

**ESD PROTECTION DIODE**

**STAND-OFF VOLTAGE - 5.0 Volts  
POWER DISSIPATION - 20 Watts**

**GENERAL DESCRIPTION**

The L02U5V0CQ2C is ultra-low capacitance ESD designed to protect high speed data interfaces. This series has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from over voltage caused by ESD (electrostatic discharge).

**FEATURES**

- Bi-directional ESD Protection of one line.
- Max. peak pulse power: P<sub>pp</sub>= 20W at t<sub>p</sub> = 8/20 us.
- Low capacitance: 0.25pF typical
- IEC 61000-4-2, level 4 (ESD) ≥±30KV (air) ; ≥±15KV (contact)
- Qualified to AEC-Q101 Rev\_C

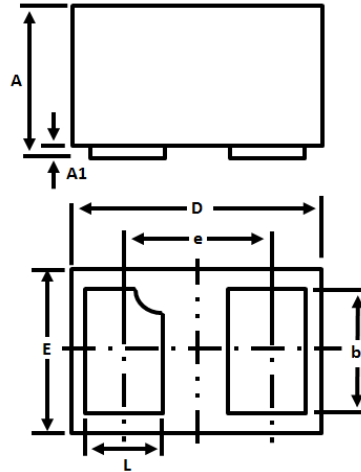
**APPLICATION**

- High definition multi-media interface (HDMI) 1.4 / 2.0
- USB Type-C / 3.0 / 3.1

**MECHANICAL DATA**

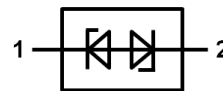
- Case material: "Green" molding compound UL flammability classification 94V-0 (No Br, Sb, Cl) "Halogen-free"
- Terminals: Lead Free Plating (Matte Tin Finish)
- Component in accordance to RoHs 2011/65/EU

**SLP0603P2**



SLP0603P2			
DIM.	MIN.	MAX.	TYP.
D	0.59	0.65	0.62
E	0.29	0.35	0.32
b	0.19	0.29	0.24
L	0.14	0.24	0.19
A	0.27	0.35	0.30
A1	0.00	0.03	0.02
e	---	---	0.35
All dimension in millimeter			

PIN ASSIGNMENT	
1	Cathode
2	Cathode



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

**ABSOLUTE RATINGS**

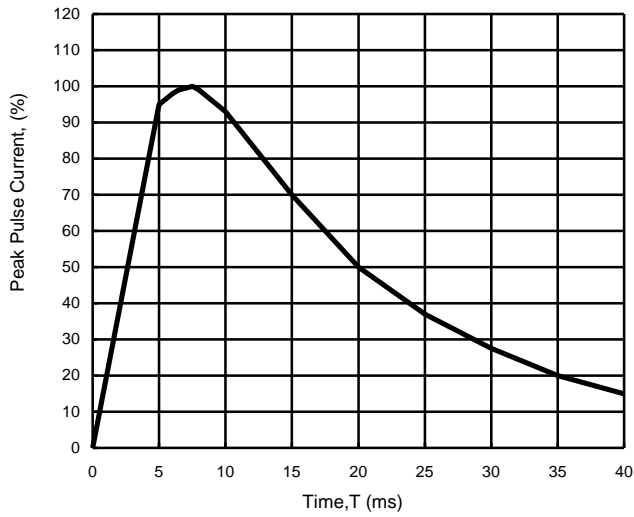
PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse power (8/20us waveform)	P <sub>PP</sub>	20	W
Peak pulse current (8/20us waveform)	I <sub>PP</sub>	1.5	A
Operating junction temperature range	T <sub>J</sub>	-55 to +125	°C
Storage temperature range	T <sub>STG</sub>	-55 to +150	°C
Soldering temperature, t max = 10s	T <sub>L</sub>	260	°C

**ELECTRICAL CHARACTERISTICS**

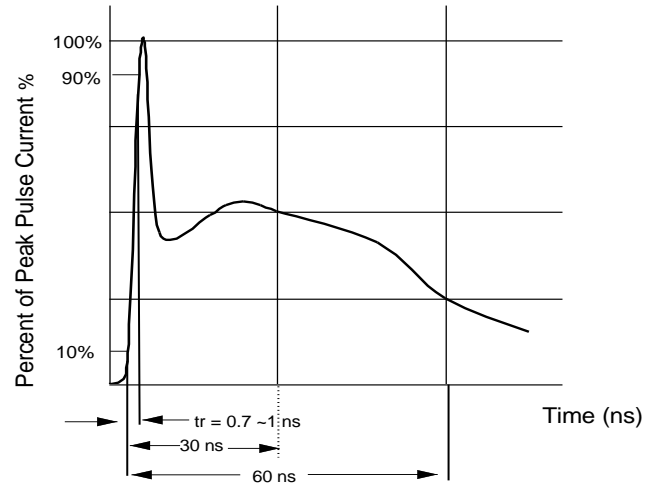
PARAMETER	TEST CONDITIONS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse standoff voltage	---	V <sub>DRM</sub>	--	--	5	V
Breakdown voltage	I <sub>t</sub> = 1mA	V <sub>BR</sub>	6	--	9	V
Reverse leakage current	V <sub>DRM</sub> = 5V	I <sub>RM</sub>	--	--	1	uA
Junction capacitance	V <sub>R</sub> = 0V, f = 1MHz	C <sub>J</sub>	--	0.27	0.3	pF
Clamping voltage	I <sub>PP</sub> = 1A (8/20 us)	V <sub>C</sub>	--	--	11	V

