

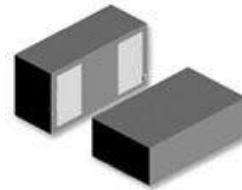
Surface Mount Polymeric ESD Suppressor

PE0201N12G01U

Description

This device is an ultra low capacitance ESD product designed to protect very high speed data interfaces. PE0201N12G01U has a typical capacitance of only 0.05pF (I/O to GND), and it can be used to meet the ESD immunity requirements of IEC61000-4-2 (15KV air, 8KV contact discharge).

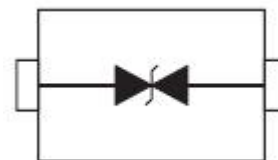
(EIA Size) 0201



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

Schematic Diagram



Applications

- ◆ 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	V_{ESD}	15	KV
Maximum Air discharge voltage Per IEC61000-4-2		25	KV
Maximum Operating temperature	T_{OPER}	-25 to +35	°C
Maximum Storage temperature	T_{STG}	-55 to +125	°C
Maximum lead temperature for soldering during 10s	T_L	260	°C

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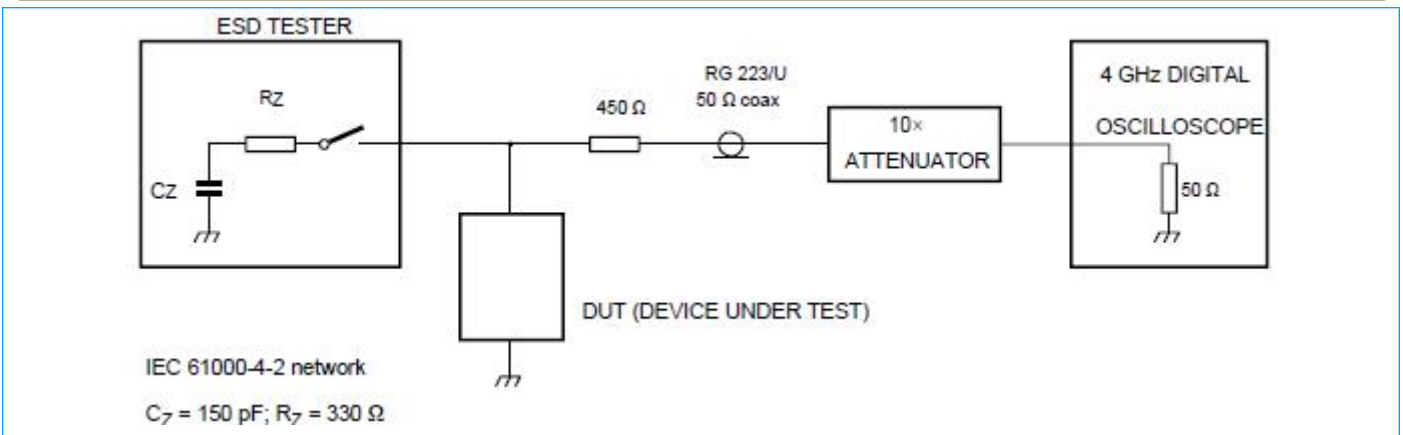
Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Rated Voltage	V_R	--	--	--	12	V
Trigger Voltage	V_T	IEC61000-4-2 8KV contact discharge	--	300	--	V
Clamping Voltage	V_C	IEC61000-4-2 8KV contact discharge	--	35	--	V
Leakage Current	I_L	DC 12V shall be applied on component	--	0.01	0.10	μA
Capacitance	C_P	$V_R = 0\text{V}, f = 1\text{MHz}$	--	0.05	--	pF

Notes: 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 $10\mu\text{A}$.

