

**1-Line , Bi-directional , Transient Voltage Suppressor**

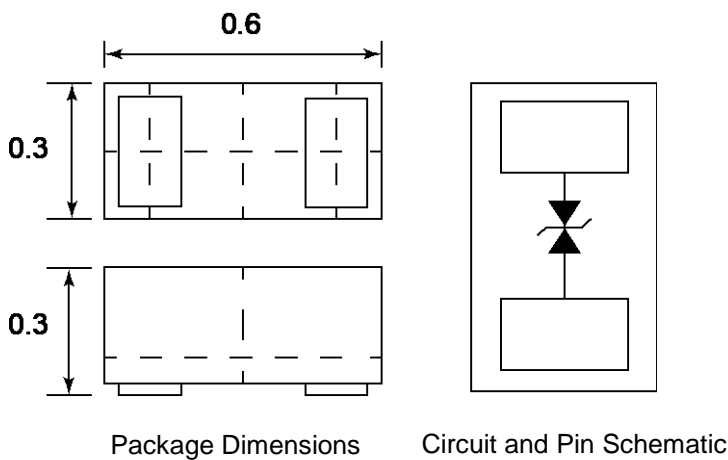
**Description**

PESDU0711P0 is a bi-directional TVS (Transient Voltage Suppressor). It has been specifically designed to protect sensitive electronic components which are connected to low speed data lines and control lines from over-stress caused by ESD (Electrostatic Discharge) and Lightning . PESDU0711P0 may be used to provide ESD protection up to ±30kV (air and contact discharge) according to IEC61000-4-2, and withstand peak pulse current up to 6A(8/20µs) according to IEC61000-4-5 . PESDU0711P0 is available in DFN0603-2 package. Standard products are Pb-free and Halogen-free.

**Features**

- Operating voltage: 7V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±30kV
  - IEC61000-4-5 (Lightning) 6A (8/20µs)
- RoHS Compliant

**Dimensions and Pin Configuration**



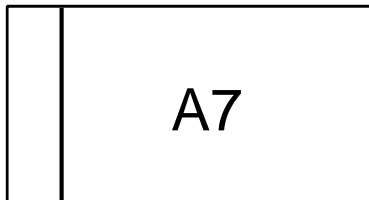
**Mechanical Characteristics**

- Package: DFN0603-2 (0.6×0.3×0.3mm)
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 1 per J-STD-020
- Marking Information: See Below

**Applications**

- Cellular Handsets
- CC Line Protection
- Microphone Line Protection
- GPIO Protection

**Marking Information**



**A7** = Device Marking Code

**Ordering Information**

Part Number	Shipping	Reel Size
PESDU0711P0	10000/Tape & Reel	7 inch

**Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P <sub>PK</sub>	84	W
Peak Pulse Current (8/20μs)	I <sub>PP</sub>	6	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Lead temperature	T <sub>L</sub>	260	°C
Operating Temperature Range	T <sub>OP</sub>	-40 ~ +85	°C
Storage Temperature Range	T <sub>STG</sub>	-55 ~ +150	°C

