

ESD Protection Device LXES Series - Ceramic



Features

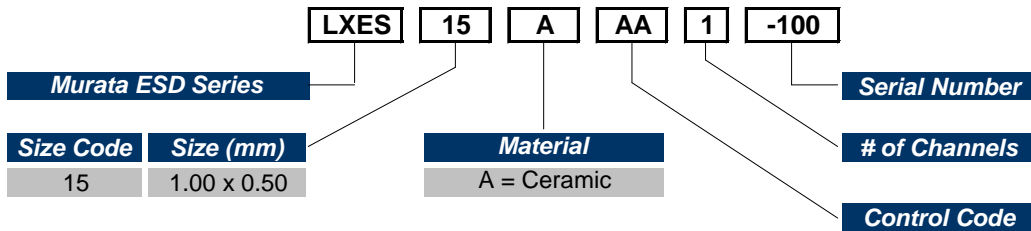
- Ultra low capacitance (0.05pF)
- Bi-directional
- RoHS compliant, Halogen free, Lead free
- IEC 61000-4-2 Level 4 (8kV Contact and 15kV Air Discharge)
- Fast response time (<1ns)

Applications

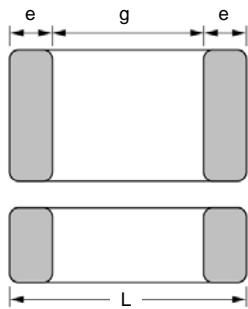
- Ideal for high speed data lines
- HDMI 1.3, USB 2.0/3.0, IEEE 1394b
- Computer and peripherals
- Cell phones
- A/V Equipment, STB, DVD, HDTV, etc.
- Antenna Ports



Part Numbering System



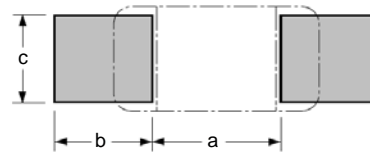
Dimensions & Land Patterns Recommendation



Chip Dimensions

Part Number	L	W	T	e	g	a	b	c
LXES15AAA1-100	1.00±0.05	0.50±0.05	0.33 max	0.20±0.10	0.40 min	0.40	0.4	0.5

(unit: mm)



