

1 Channel Ultra-low Capacitance ESD Protection

1KE7I12C

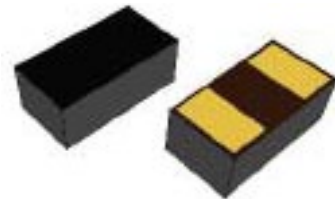
■ Features

- Ultra-Low capacitance:0.2pF(Max.)
- Low leakage current(<10nA)
- Fast response time(<1ns)
- Bi-directional, single line protection
- IEC 61000-4-2 (ESD Air): 15kV
IEC 61000-4-2 (ESD Contact): 8kV

■ Applications

- USB 3.0/3.1
- HDMI 1.3/1.4/2.0
- RF Antenna
- SATA and eSATA Interface

0402

■ Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
IEC 61000-4-2(ESD) Contact	V_{ESD}	8	KV
IEC 61000-4-2(ESD) Air		15	
Operating temperature	T_{opr}	-55 ~ 125	°C
Storage temperature	T_{stg}	-40 ~ 85	

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Continuous Operating Voltage	V_{DC}				12.0	V
Trigger Voltage	V_{T}	IEC61000-4-2 8kV contact discharge		450		
Leakage Current	I_{L}	DC 5V shall be applied on component			10	nA
Clamping Voltage	V_{C}	IEC61000-4-2 8kV contact discharge		40		V
Capacitance	C_{J}	Measured at 10MHz			0.2	pF

■ Ordering Information

Device	Size (mm)	Package	Shipping
1KE7I12C	1.00x0.52x0.38	0402	10,000pcs/Reel

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■ Typical Characteristics

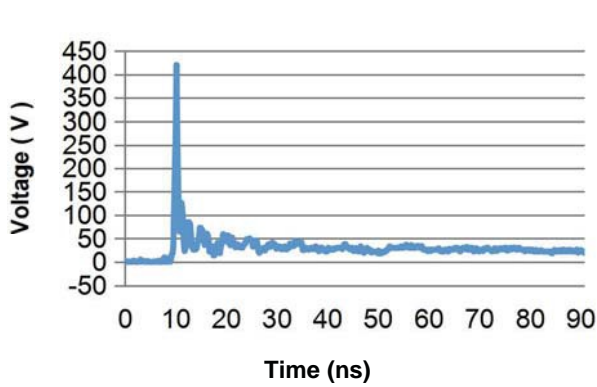


Fig.1 Typical ESD Response
(IEC 61000-4-2, 8kV contact discharge)

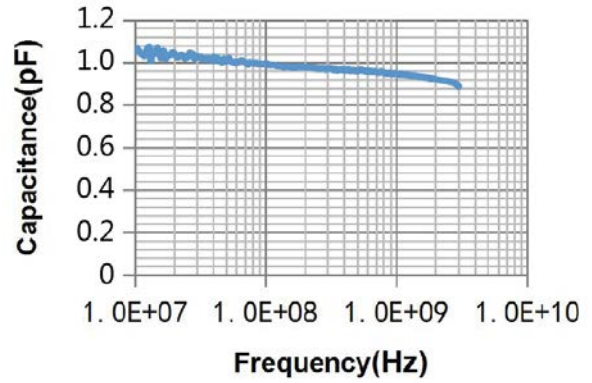


Fig.2 Normalized Capacitance VS.Frequency

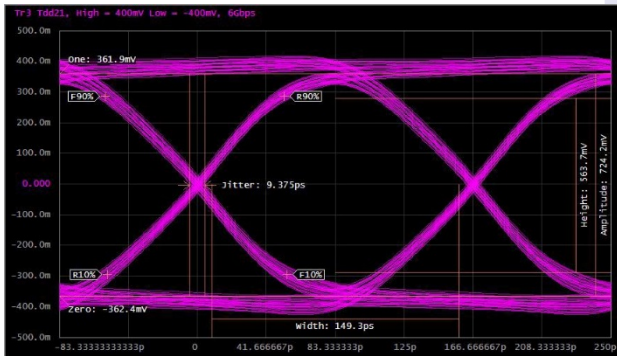
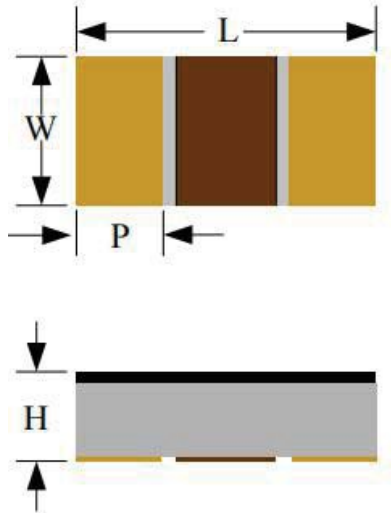


Fig.3 HDMI 2.0 Mask at 6.0 Gbps

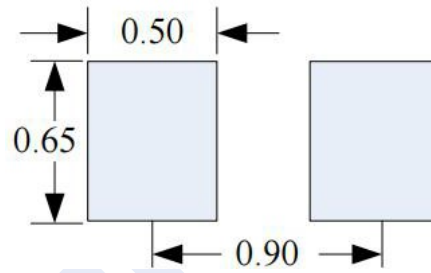
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■ Package Dimension



Recommended Solder Pad Footprint



* Sizes in mm

Notes :

This solder pad layout is for reference purposes only.

Dimension	Unit: Millimeters	
	Min.	Max.
L	0.90	1.10
W	0.42	0.62
P	0.15	0.35
H	0.25	0.45