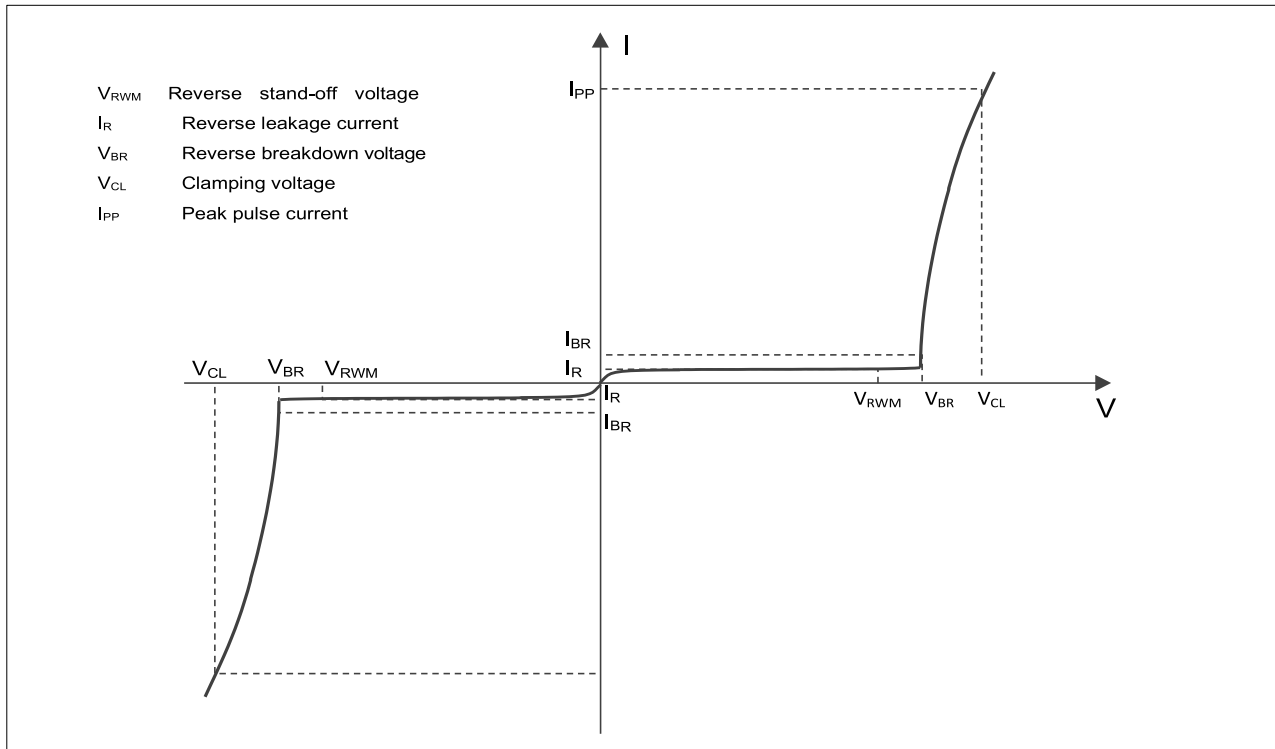
**Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V <sub>RWM</sub>			7	V	
Breakdown Voltage	V <sub>BR</sub>	7.2	8		V	I <sub>T</sub> = 1mA
Reverse Leakage Current	I <sub>R</sub>			0.1	μA	V <sub>RWM</sub> = 7V
Clamping voltage <sup>1)</sup>	V <sub>CL</sub>		9.0		V	I <sub>PP</sub> = 16A, t <sub>p</sub> = 100ns
Dynamic resistance <sup>1)</sup>	R <sub>DYN</sub>		0.27		Ω	
Clamping voltage <sup>2)</sup>	V <sub>CL</sub>		9.0		V	V <sub>ESD</sub> = 8kV
Clamping Voltage <sup>3)</sup>	V <sub>C</sub>			11	V	I <sub>PP</sub> = 1A(8/20μs pulse)
Clamping Voltage <sup>3)</sup>	V <sub>C</sub>			14	V	I <sub>PP</sub> = 6A(8/20μs pulse)
Junction Capacitance	C <sub>J</sub>		15	21	pF	V <sub>R</sub> = 0V, f = 1MHz

Notes:

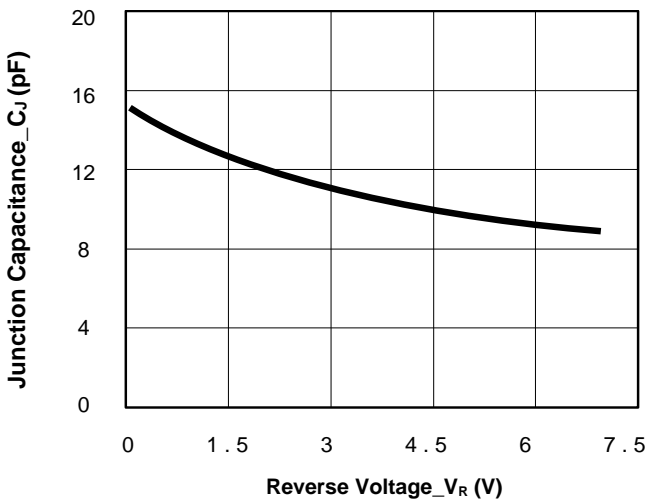
- 1) TLP parameter: Z<sub>0</sub> = 50Ω, t<sub>p</sub> = 100ns, t<sub>r</sub> = 2ns, averaging window from 60ns to 80ns. R<sub>DYN</sub> is calculated from 4A to 16A.
- 2) Contact discharge mode, according to IEC61000-4-2.
- 3) Non-repetitive current pulse, according to IEC61000-4-5.

