

UPEP2D24T0402-T

Rated Voltage 5.0~30V

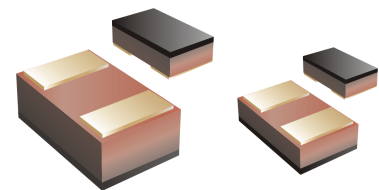
Automotive Polymer ESD Suppressors

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
- High reliability grade(AECQ101 compliant)



0402

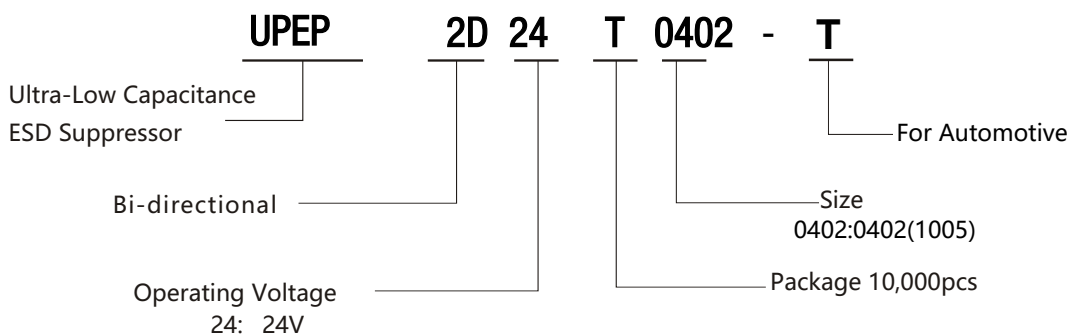
Application

- 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



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Absolute Maximum Ratings

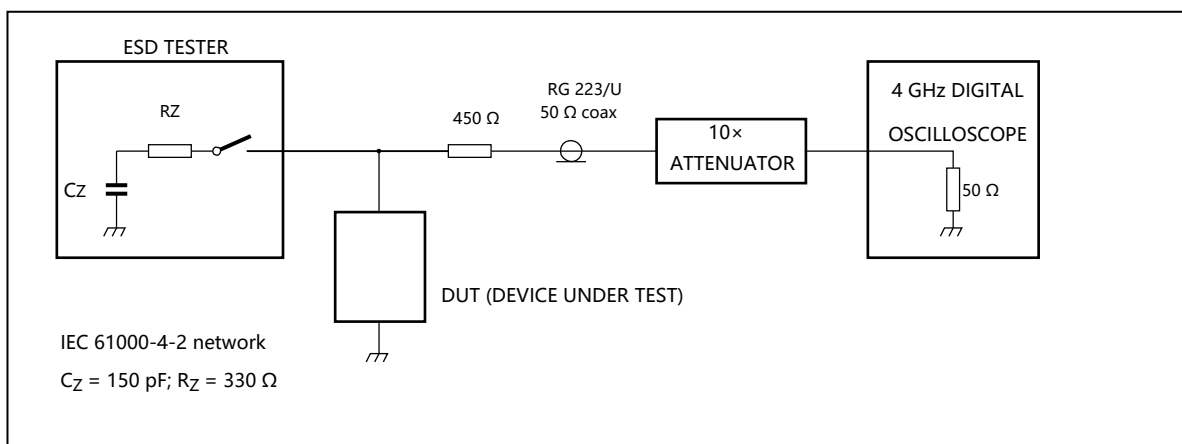
Parameter	Symbol	Value	Unit
Maximum Contact discharge voltage Per IEC61000-4-2	--	15KV	V
Maximum Air discharge voltage Per IEC61000-4-2	--	25KV	V
Maximum Operating temperature	T _{OPER}	-55 to+125	°C
Maximum Storage temperature	T _{STG}	-55 to+125	°C
Maximum lead temperature for soldering during 1 Os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

Electrical Characteristics (T_A=25°C)

Parameter	Symbol	Test Conditions	Min	Type	Max	Unit
Rated Voltage	V _R	---	--	--	5/12/24/30	V
Clamping Voltage	V _C	IEC61000-4-2 8KV contact discharge	--	35	--	V
Trigger Voltage	V _T	IEC61000-4-2 8KV contact discharge	--	300	--	V
Leakage Current	I _L	DC 5V shall be applied on component	--	0.01	0.10	uA
Capacitance	C _P	V _R = 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.

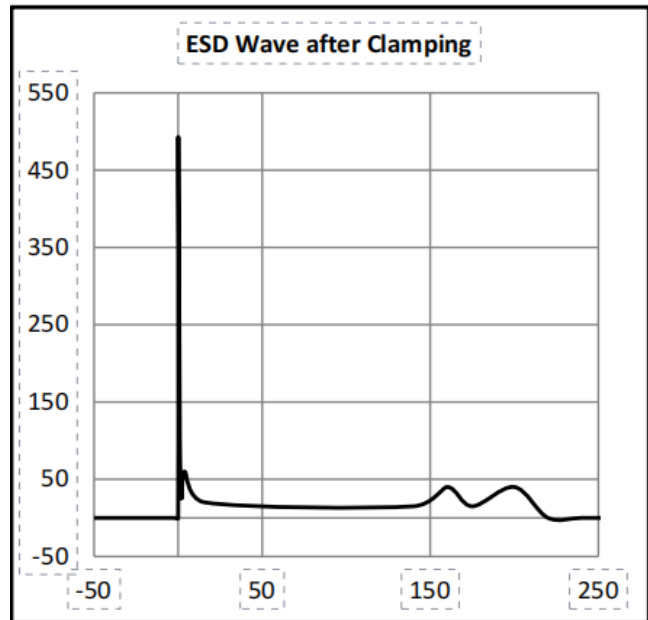
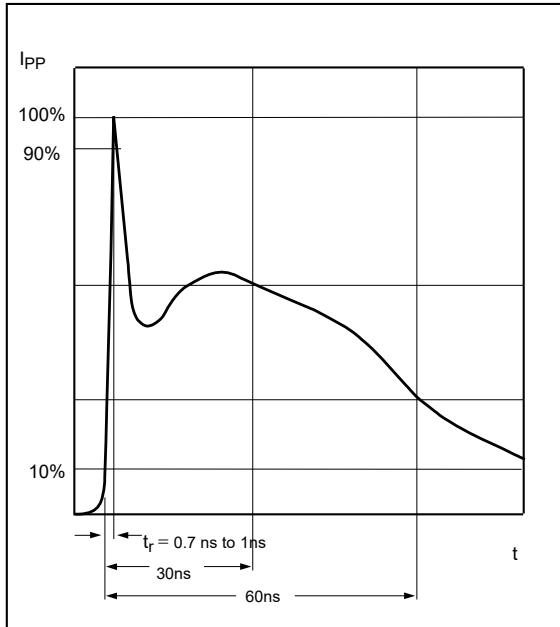
ESD Clamping Test



