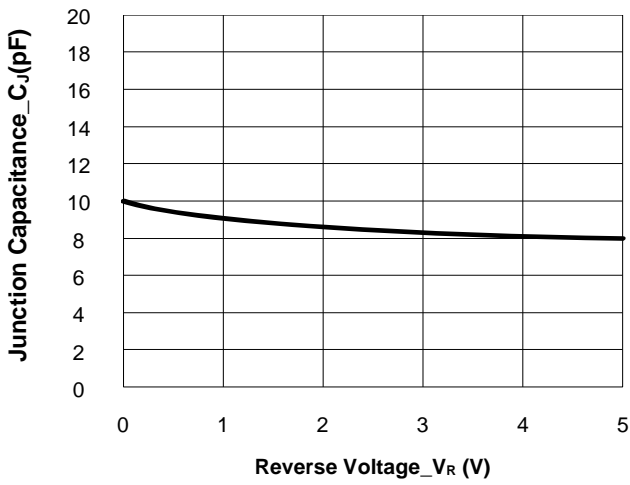
Parameter	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20μs)	P _{PK}	75	W
Peak Pulse Current (tp = 8/20μs)	I _{PP}	5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V _{ESD}	±30 ±30	kV
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

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

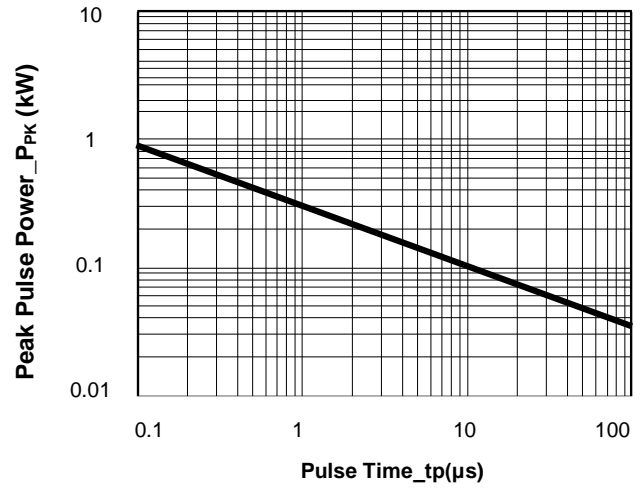
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			5	V	
Breakdown Voltage	V _{BR}	5.6			V	I _T = 1mA
Reverse Leakage Current	I _R			200	nA	V _{RWM} = 5V, T=25°C
Clamping Voltage	V _C		12	15	V	I _{PP} = 5A (8/20μs pulse)
ESD Clamping Voltage	V _C		8		V	I _{PP} = 4A (tp = 0.2/100ns)
ESD Clamping Voltage	V _C		11.5		V	I _{PP} = 16A (tp = 0.2/100ns)
Junction Capacitance	C _J		11	15	pF	V _R = 0V, f = 1MHz

Note: 1、TLP Setting: tp=100ns, tr=0.2ns, I_{TLP} and V_{TLP} sample window: t1=70ns to t2=90ns.
 2、Dynamic resistance calculated from I_{PP}=4A to I_{PP}=16A using “Best Fit”

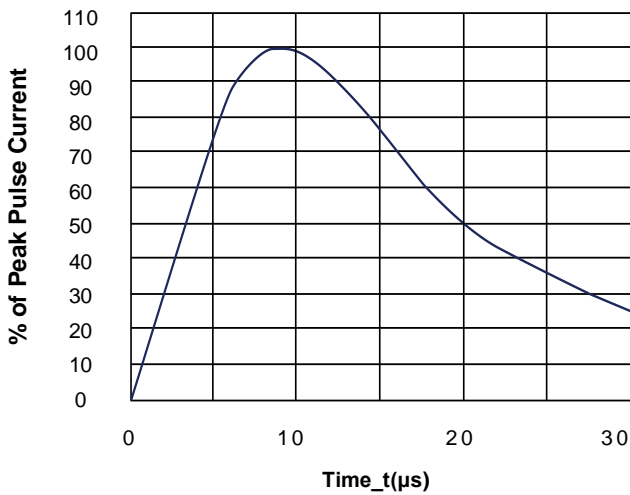
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



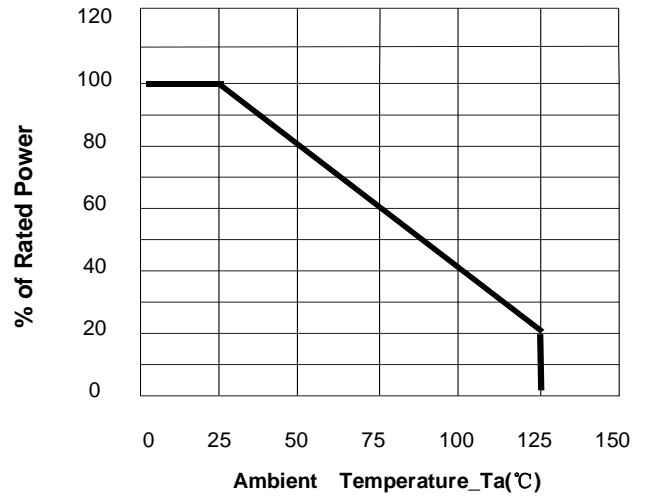
Junction Capacitance vs. Reverse Voltage



Peak Pulse Power vs. Pulse Time

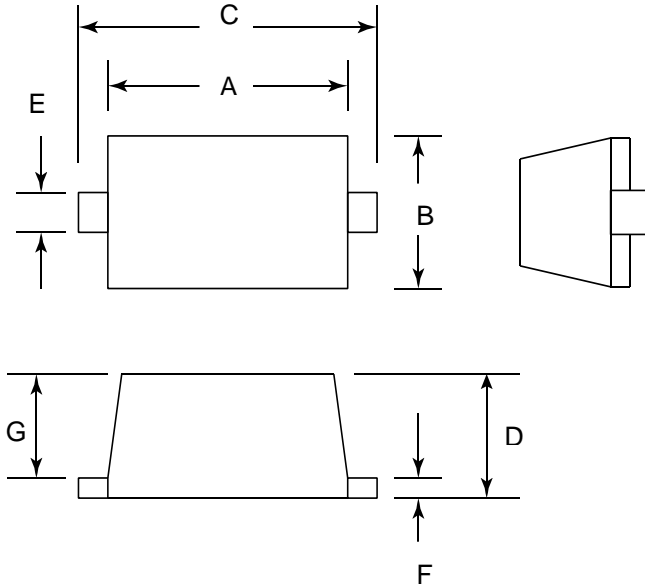


8/20μs Pulse Waveform



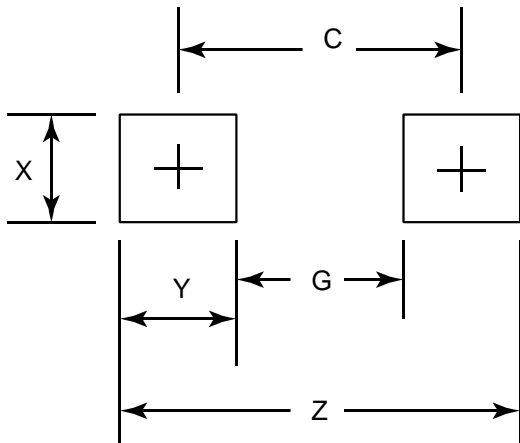
Power Derating Curve

SOD-523 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