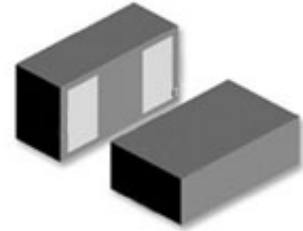


### Description

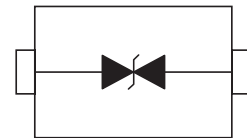
The ESDPSA0402V16 is an ultra low capacitance ESD TVS designed to protect high speed data interfaces. This device has a typical capacitance of 0.05pF (I/O to GND) and meets the ESD immunity requirement of IEC61000-4-2 (15KV air, 8KV contact discharge)



Package:0402

### Feature

- 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



Schematic Diagram

### 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

**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>	-40 to +90	°C
Maximum Storage temperature	T <sub>STG</sub>	-55 to +125	°C
Maximum lead temperature for soldering during 10s	T <sub>L</sub>	260	°C

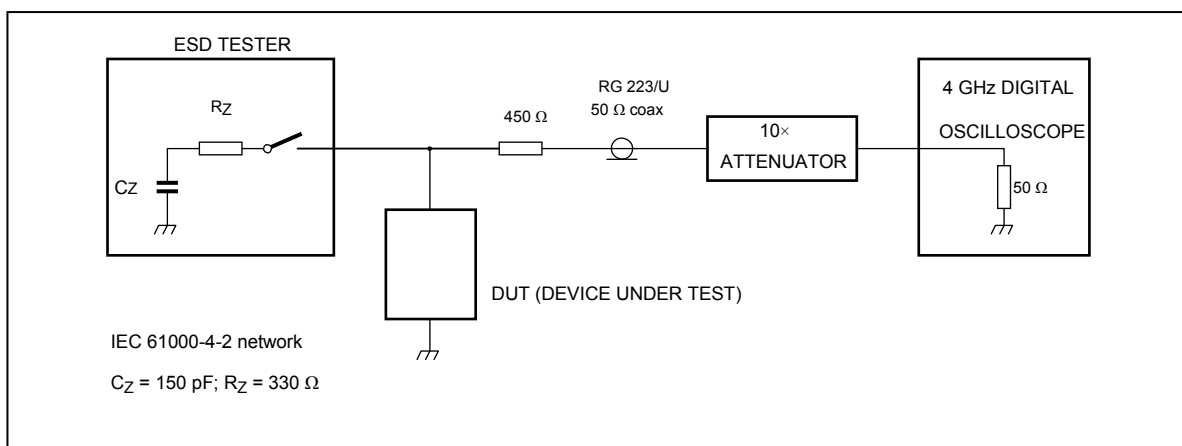
**Electrical Characteristics** (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Rated Voltage	V <sub>R</sub>	---	---	---	16	V
Trigger Voltage	V <sub>T</sub>	IEC61000-4-2 8KV contact discharge	---	350	---	V
Clamping Voltage	V <sub>C</sub>	IEC61000-4-2 8KV contact discharge	---	35	---	V
Leakage Current	I <sub>L</sub>	DC 16V shall be applied on component	---		0.10	uA
Capacitance	C <sub>P</sub>	V <sub>R</sub> = 0V, f = 1MHz	---	0.05		pF

