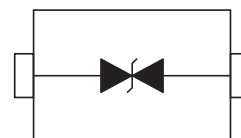
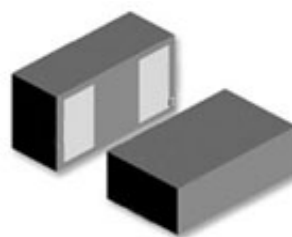


ESD Protection Devices

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
- 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

0201



Schematic Diagram

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

Description

This device is an ultra low capacitance ESD product designed to protect very high speed data interfaces. KPESD1521U005 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).

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}	-55 to +125	°C
Maximum Storage temperature	T _{STG}	-55 to +125	°C
Maximum lead temperature for soldering during 10s	T _L	260	°C

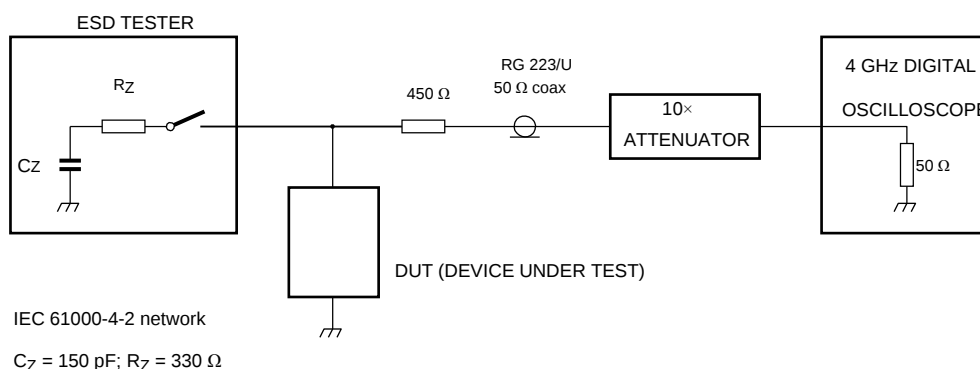
Electrical Characteristics($T_A=25^{\circ}\text{C}$)

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 15V shall be applied on component	---	0.01	0.1	μA
Capacitance	C_P	$V_R = 0\text{V}$, $f = 1\text{MHz}$	---	0.05		pF

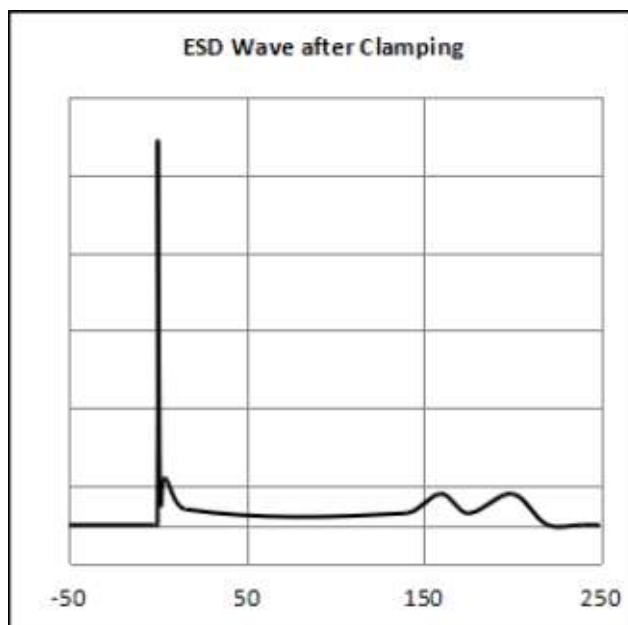
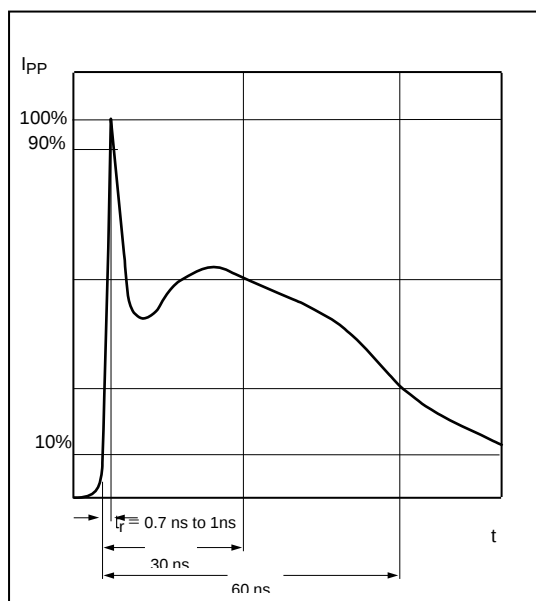
Note: 1 Trigger and clamping voltage are measured per IEC 61000-4-2, 8KV contact discharge method.