ESD Clamping Test



Typical Characteristics

Fig1. ESD Clamping Test Waveforms

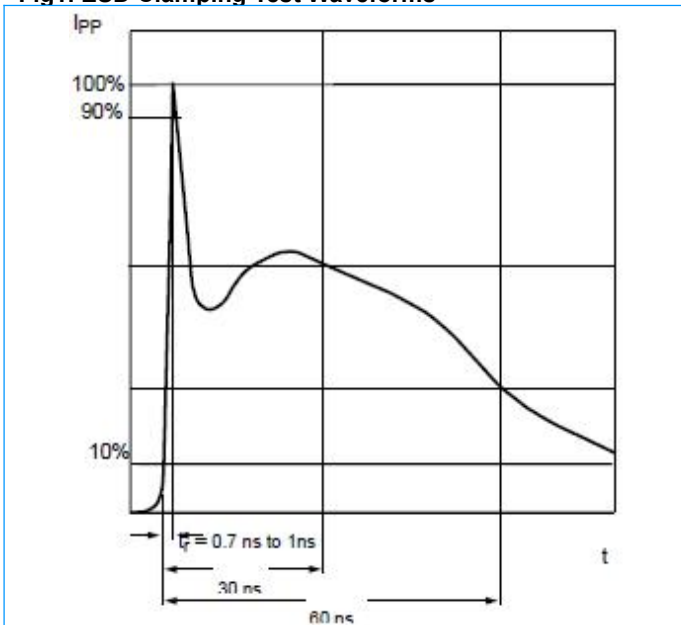
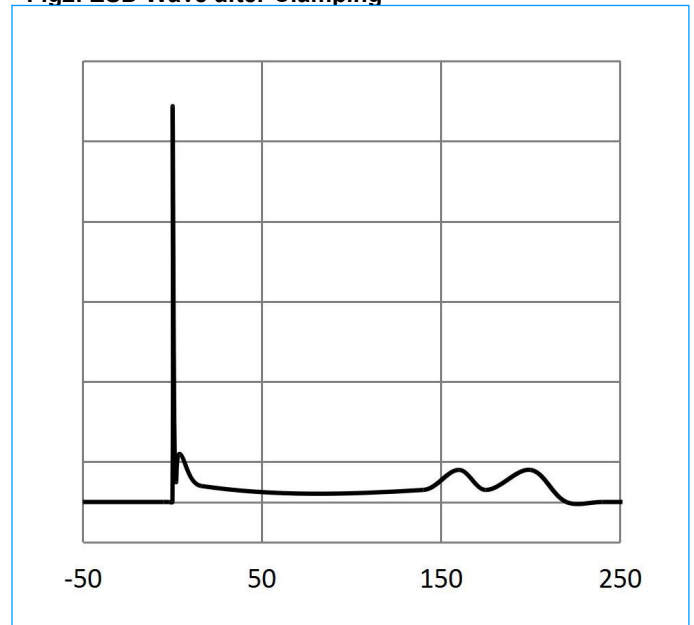


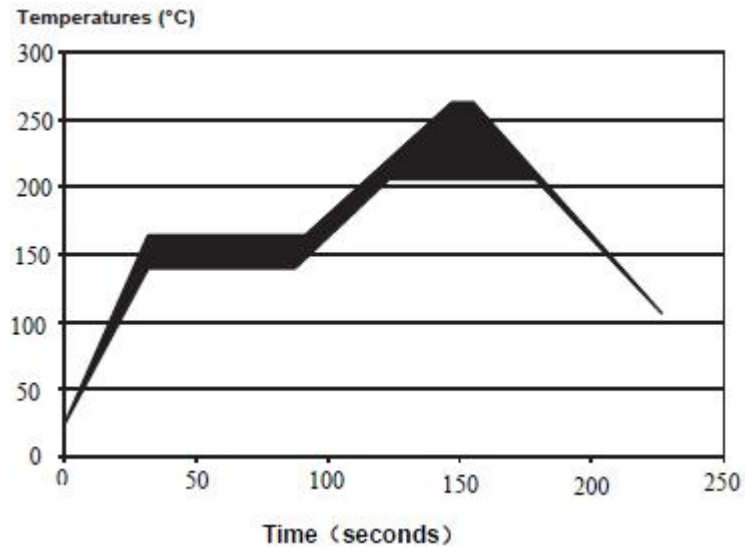
Fig2. ESD Wave after Clamping



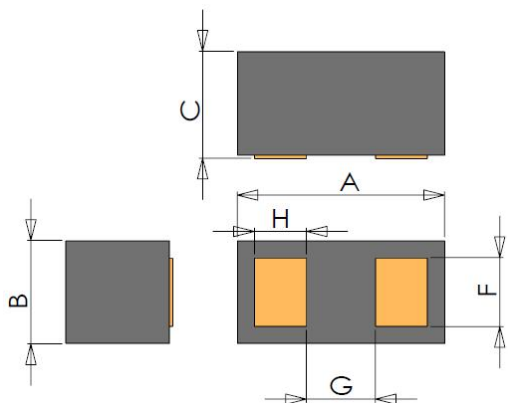
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Solder Reflow Recommendations

