Bi-directional ESD/surge protection devices

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

Product Description

LESD0402V24U is an ultra low capacitance ESD product designed to protect very high speed data interfaces. It 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).

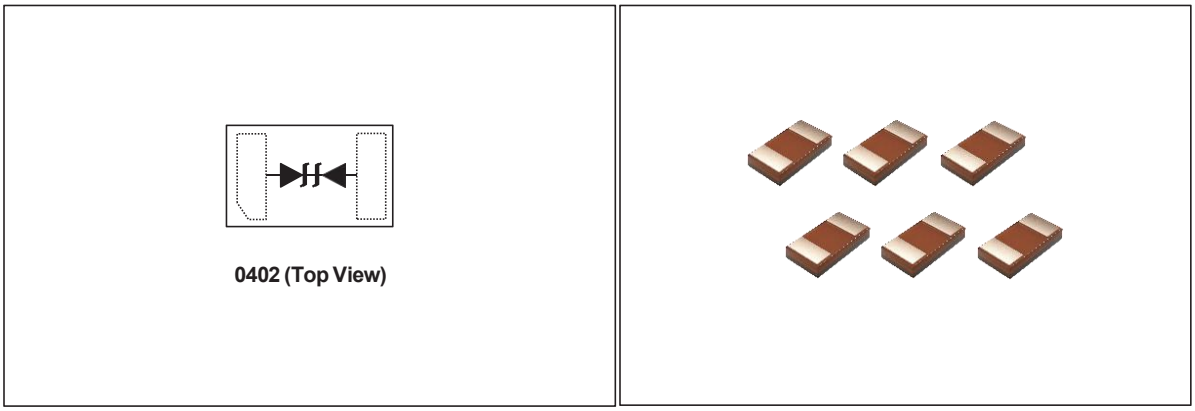
Applications

- 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

Mechanical Characteristics

- 0402 package
- Molding compound flammability rating: UL 94V-0
- RoHS compliant

Circuit Diagram



0402 (Top View)

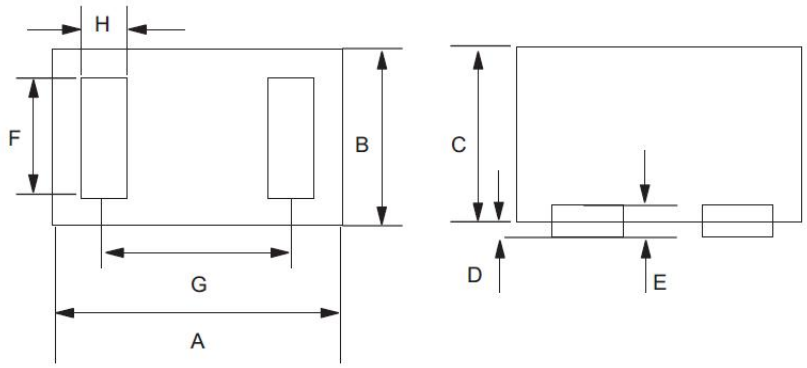
Absolute Maximum Rating

Rating	Symbol	Value	Units
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	25 15	kV
Lead Soldering Temperature	T_L	260(10 sec)	℃
Operation ambient temperature	T_A	- 40 to +90	℃
Storage Temperature	T_{STG}	- 55 to +125	℃

Electrical Characteristics

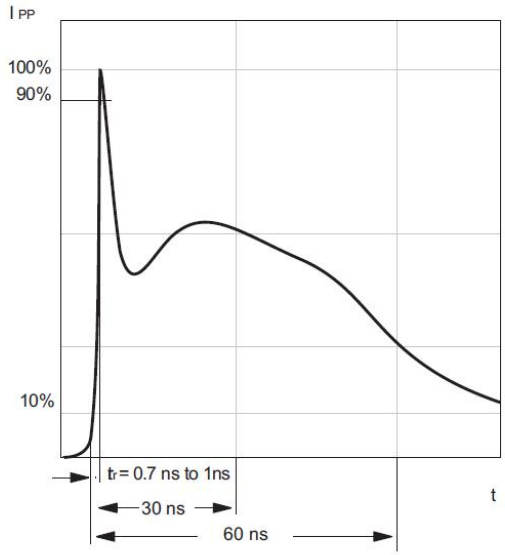
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Working Voltage	V_{RWM}				24	V
Trigging Voltage	V_T					V
Leakage Current	I_L	Leakage current at V_{RWM}			0.01	uA
Clamping Voltage	V_C			35		V
Capacitance Value	C_J	f = 1MHz		0.05		pF

