

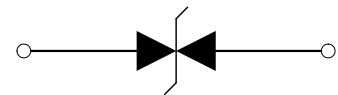
### Description

WAYON's Polymer ESD Suppressors (PulseClamp™) help protect sensitive electronic equipment against electrostatic discharge (ESD). These devices are best suited for high-speed, high-frequency applications where low capacitance is important. The suppressors use polymer composite materials to suppress fast-rising ESD transients (as specified in IEC 61000-4-2 and MIL-STD-883C), Assist equipment to pass these standards, while adding virtually no capacitance to the circuit.



### Features

- Ultra-low capacitance.
- Fast response time (<1ns).
- Very low leakage current, reduces power consumption.
- Bi-directional device for placement flexibility.
- 0402 surface mount design for board space savings.
- Compatible with standard reflow installation procedures.



### Application

- DVI, HDMI1.3/1.4, USB2.0/3.0, DisplayPort1.0/1.1, Blue Tooth, e-SATA and IEEE1394 interface.
- Antennas (Cell phone, Satellite Radio, GPS...), SIM card.
- Cellular phone, PDA's, Digital Cameras, Multimedia Players.
- High speed Ethernet, DSL Modems, Computers & Peripherals, Printer ports.
- HDTV, Set Top Boxes, DVD Players.

### Electrical Parameters (T<sub>amb</sub>=25°C)

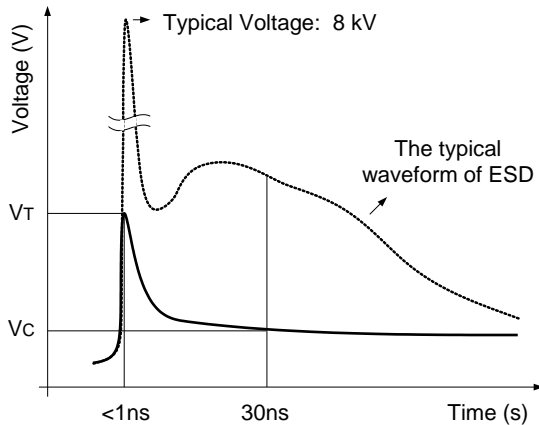
Part Number	Rated Voltage	Trigger Voltage	Clamping Voltage	Leakage Current	Capacitance
	V <sub>R</sub>	V <sub>T</sub>	V <sub>C</sub>	I <sub>L</sub>	C <sub>P</sub>
	Max.	Typ.	Typ.	Typ.	Typ.
	V	V	V	nA	pF
ESD0402-14	14	500	100	1	0.1

\*Trigger and clamping voltage measured per IEC61000-4-2, level 4, 8kV contact test method.

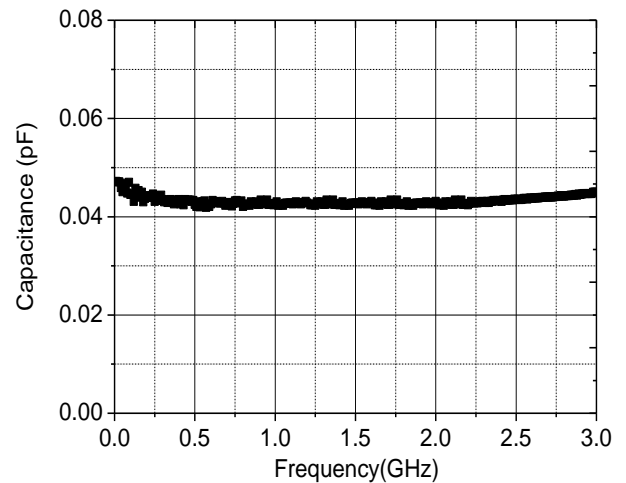
\*Capacitance measured at 1MHz~3GHz, 1Vrms.

\*Leakage current measured at V<sub>R</sub>.

## General Characteristics



Normalized Capacitance versus Frequency



Operating & Storage Temperature Range:	-55°C to +110°C
ESD Capability: IEC61000-4-2 Contact Discharge IEC61000-4-2 Air Discharge	8kV typical 15kV typical
ESD Pulse Withstand*	>1000 typical

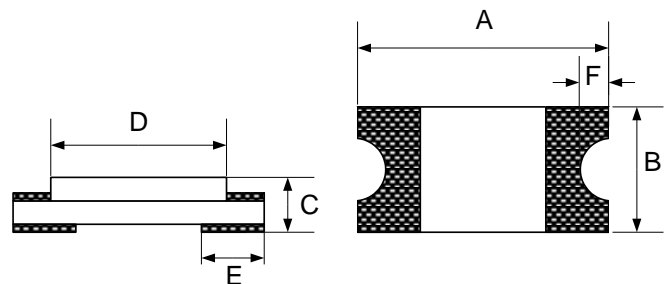
\* Pulse Withstand- some shifting in characteristics may occur when tested over multiple pulses at a very rapid rate

