

## Features

- Ultra-Low capacitance:0.05pF(typ.)
- 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

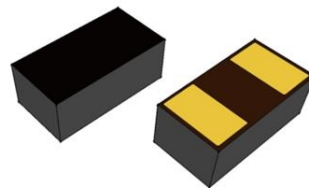
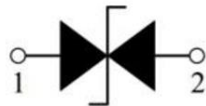
## Mechanical Characteristics

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

## Applications

- Smart Phone/Mobile Internet Device
- Laptop/Desktop Computer
- Bi-directional, single line protection
- Antennas (Cell Phones, GPS...)
- High Speed Ethernet
- USB 3.0 and USB 3.1

## Dimensions and Pin Configuration



**Absolute Maximum Ratings** (Tamb=25°C unless otherwise specified)

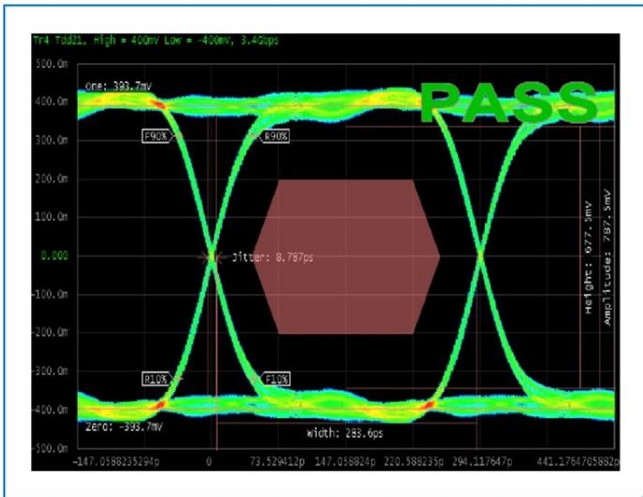
Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	VESD	±15 ±8	kV
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-40 to +85	°C

**Electrical Characteristics** (TA=25°C unless otherwise specified)

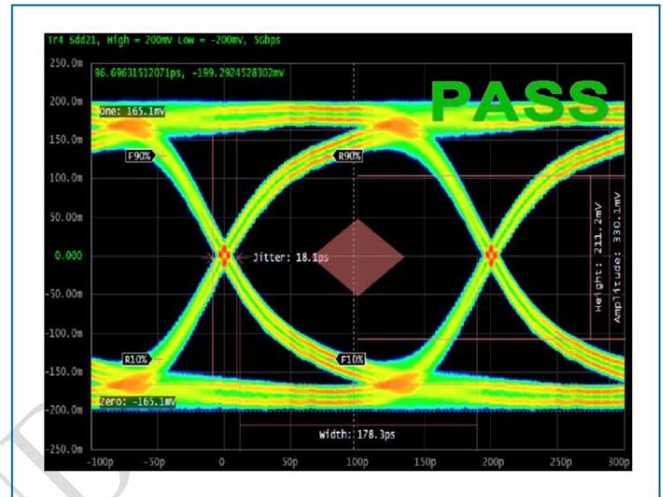
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Continuous Operating Voltage	V <sub>DC</sub>			15	V	
Trigger Voltage	V <sub>T</sub>		450		V	IEC61000-4-2 8kV contact discharge
Clamping Voltage	V <sub>C</sub>		40		V	IEC61000-4-2 8kV contact discharge
Leakage Current	I <sub>L</sub>			10	nA	DC 15V shall be applied on component
Capacitance	C <sub>J</sub>		0.05		pF	Measured at 10MHz

**PROTECTION PRODUCTS**  
Typical characteristics

**HDMI Mask at 3.4 Gbps**



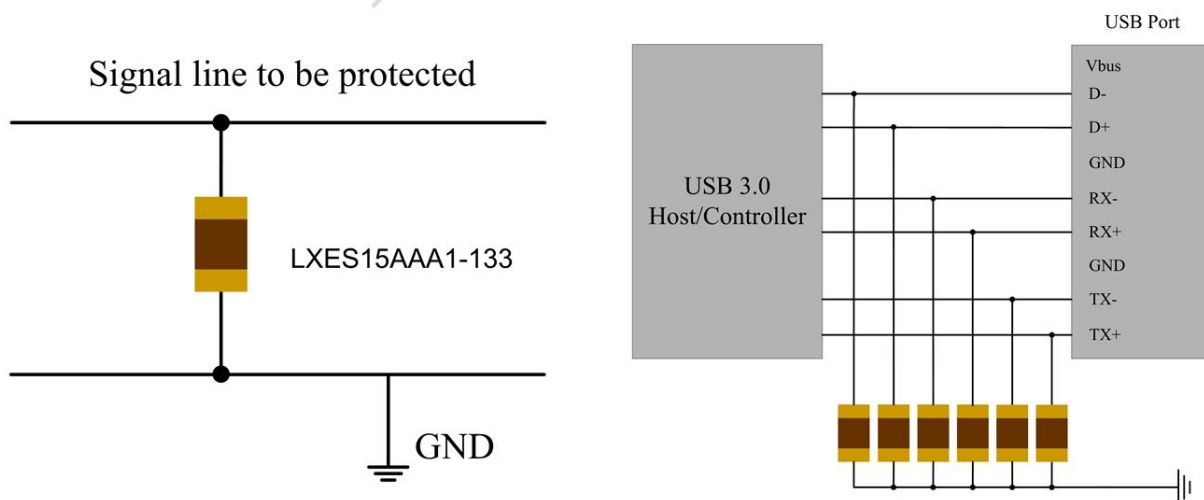
**USB3.0 Mask at 5.0 Gbps**



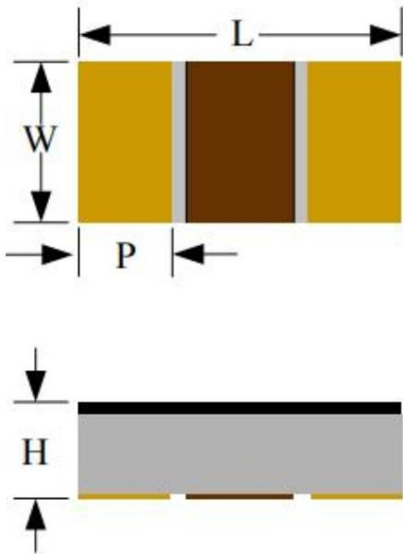
**ESD Protection for Signal Line**

The LXES15AAA1-133 is designed for the protection of one bidirectional data line from ESD damage.

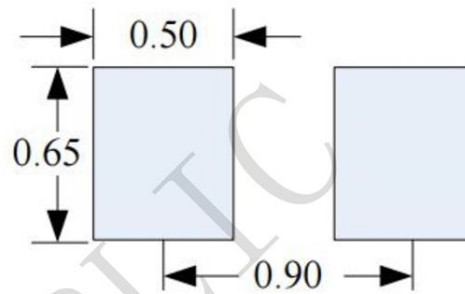
- Place the LXES15AAA1-133 as close to the input terminal or connector as possible.
- Minimize the path length between the LXES15AAA1-133 and the protected signal line.
- Use ground planes whenever possible.



**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