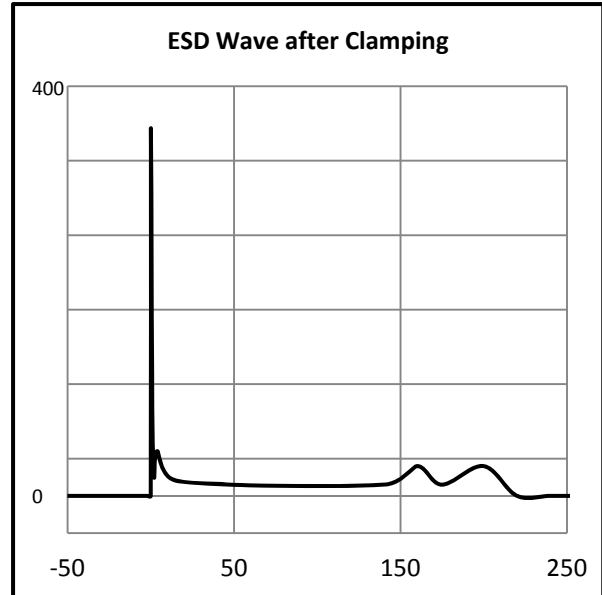
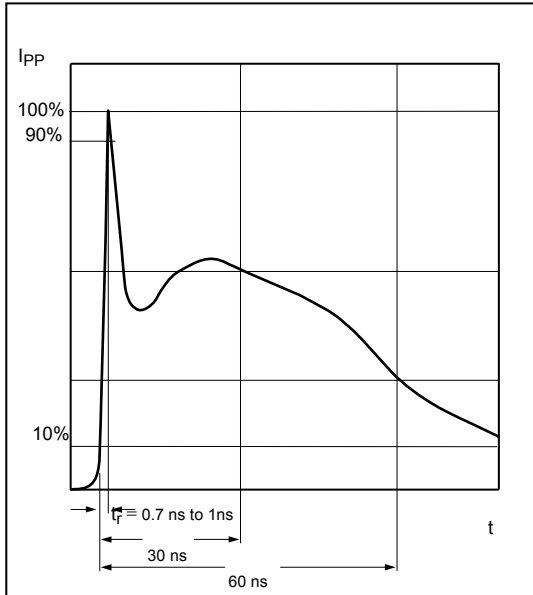
**Note:** 1 Trigger and clamping voltage are measured per IEC 61000-4-2, 8KV contact discharge method.

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**

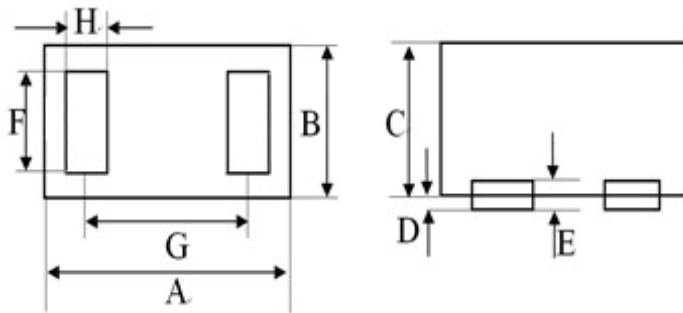


**ESD Clamping Test Waveforms**



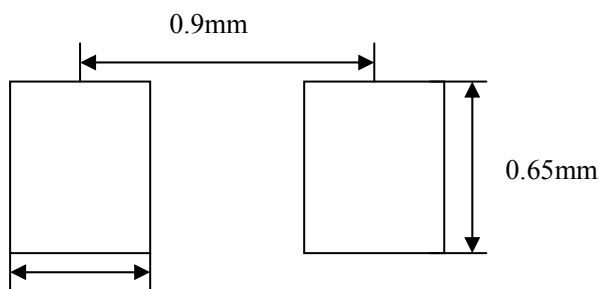
**Package Outline Dimensions**

0402



Dim	millimeters	
	min	max
A	0.90	1.20
B	0.45	0.65
C	0.30	0.40
D	0.00	0.05
E	0.125REF	
F	0.40	0.50
G	0.65BSC	
H	0.25	0.35