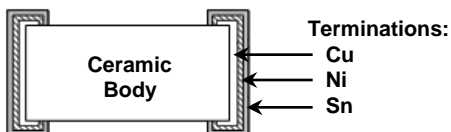
Land Patterns Recommendation

Schematic

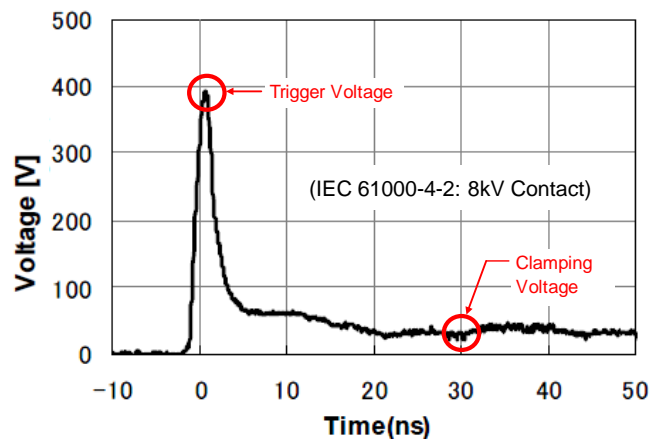


Bi-directional
Single channel

Product Structure



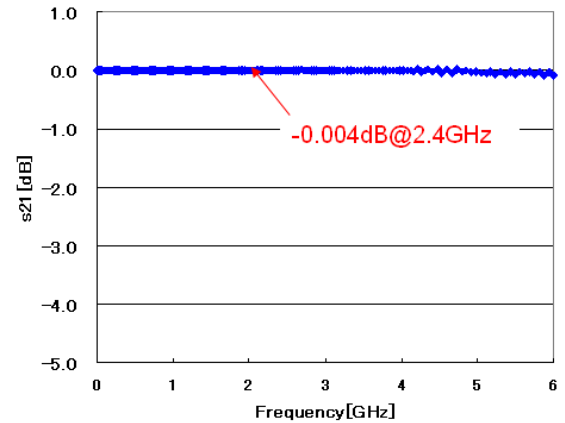
Typical ESD Response



Electrical Characteristics

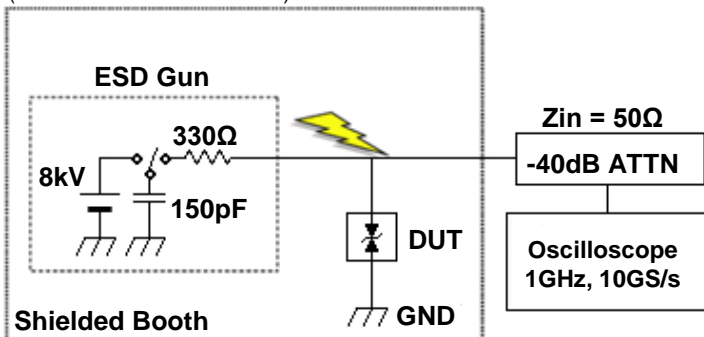
Characteristic	Value
Rated Voltage	15V
ESD Capability (IEC 61000-4-2 Level 4 Procedure)	
Contact Discharge	±15kV
Air Discharge	±15kV
Trigger Voltage (typical)	350V
Clamping Voltage (typical @ 30ns)	40V
Response Time	< 1ns
Leakage Current (typical)	< 1μA
ESD Pulse Withstand	> 1000 pulses
Attenuation Change (typical @ 2.4GHz)	-0.004dB
Capacitance (Vbias=0V, 1MHz, 25°C)	0.05pF (typical)
Operating Temperature	-40 to +85°C
Storage Temperature	-40 to +85°C

Frequency Characteristic

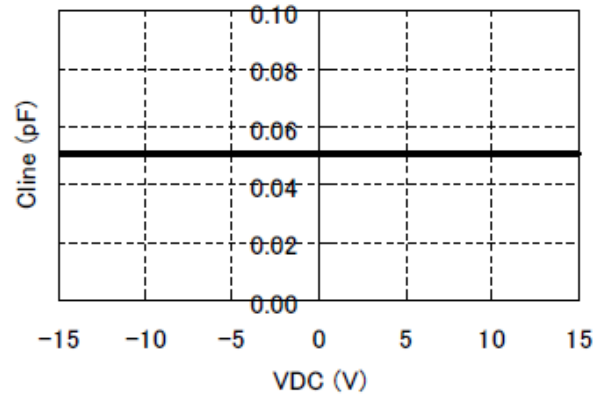


ESD Test Measurement System

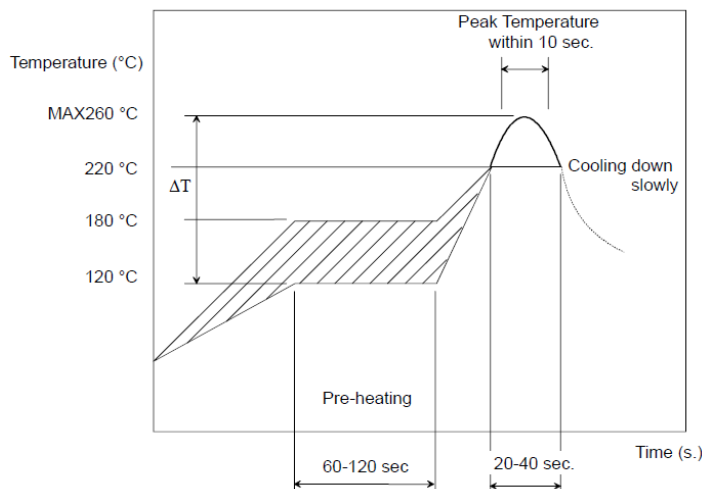
(IEC 61000-4-2: 8kV Contact)



