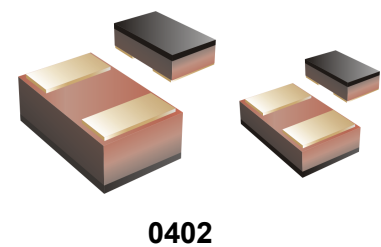


## Description

The PROSEMI Polymer ESD Suppressors protect valuable high-speed data circuits from ESD damage without distorting data signals as a result of its ultra-low (0.05pF typical) capacitance.

## Features

- ESD protection for high speed data lines to IEC61000-4-2
- ESD contact discharge typical 8KV, max 15KV
- ESD air discharge typical 15KV, max 25KV
- Surface mount
- Extremely low capacitance
- Very low leakage current
- Fast response time
- Bi-directional ESD protection
- Lead free solder termination
- The best ESD protection for high frequency, low voltage applications



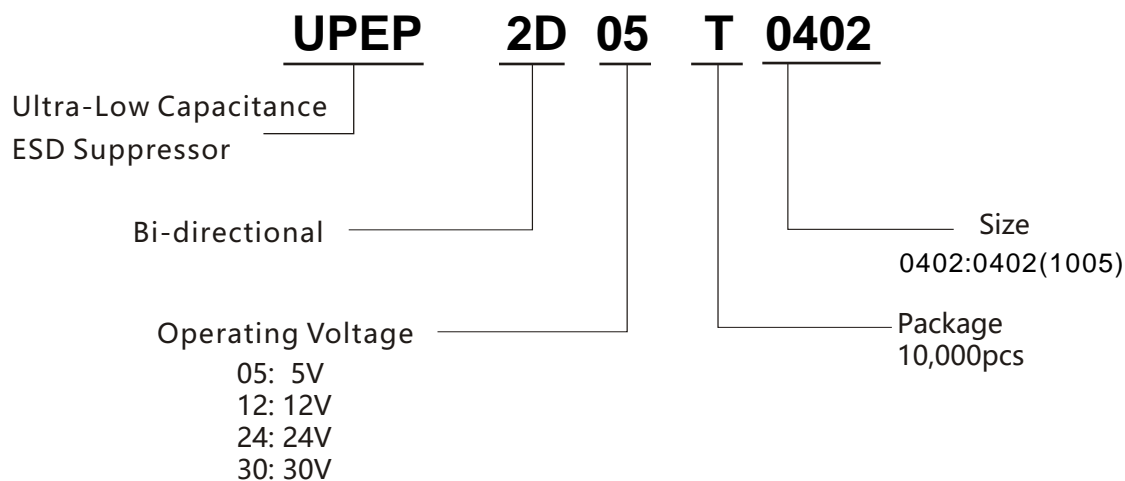
## Application

- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interface (DVI)
- Display Port Interface (DP)
- Unified Display Interface (UDI)
- Mobile Display Digital Interface (MDDI)
- Gigabit Ethernet
- USB2.0 and USB3.0
- IEEE1394 interface



Bi-directional

## Part Numbering System



## Absolute Maximum Ratings

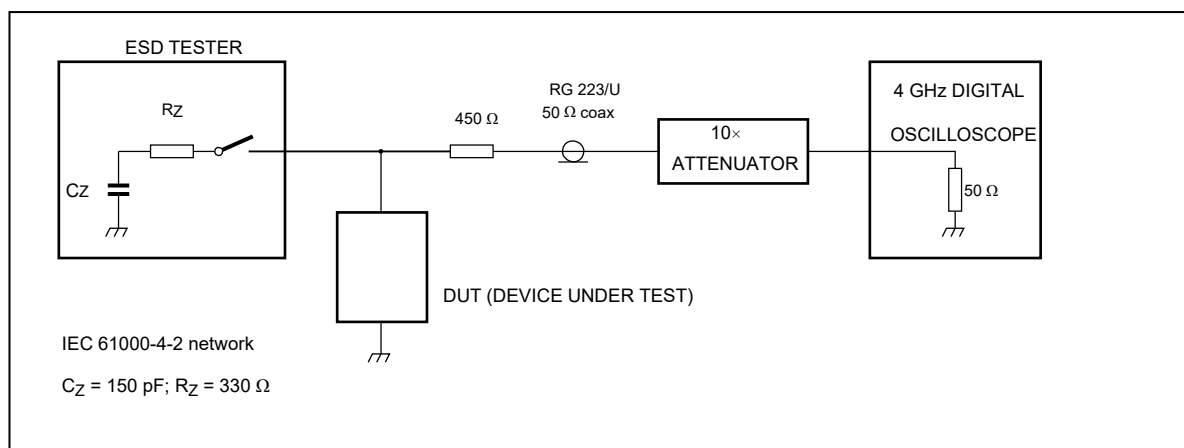
Parameter	Symbol	Value	Unit
Maximum Contact discharge voltage Per IEC61000-4-2	--	15KV	V
Maximum Air discharge voltage Per IEC61000-4-2	--	25KV	V
Maximum Operating temperature	T <sub>OPER</sub>	-55 to+125	°C
Maximum Storage temperature	T <sub>STG</sub>	-55 to+125	°C
Maximum lead temperature for soldering during 1 Os	T <sub>L</sub>	260	°C