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

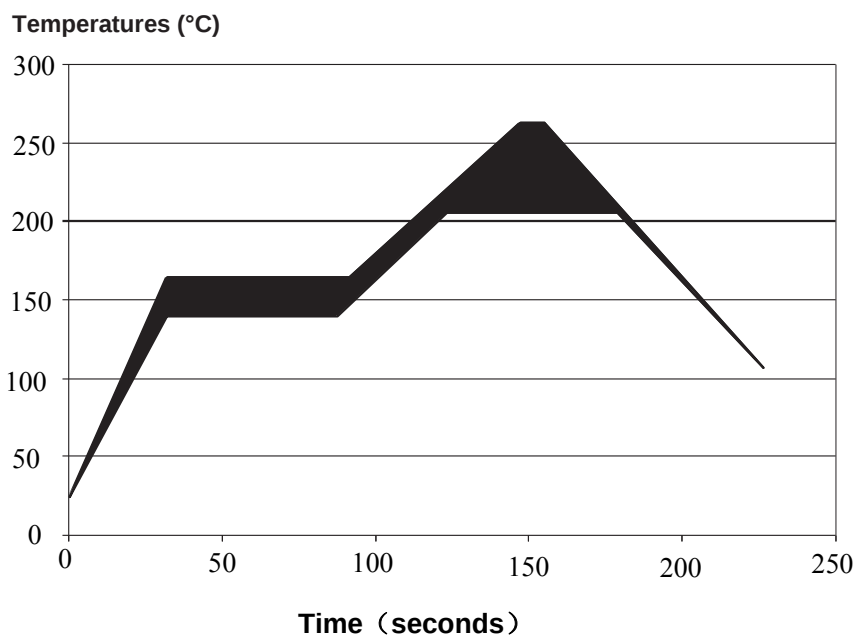
ESD Clamping Test



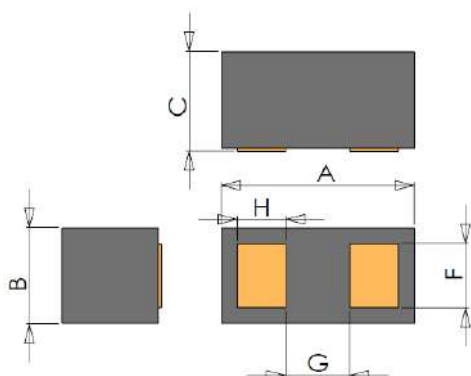
ESD Clamping Test Waveforms



Solder Reflow Recommendations

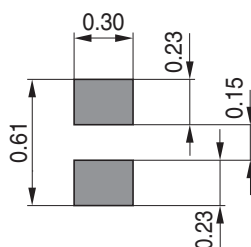


Product Dimension



Symbol	Dimension			Unit
	Min	Typ	Max	
A	0.55	0.60	0.65	mm
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	

Recommended Footprint



Dimensions in mm

Solder thickness 0.08mm recommended

Order Information

Device	Package	Net Weight	Carrier	Quantity	HSF Status
KPESD1521U005	0201	0.12 mg	Tape & Reel	15,000pcs/reel	RoHS compliant