## Environmental Specifications

- Moisture Resistance: 40°C, 95% RH, 1000 hours.
- Thermal Shock: MIL-STD-202, Method 107, -65°C to 125°C, 30 min. cycle, 10 cycles.
- Vibration: MIL-STD-202, Method 201, (10 to 55 to 10 Hz, 1 min. cycle, 2 hrs each in X-Y-Z).
- Chemical Resistance: MIL-STD-202, Method 215.
- Solder Leach Resistance and Terminal Adhesion: IPC/EIA J-STD-002.

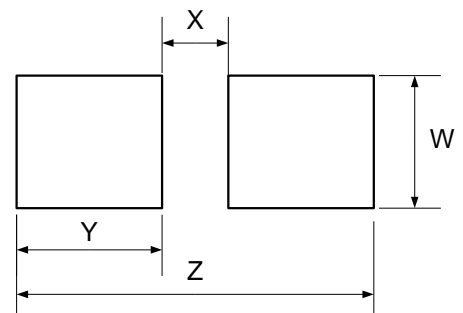
## Product Dimensions

Ref. (mm)	Min.	Max.
A	0.90	1.10
B	0.45	0.55
C	0.35	0.45
D	0.55	0.65
E	0.20	0.30
F	0.10	0.20

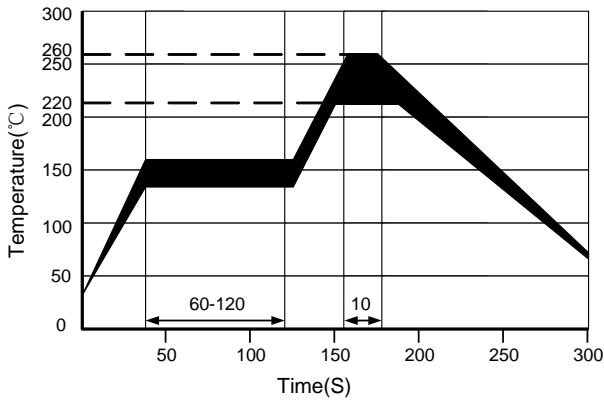


## Recommended Land Pattern

Ref. (mm)	Min.	Max.
W	0.5	0.7
X	0.3	0.5
Y	0.7	0.9
Z	2.0	2.2



## Solder Reflow Recommendations

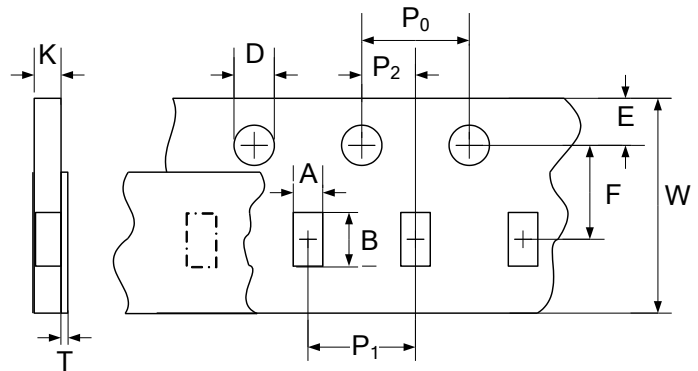


- Recommended reflow methods: IR, vapor phase oven, hot air oven.
- The device can be exposed to a maximum temperature of 260°C for 10 seconds.
- Devices can be cleaned using standard industry methods and solvents.

**Notes:** If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

## Packaging Specifications

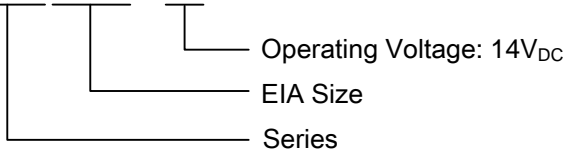
Specification(mm)			
W	8.00±0.30	D	1.50±0.10
P0	4.00±0.10	F	3.50±0.10
P1	2.00±0.10	E	1.75±0.10
P2	2.00±0.10	T	0.30±0.05
A	0.65±0.05	K	0.60±0.10
B	1.15±0.05		



**Tape & Reel:** 10000pcs per reel.

## Part Numbering System

ESD0402 - 14



## Contact Information

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