REV. 3, MAY.-2019, KSIR102

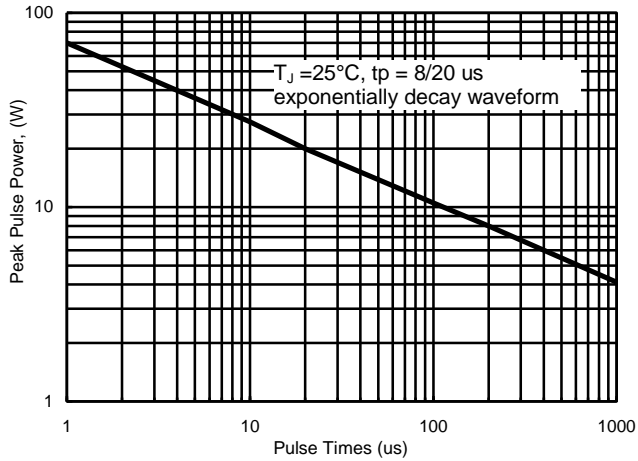
**FIG.1- 8/20us pulse waveform according to IEC 61000-4-5**



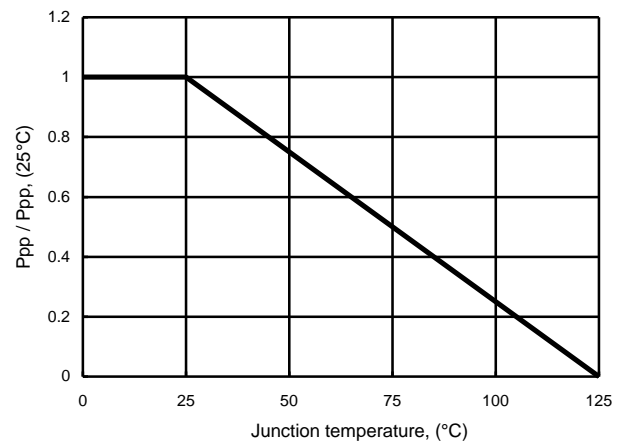
**FIG .2- ESD pulse waveform according to IEC 61000-4-2**



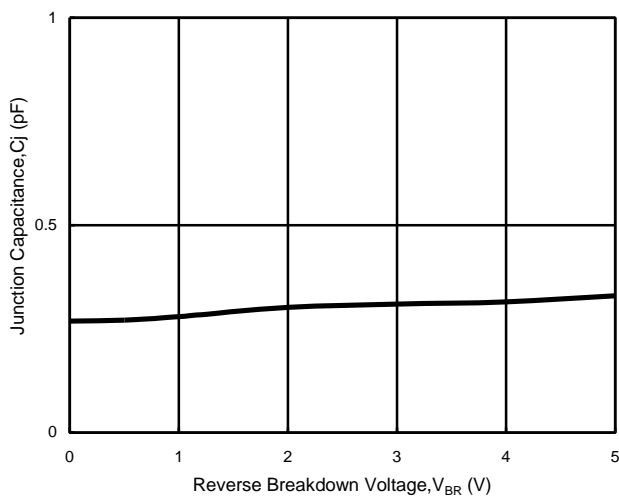
**FIG.3- power dissipation versus pulse time**