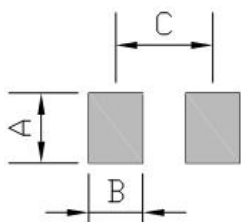


Product Dimension



Dimension	Unit: Millimeters		
	Min.	Typ.	Max.
A	0.55	0.60	0.65
B	0.25	0.30	0.35
C	0.25	0.30	0.35
H	0.18	0.20	0.22
F	0.255	0.275	0.295
G	0.16	0.18	0.20

Pad Dimension (Unit: mm)



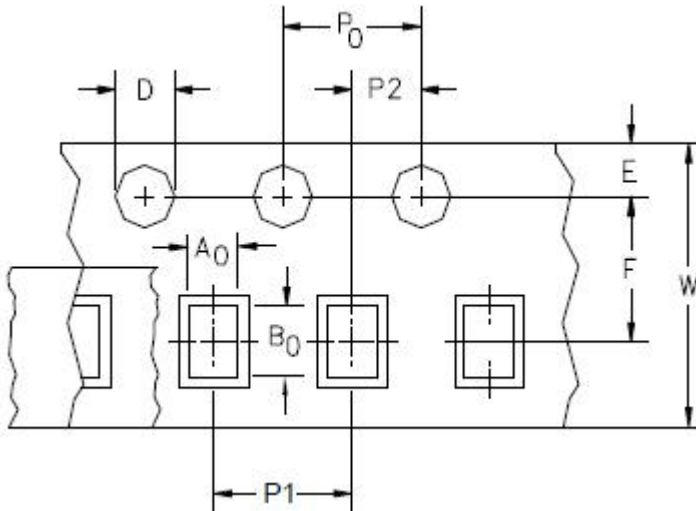
Symbol	Dimension
A	0.30
B	0.25
C	0.60

Note: Solder thickness 0.08 to 0.12mm.

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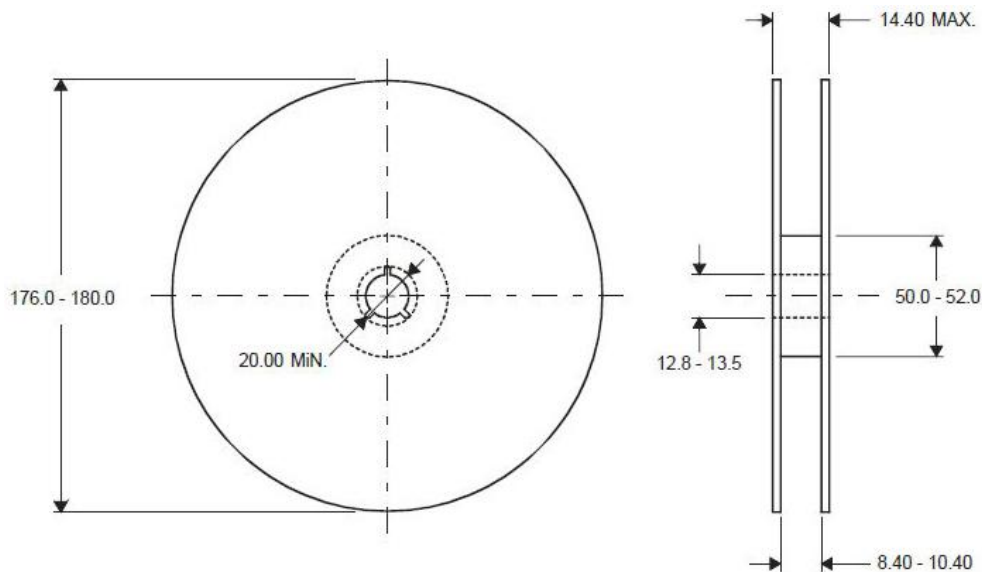
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Package Information



Dimension	Unit: Millimeter
	Typical
A0	0.38
B0	0.68
D	1.55
P0	4.00
P1	2.00
P2	2.00
E	1.75
F	3.50
W	8.00

Pad Dimension



Note:

Dimensions are in Millimeters.

Order Information

Device	Package	Carrier	Quantity
PE0201N12G01U	0201	Tape & Reel	15,000 PCS / Reel