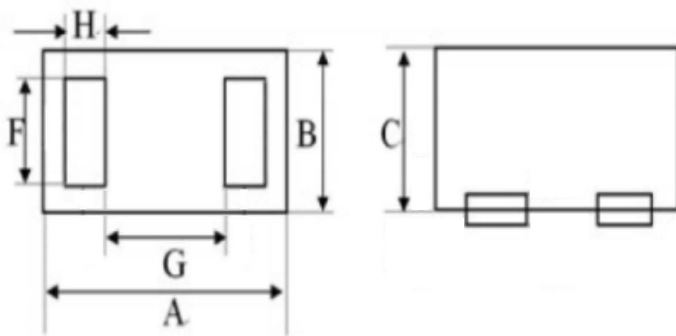
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ESD Clamping Test Waveforms

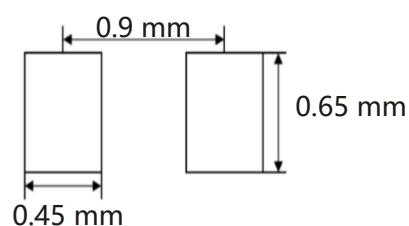


Dimensions



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

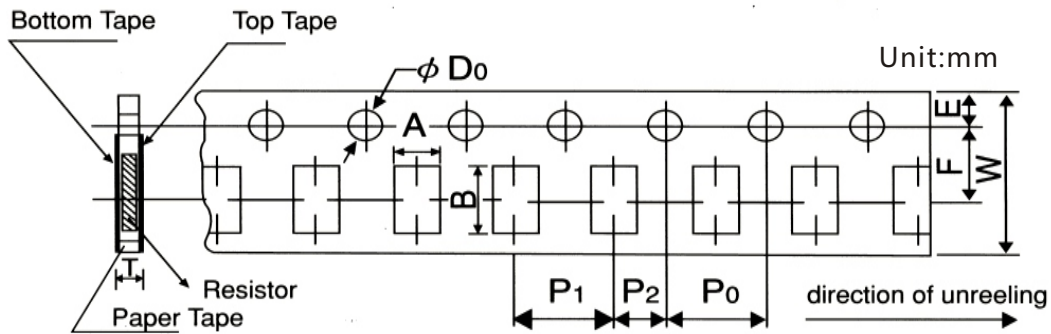


Note: Print solder in thickness of 0.08mm to 0.10mm

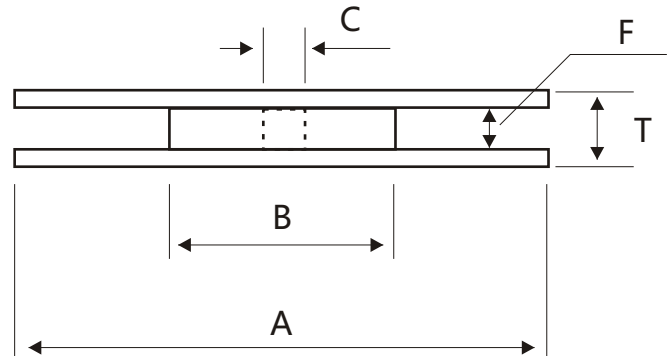
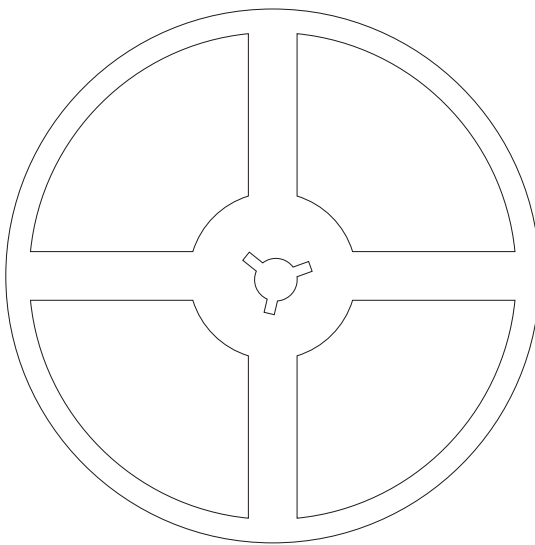
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Carrier Tape Dimensions



Type	A	B	W	F	E	P ₁	P ₂	P ₀	D ₀	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



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

UPEP2D24T0402-T: quantity 10,000 pieces