

## 1 Channel Ultra-low Capacitance ESD Protection

## 1KE5I12C

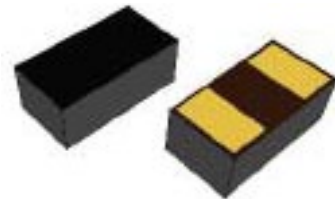
## ■ Features

- Ultra-Low capacitance:0.5pF(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	$V_{\text{ESD}}$	8	KV
IEC 61000-4-2(ESD) Air		15	
Operating temperature	$T_{\text{opr}}$	-55 ~ 125	°C
Storage temperature	$T_{\text{stg}}$	-40 ~ 85	

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Continuous Operating Voltage	$V_{\text{DC}}$				12.0	V
Trigger Voltage	$V_{\text{T}}$	IEC61000-4-2 8kV contact discharge		450		
Leakage Current	$I_{\text{L}}$	DC 5V shall be applied on component			10	nA
Clamping Voltage	$V_{\text{C}}$	IEC61000-4-2 8kV contact discharge		40		V
Capacitance	$C_{\text{J}}$	Measured at 10MHz			0.5	pF

## ■ Ordering Information

Device	Size (mm)	Package	Shipping
1KE5I12C	1.00x0.52x0.38	0402	10,000pcs/Reel

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## ■ Typical Characteristics

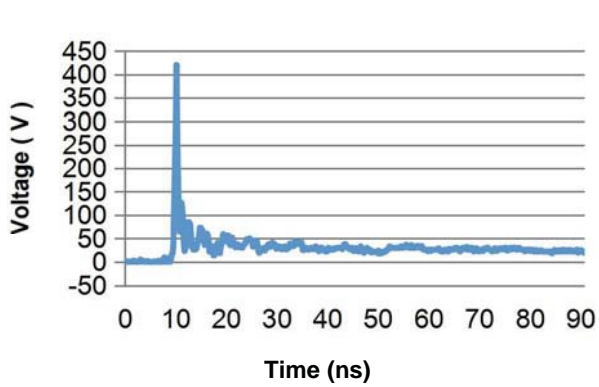


Fig.1 Typical ESD Response  
(IEC 61000-4-2, 8kV contact discharge)

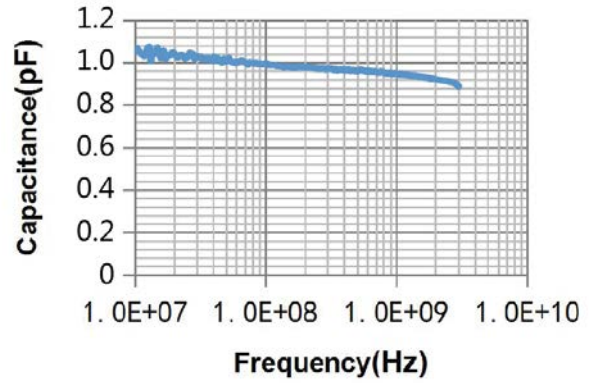


Fig.2 Normalized Capacitance VS.Frequency

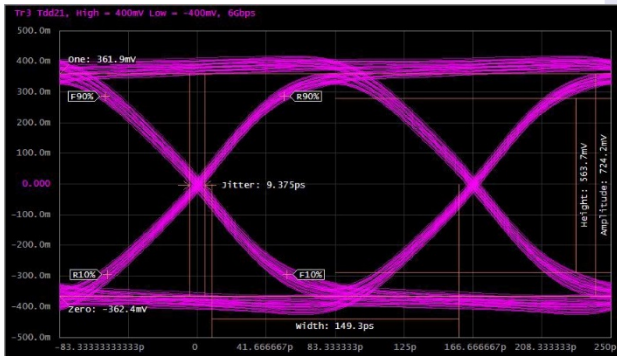
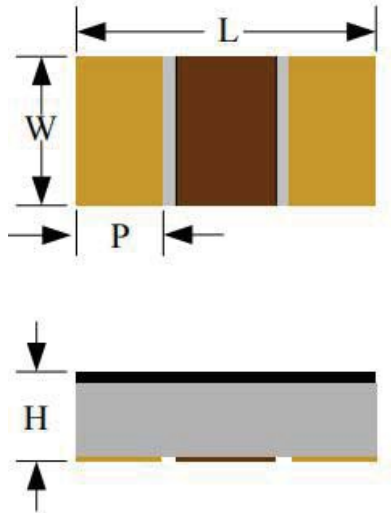


Fig.3 HDMI 2.0 Mask at 6.0 Gbps

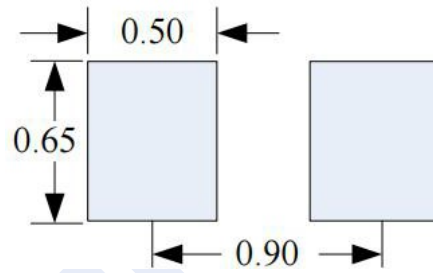
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## 1KE5I12C

### ■ 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