Capacitance-vs-Voltage Characteristic

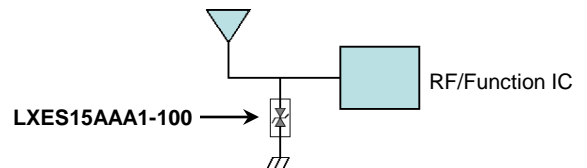


Reflow Soldering Condition

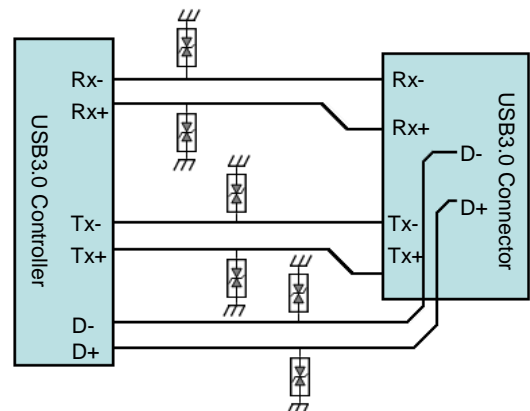


Application Examples

Antenna Port Protection

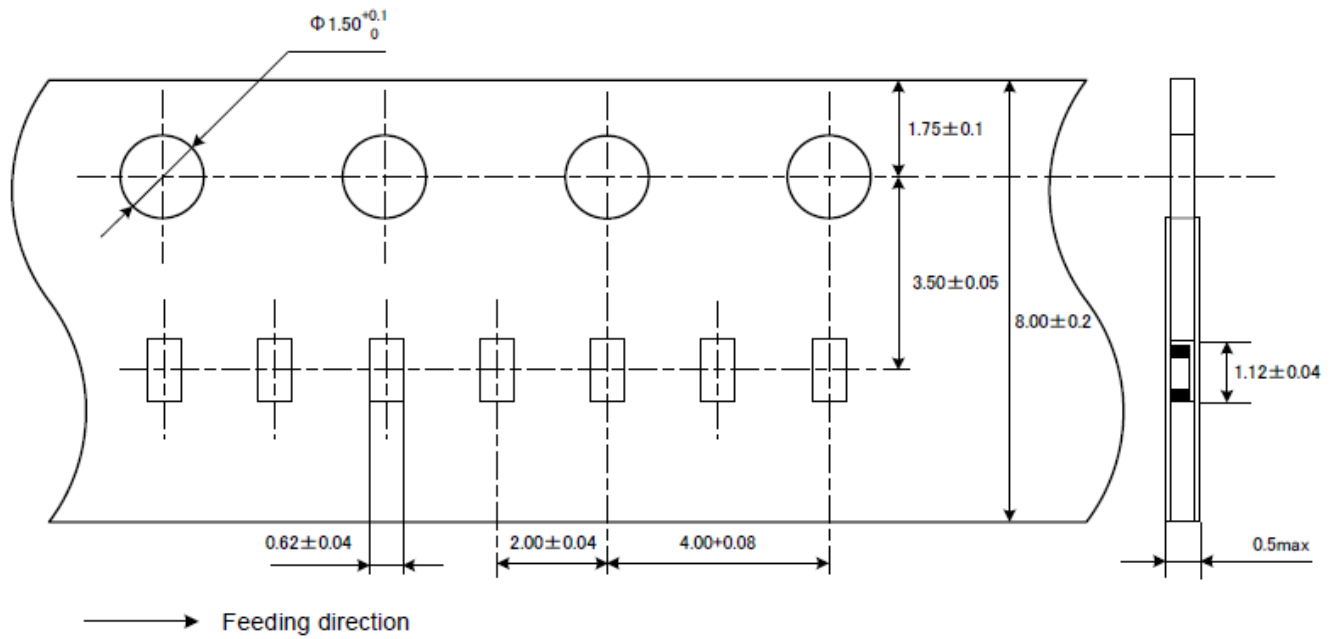


USB3.0 Port Protection (discrete solution)

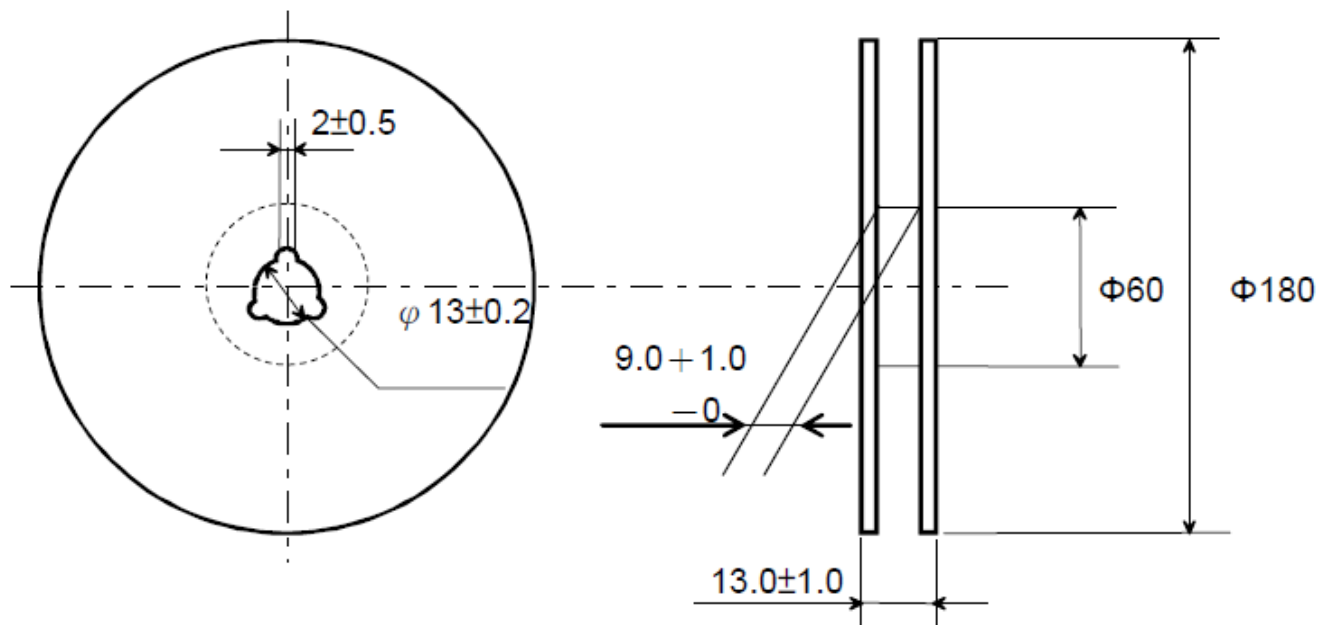


■ Packaging Specifications (Tape/Reel Only)

1) Dimensions of Paper Tape (in mm):



2) Dimensions of Reel (in mm):



3) Packaging Quantity:

10,000 pcs/reel

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[GRM033R71E122KA01D](#) [GRM1885C1H150FA01J](#) [GRM3195C2A471JD01D](#) [GRM55DR72E684KW01L](#) [RF1211C](#) [RF1238](#)
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