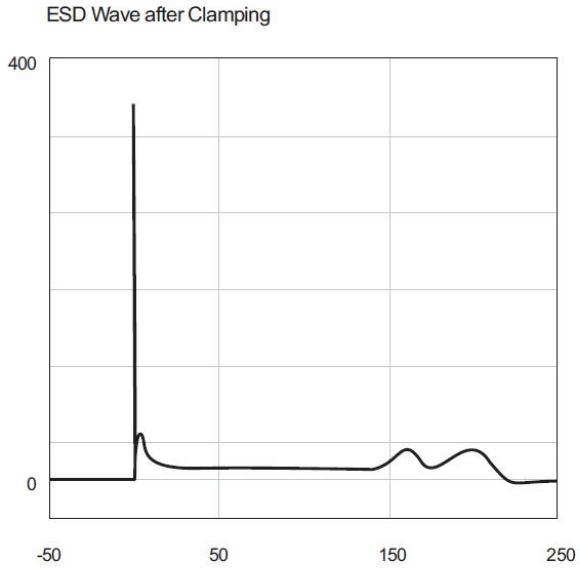
Outline Drawing - 0402



Dim	Millmeters	
	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

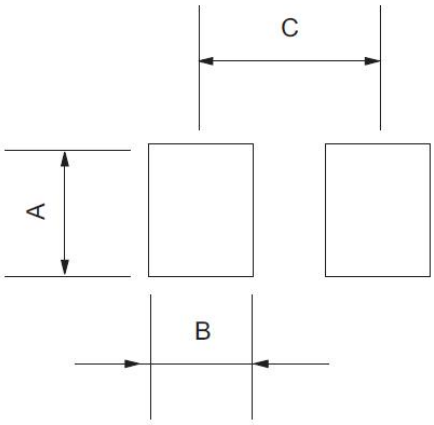
ESD Clamping Test Waveforms





Soldering Recommendations

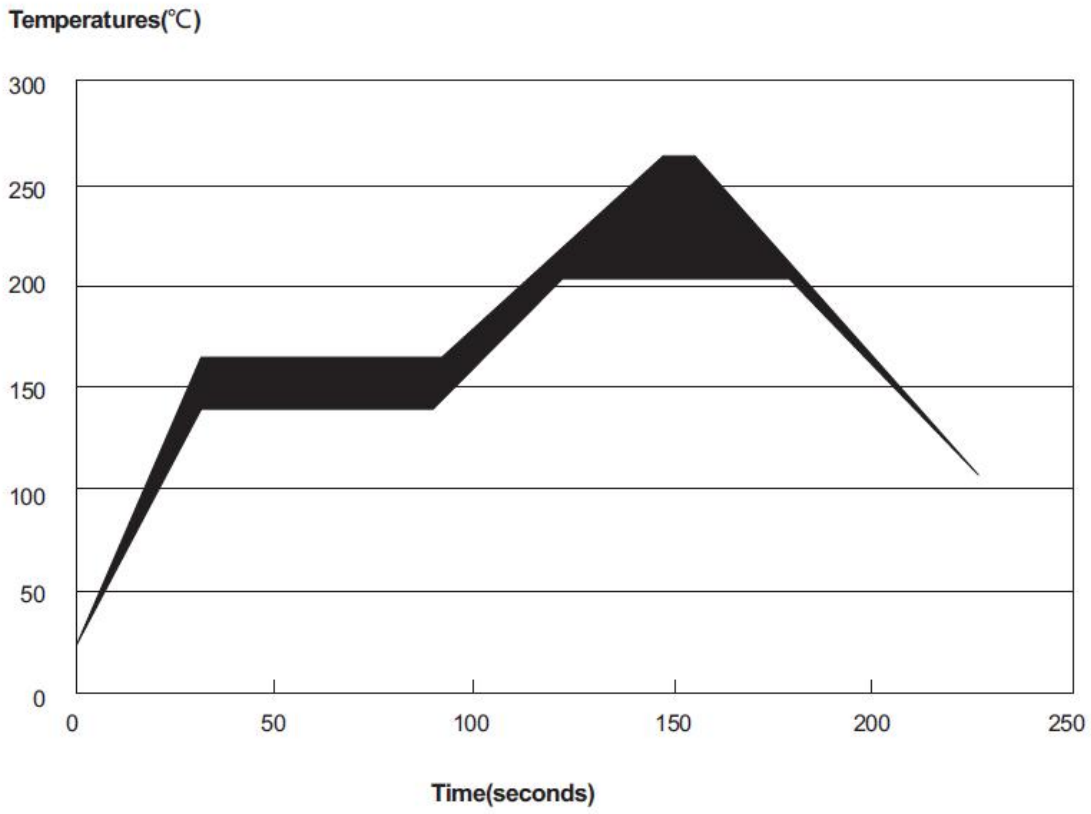
1) PAD Dimension



Symbol	Dimension	Unit
A	0.65	mm
B	0.5	
C	0.9	

Soldering Recommendations

2) The IR reflow and temperature of Soldering for Pb Free



Ordering Information

Order code	Package	MPQ (PCS)	Packaging Option
LESD0402V24U	0402	10000	Tape and reel