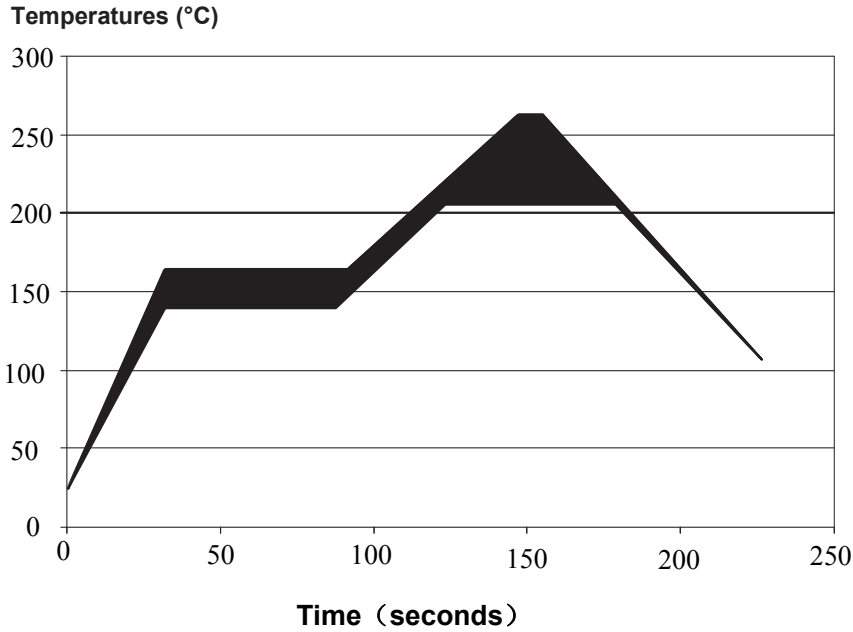
**Pad Dimensions**



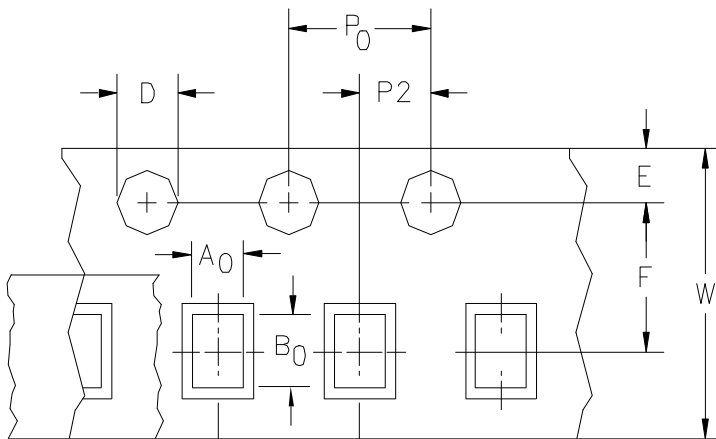
0.5mm

Solder thickness 0.15 to 0.2mm

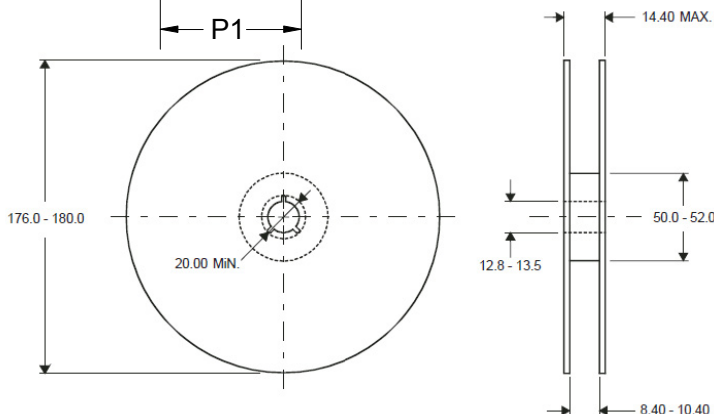
**Solder Reflow Recommendations**



**Package Information**



Dimension	Typical	Unit
A0	0.75	mm
B0	1.22	
D	1.55	
P0	4.00	
P1	2.00	
P2	2.00	
E	1.75	
F	3.50	
W	8.00	



DIMENSIONS ARE: MILLIMETERS



STEIFPOWER  
TECHNOLOGY

**ESDPSA0402V16**

**Polymer ESD Suppressor**

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**Order Information**

Device	Package	Net Weight	Carrier	Quantity	HSF Status
ESDPSA0402V16	0402	0.44 mg	Tape & Reel	10,000pcs/reel	RoHS compliant