**Electrical characteristics ( $T_A = 25^\circ\text{C}$ , unless otherwise noted)**

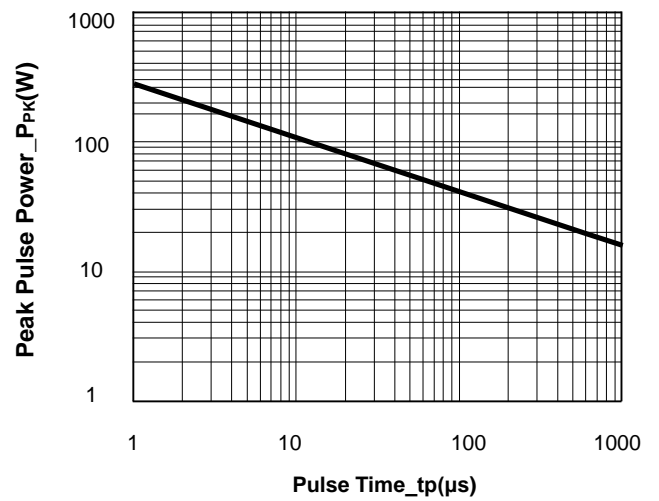


Definitions of electrical characteristics

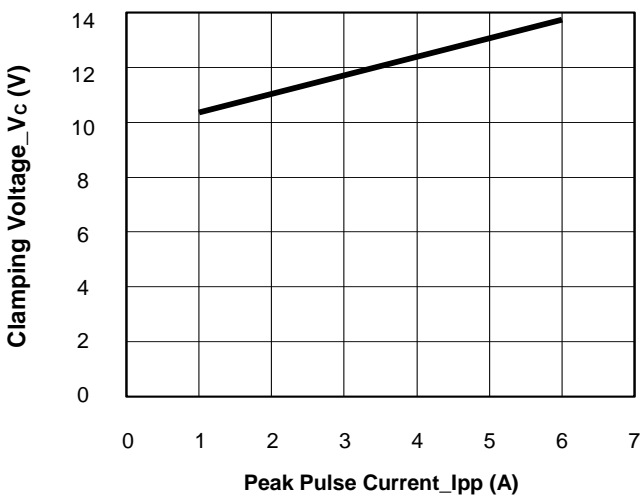
**Typical Performance Characteristics (T<sub>A</sub>=25°C unless otherwise Specified)**



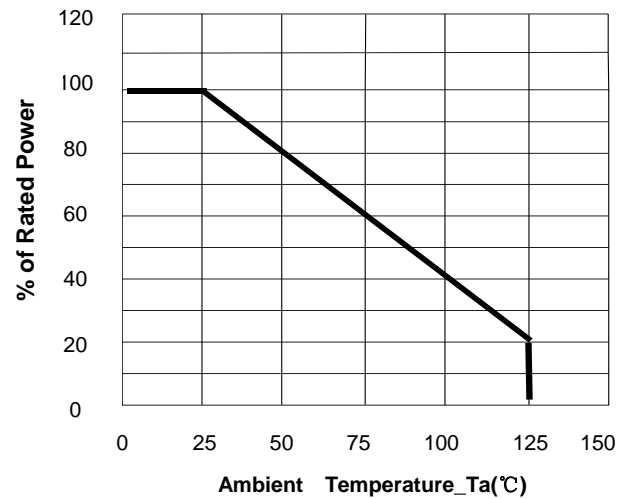
Junction Capacitance vs. Reverse Voltage