## Electrical Characteristics (T<sub>A</sub>=25°C)

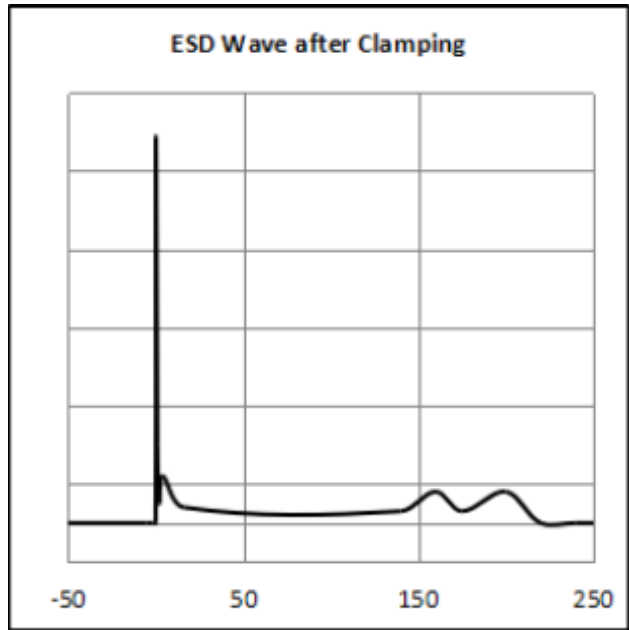
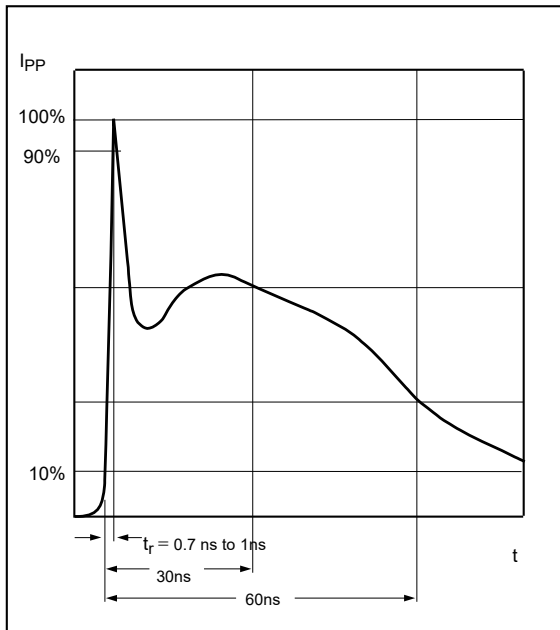
Parameter	Symbol	Test Conditions	Min	Type	Max	Unit
RatedVoltage	V <sub>R</sub>	---	--	--	5/12/24/30	V
Clamping Voltage	V <sub>C</sub>	IEC61000-4-2 8KV contact discharge	--	35	--	V
Trigger Voltage	V <sub>T</sub>	IEC61000-4-2 8KV contact discharge	--	300	--	V
Leakage Current	I <sub>L</sub>	DC 5V shall be applied on component	--	0.01	0.10	uA
Capacitance	C <sub>P</sub>	V <sub>R</sub> = 0V, f = 1MHz	--	0.05	--	pF

\*Note: 1. Trigger and clamping voltage are measured per IEC 61000-4-2, 8KV contact discharge method.  
2. After reliability tests such as high temp storage, temp cycles, continuous ESD strike etc, the maximum leakage current is less than 10uA.

