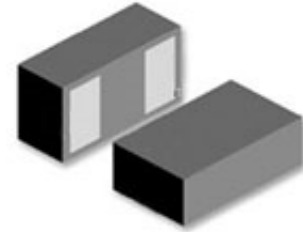


Description

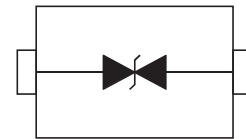
■ This device is an ultra low capacitance ESD product designed to protect very high speed data interfaces. GESDPSA0402V15 has a typical capacitance of only 0.05pf (I/O to GND), and it can be used to meet the ESD immunity requirements of IEC61000-4-2 (15KV air, 8KV contact discharge).



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
- Low leakage current
- Fast response time
- Bi-directional ESD protection
- Lead free solder termination
- Ideal for high frequency, low voltage applications



Schematic DiagramK

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

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	$^\circ\text{C}$
Maximum Storage Temperature	T_{STG}	-25 to +35	$^\circ\text{C}$
Maximum Lead Temperature for Soldering During 10s	T_L	260	$^\circ\text{C}$

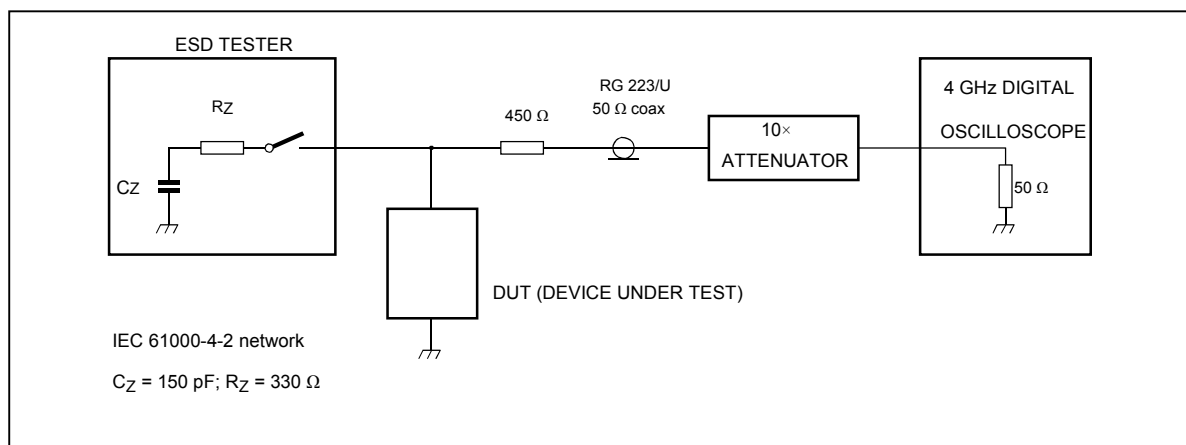
Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Rated Voltage	V_R	---	---	---	15	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 5V shall be applied on component	---		0.10	μA
Capacitance	C_P	$V_R = 0\text{V}$, $f = 1\text{MHz}$	---	0.05		pF

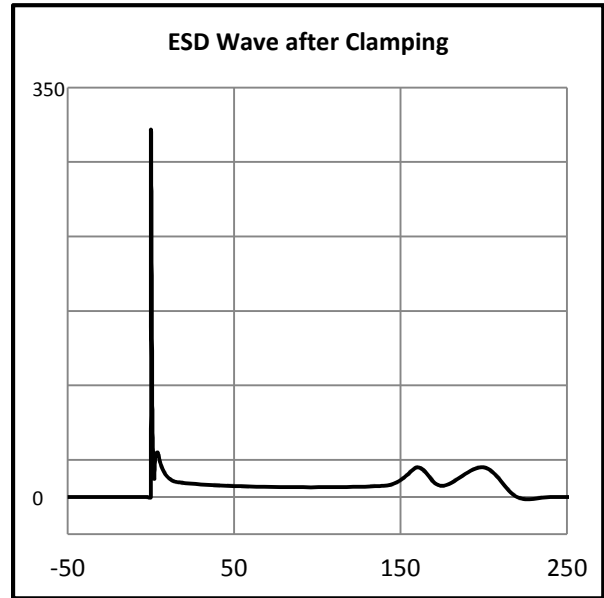
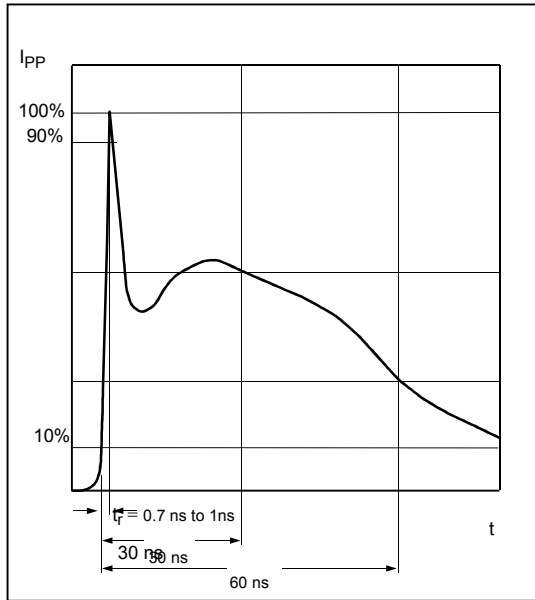
Note: 1 Trigger and clamping voltage are measured per IEC 61000-4-2, 8KV contact discharge method.

2 After reliability tests such as high temp storage, temp cycles, continuous ESD strike etc, the maximum leakage current is less than 10 μA .