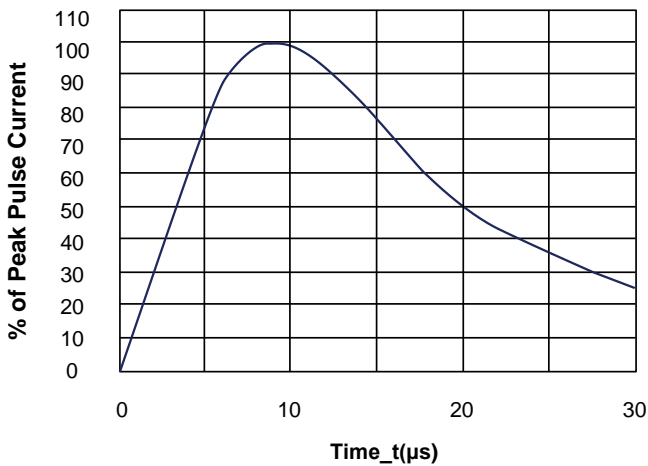
Peak Pulse Power vs. Pulse Time



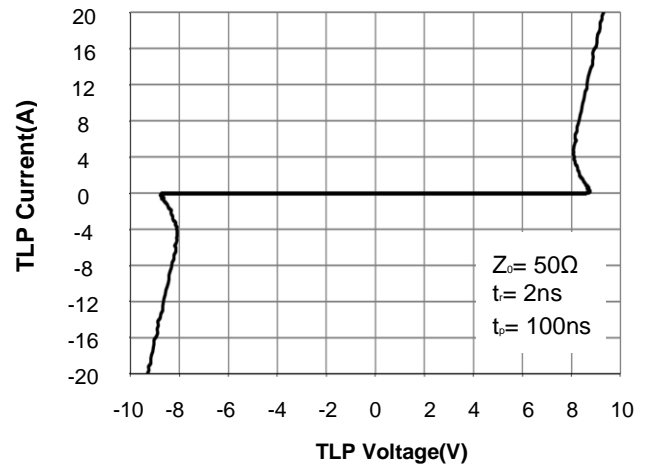
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve

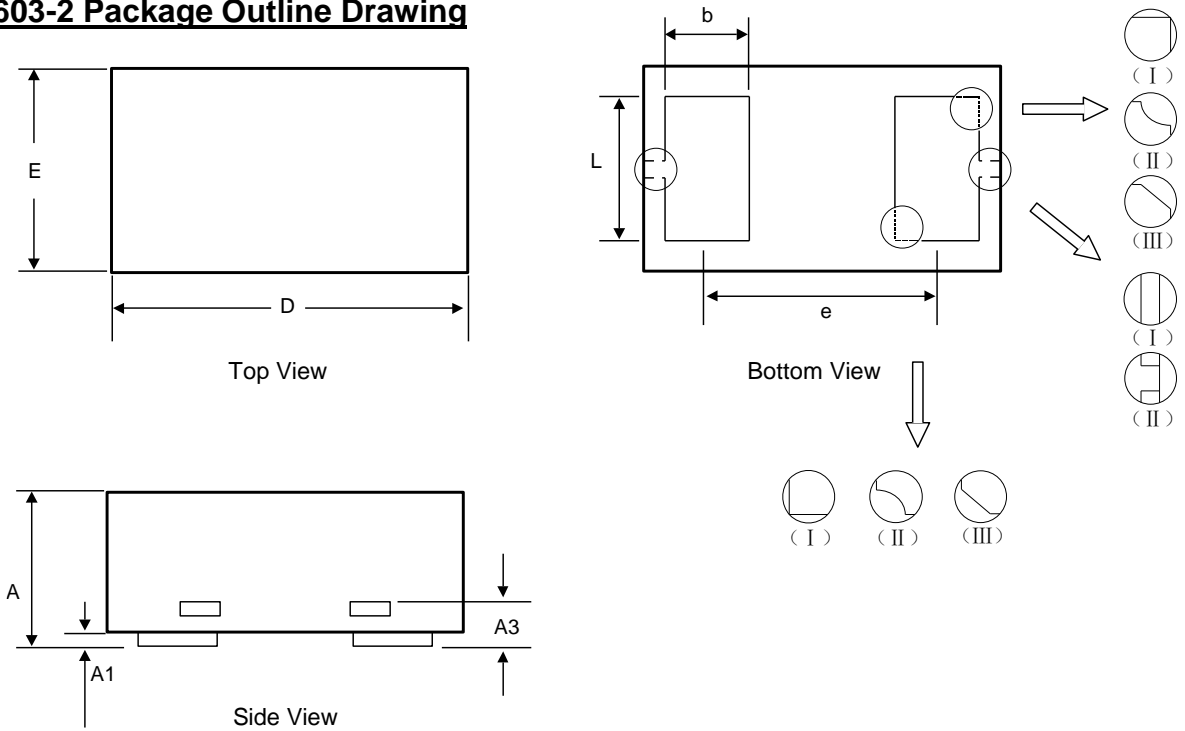


8/20  $\mu$ s Pulse Waveform



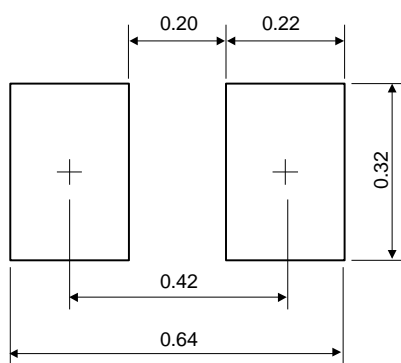
TLP Measurement

**DFN0603-2 Package Outline Drawing**



Symbol	Dimensions in Millimeters		
	Min.	Typ.	Max.
A	0.230	0.300	0.350
A1	0.000	-	0.050
A3	0.102REF.		
D	0.550	0.600	0.670
E	0.250	0.300	0.370
b	0.160	0.190	0.230
L	0.215	0.245	0.275
e	0.360 BSC		

