

Description

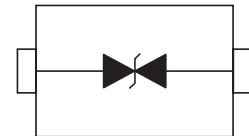
The GMLSEP30A-0402 is an ultra low capacitance PESD product designed to protect very high speed data interfaces. The device has a typical capacitance of only 0.05pf (I/O to GND), and it can be used to meet the ESD immunity requirements of IEC61000-4-2 (15KV air, 8KV contact discharge).



Case: 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
- ESD pulse withstand typical >1000 times
- Multilayer structure
- Surface mount
- Extremely low capacitance
- Very low leakage current
- Fast response time
- Bi-directional ESD protection
- Lead free solder termination
- Ideal 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
- RF Antenna

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}	-40 to +90	°C
Maximum Storage Temperature	T _{STG}	-55 to +125	°C
Maximum Lead Temperature for Soldering During 10s	T _L	260	°C

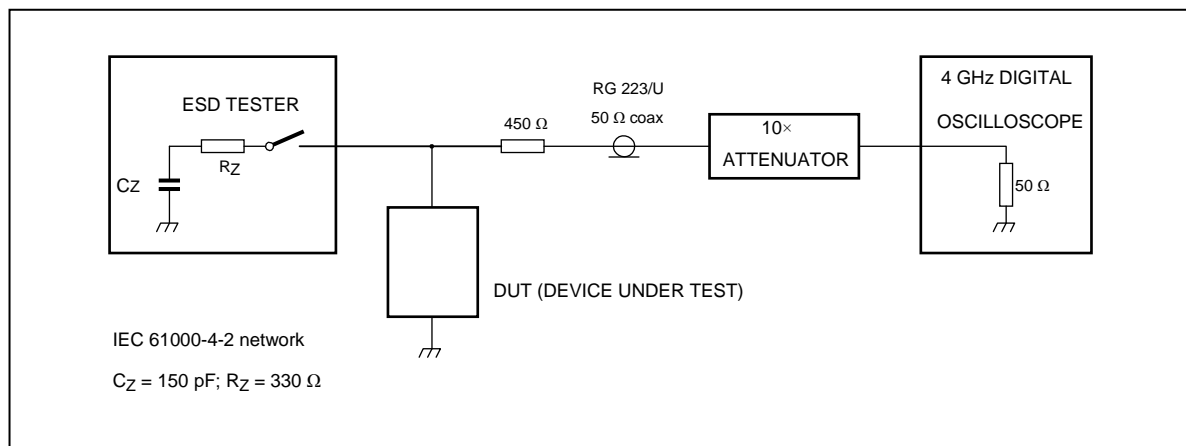
Electrical Characteristics(T_A=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Rated Voltage	V _R	---	---	---	30	V
Trigger Voltage	V _T	IEC61000-4-2 8KV contact discharge	---	300	---	V
Clamping Voltage	V _C	IEC61000-4-2 8KV contact discharge	---	20	---	V
Leakage Current	I _L	DC 30V shall be applied on component	---	0.10	100	nA
Capacitance	C _P	V _R = 0V, f = 1MHz	---	0.05	0.15	pF

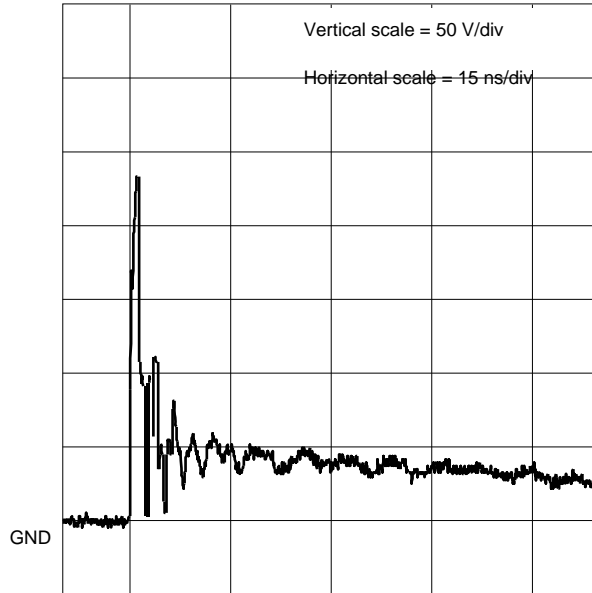
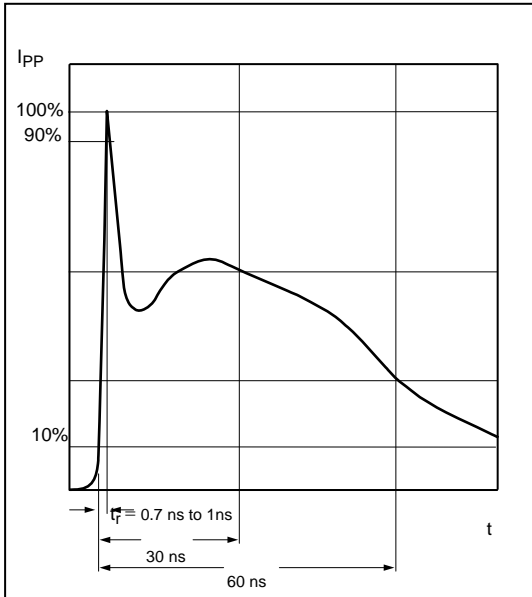
Note: 1 Trigger and clamping voltage are measured per IEC 61000-4-2, 8KV contact discharge method.