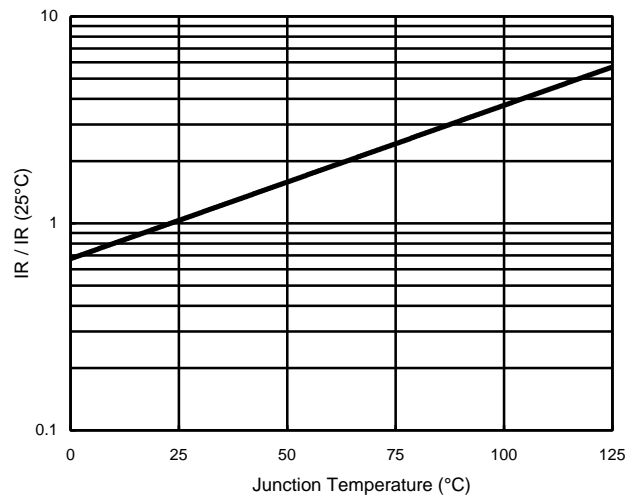
**FIG.4- peak pulse power versus Tj**



**FIG.5- typical junction capacitance**



**FIG.6- reverse leakage current versus Tj**



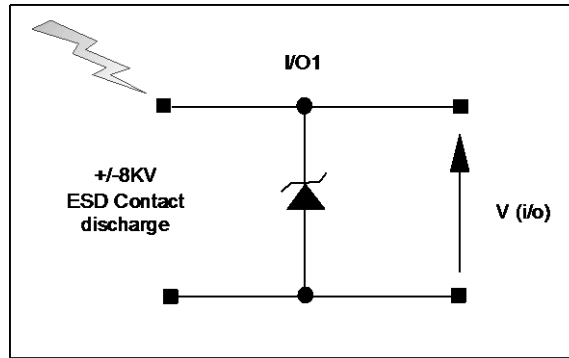


Figure 7. ESD Test Configuration

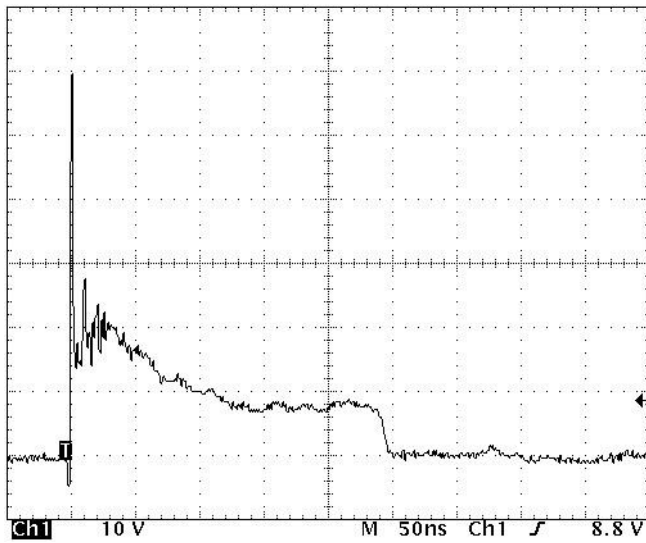


Figure 8. Clamped +8 kV ESD voltage waveform

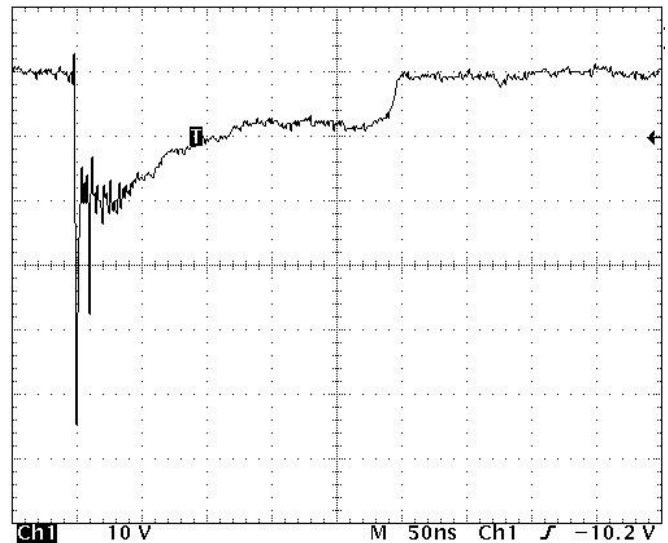
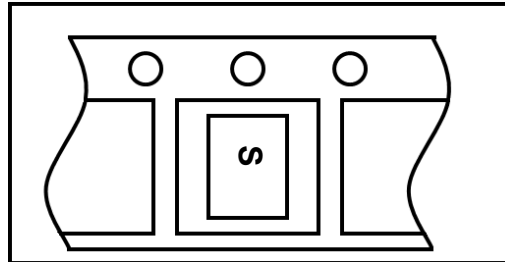


Figure 9. Clamped -8 kV ESD voltage waveform

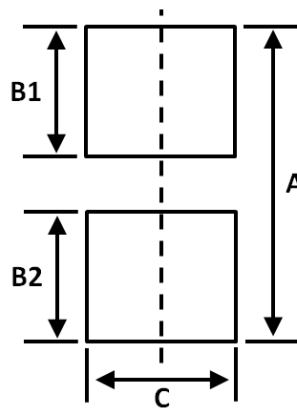
Marking and Orientation :



Packaging Information :

DEVICE	Q'TY/REEL (PCS)	REEL DIA. (INCH)	Q'TY/BOX (PCS)	Q'TY/CARTON (PCS)
L02U5V0CQ2C	8,000	7	120K	240K/480K

SLP0603P2 Soldering Pad Layout :



DIM.	MILLIMETERS	INCHES
A	0.75	0.0295
B1	0.30	0.0118
B2	0.30	0.0118
C	0.35	0.0137

## **Important Notice and Disclaimer**

LSC reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

LSC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does LSC assume any liability for application assistance or customer product design. LSC does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of LSC.

LSC products are not authorized for use as critical components in life support devices or systems without express written approval of LSC.