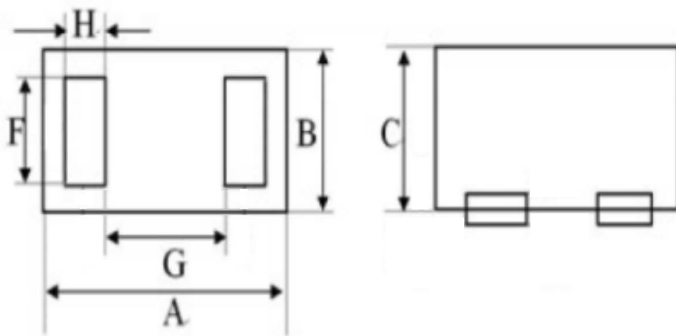
## ESD Clamping Test



### ESD Clamping Test Waveforms

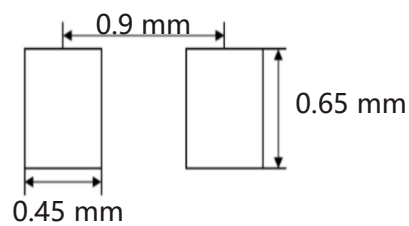


### Dimensions



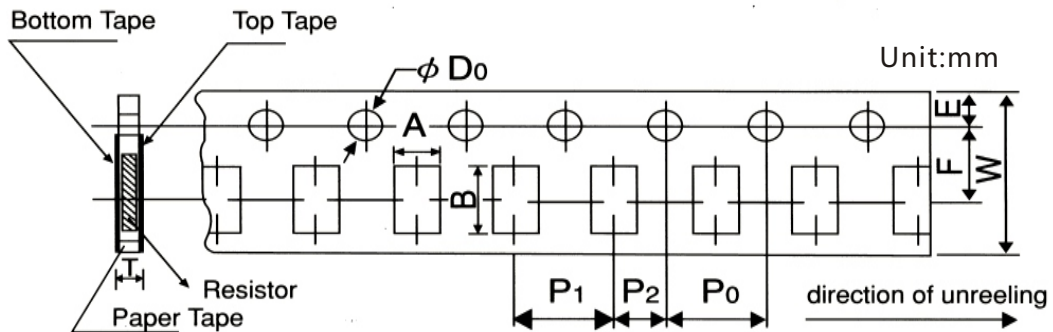
Symbol	Dimension			Unit
	Min	Typ	Max	
A	0.90	1.00	1.10	mm
B	0.4	0.50	0.60	
C	0.3	0.35	0.40	
H	0.25	0.30	0.35	
F	0.40	0.45	0.50	
G	0.30	0.35	0.40	

### Soldering Pad

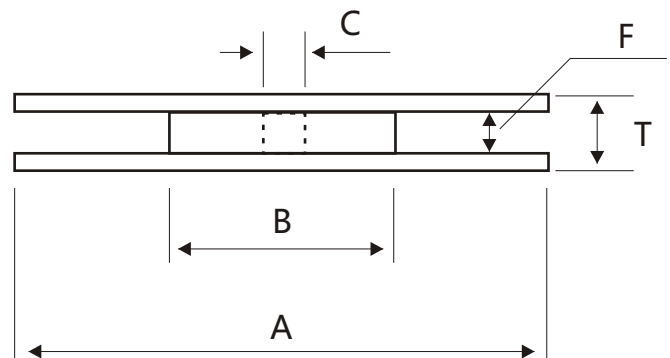
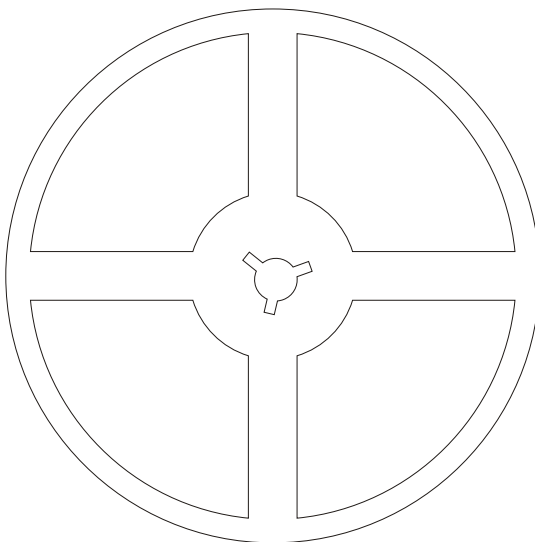


Note: Print solder in thickness of 0.08mm to 0.10mm

## Carrier Tape Dimensions



Type	A	B	W	F	E	P <sub>1</sub>	P <sub>2</sub>	P <sub>0</sub>	D <sub>0</sub>	T
UPEP (0402)	0.68±0.05	1.17±0.05	8.0±0.2	3.5±0.05	1.75±0.1	2.0±0.1	2.0±0.05	4.0±0.1	Φ1.5±0.1	0.45±0.1



Unit:mm

A	B	C	F	T
180±1.5	51.0±1.0	13.0±1.0	9.4±1.0	12.4±2.0

## Storage Conditions and Shelf Life

Temperature: 5°C~35°C, Humidity: 40%~75%  
2 years from manufacturing date

## Packaging

UPEP2DxxT0402 : quantity 10,000 pieces

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