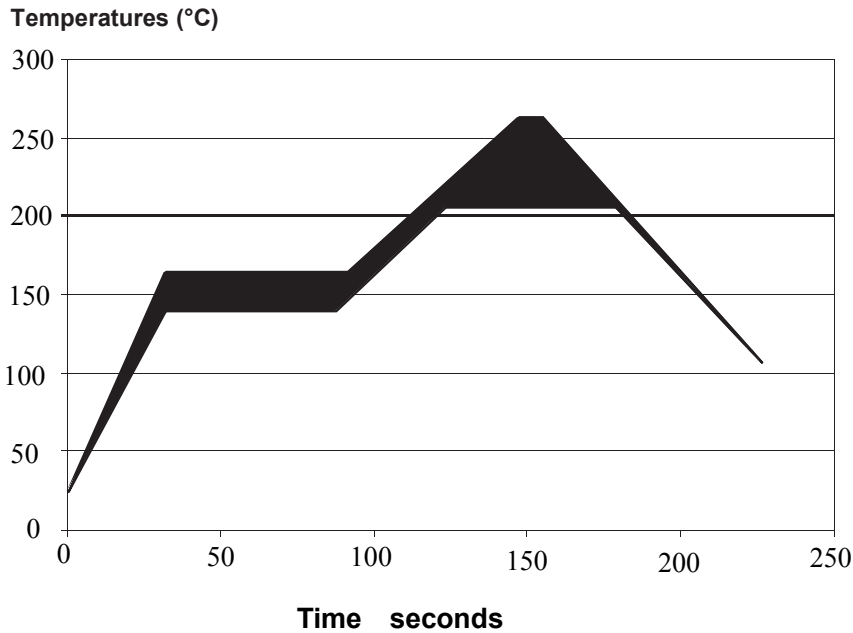
ESD Clamping Test



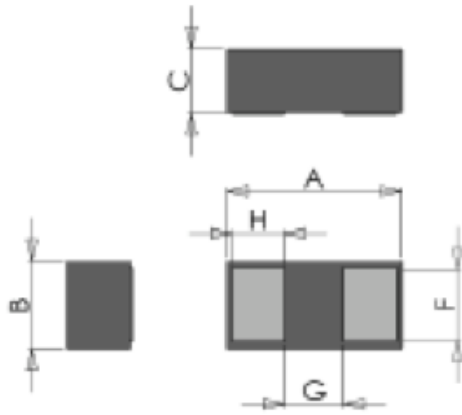
ESD Clamping Test Waveforms



Solder Reflow Recommendations



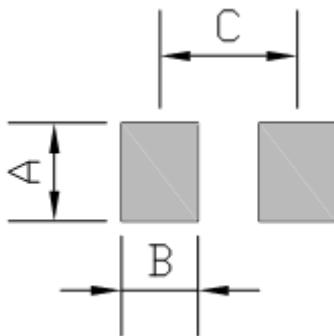
Package Outline Dimensions



Symbol	Dimension			Unit
	Min	Typ	Max	
A	0.95	1.0	1.05	mm
B	0.45	0.50	0.55	
C	0.32	0.36	0.40	
H	0.28	0.30	0.32	
F	0.41	0.43	0.45	
G	0.32	0.34	0.36	

Pad Dimensions

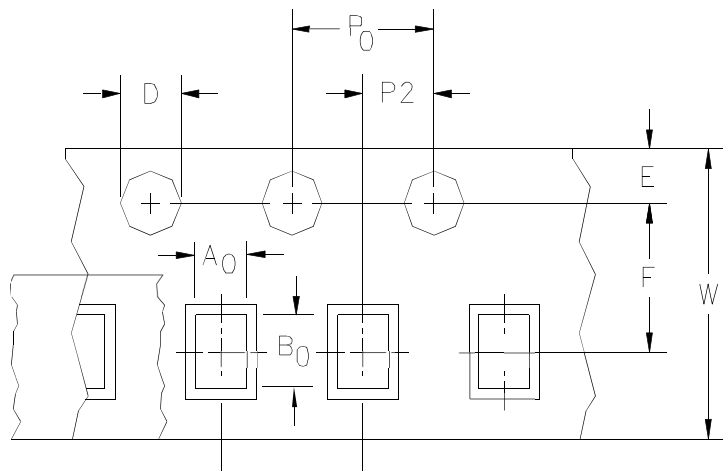
Package: 0402



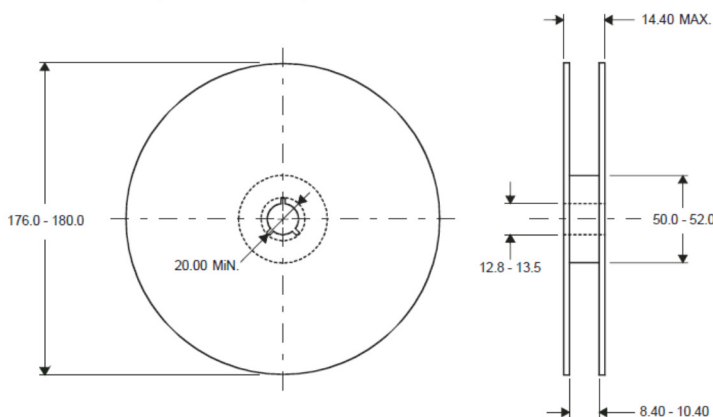
Symbol	Dimension	Unit
A	0.65	mm
B	0.50	
C	0.90	

Solder thickness 0.08 to 0.12mm

Tape and Reel 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

Order Information

Device	Package	Net Weight	Carrier	Quantity	HSF Status
GESDPSA0402V15	0402	0.44 mg	Tape & Reel	10,000pcs/reel	RoHS compliant