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

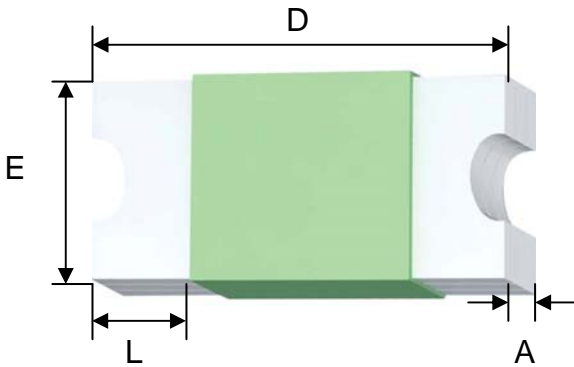
ESD Clamping Test



ESD Clamping Test Waveforms

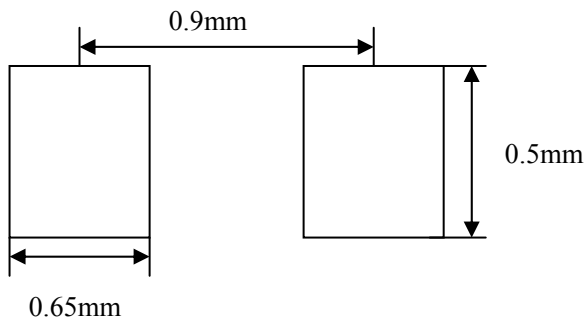


Package Outline Dimensions



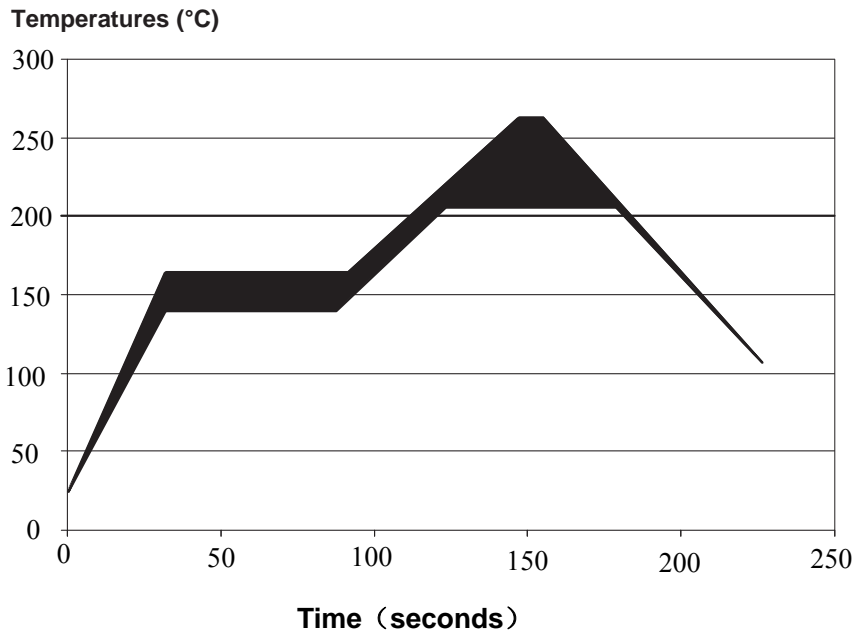
Dimension	Unit: Millimeters		
	Min	Typ	Max
D	0.90	1.05	1.20
E	0.45	0.55	0.65
L	0.15	0.25	0.35
A	0.25	0.36	0.45

PAD Dimension

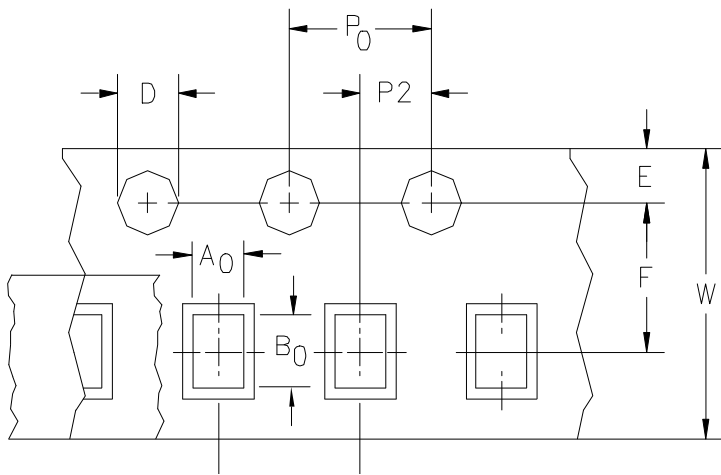


Solder thickness 0.15 to 0.2mm

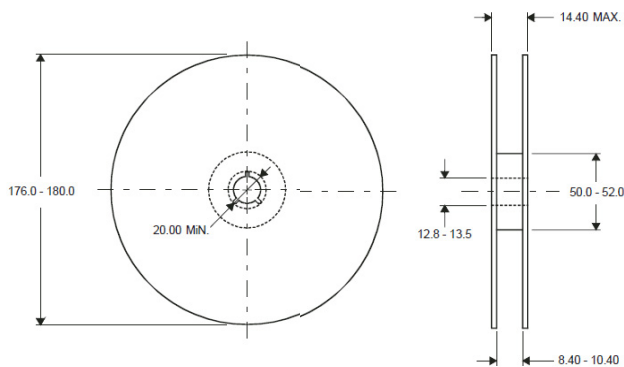
Solder Reflow Recommendations



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