**Recommended PCB Layout (Unit: mm)**

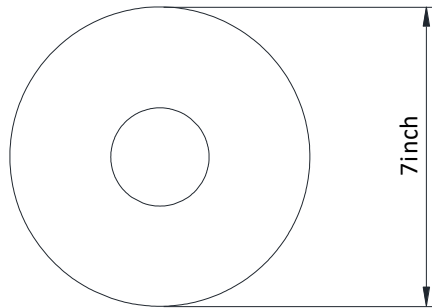


**Notes:**

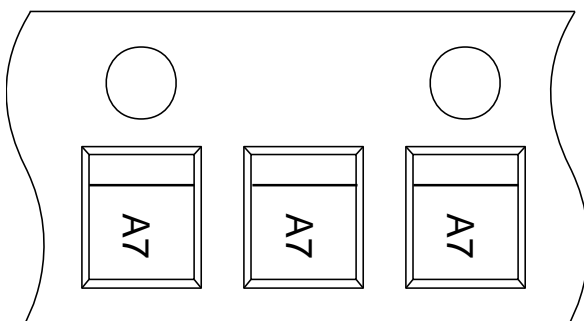
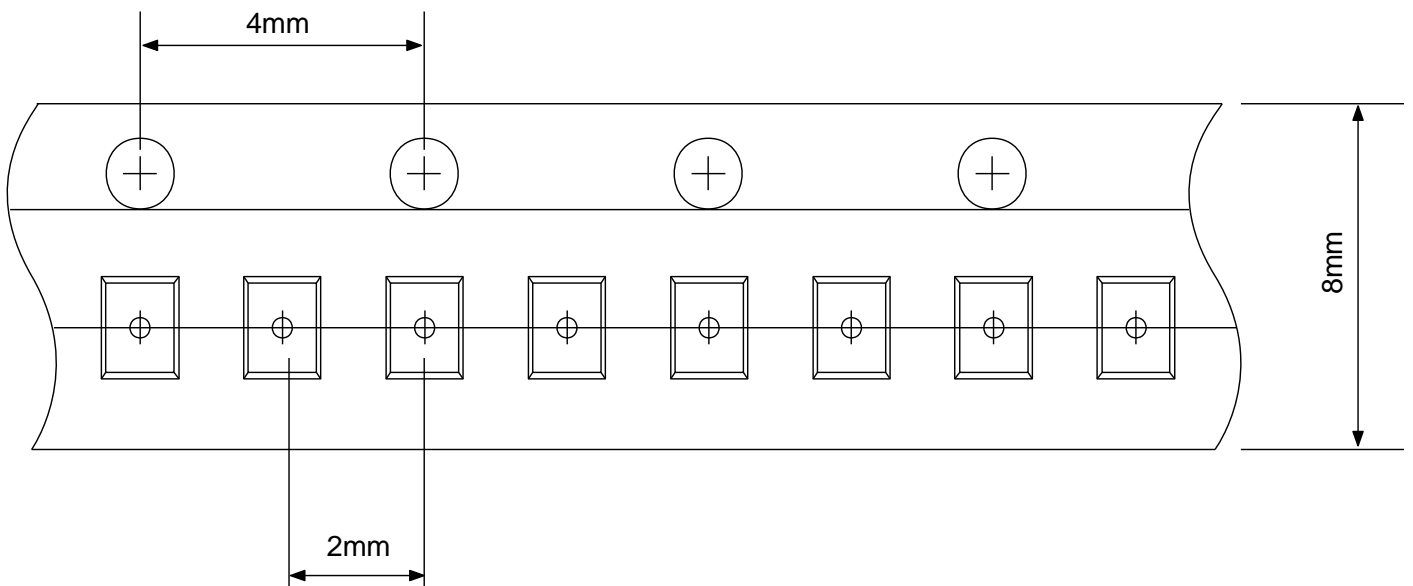
This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met.

**TAPE AND REEL INFORMATION**

Reel Dimensions



Tape Dimensions




User Direction of Feed

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