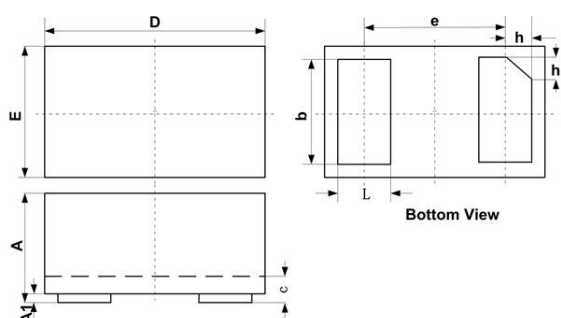
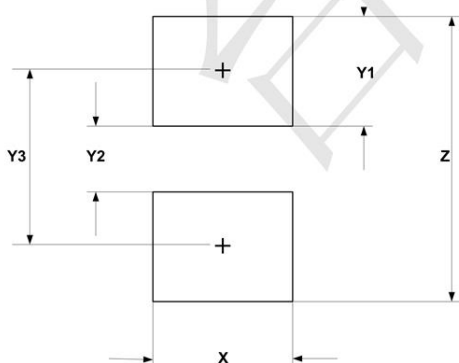


## X1SON-2 Package Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.45	0.50	0.55	0.018	0.020	0.022
c	0.12	0.15	0.18	0.005	0.006	0.007
D	0.95	1.00	1.05	0.037	0.039	0.041
e	0.65 BSC			0.026 BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
L	0.20	0.25	0.30	0.008	0.010	0.012
h	0.07	0.12	0.17	0.003	0.005	0.007

## Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.60	0.024
Y1	0.50	0.020
Y2	0.30	0.012
Y3	0.80	0.032
Z	1.30	0.052

## Features

- ◆ Ultra low capacitance: 0.25 pF typical (I/O to GND)
- ◆ Ultra low leakage: nA level
- ◆ Breakdown Voltage: 6.4 V (typ)
- ◆ Low clamping voltage
- ◆ Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
Air discharge: ±20kV  
Contact discharge: ±15kV
  - IEC61000-4-4 (EFT) 80A (5/50ns)
  - IEC61000-4-5 (Lightning) : 3 A(8/20µs)
- ◆ ROHS Compliant

## Ordering Information

Part Number	Qty per Reel	Reel Size
TPD1E01B04DPYR-TP	10000	7"

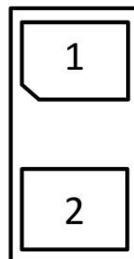
## Mechanical Characteristics

- ◆ Package: X1SON-2
- ◆ Ultra low leakage: nA level
- ◆ Case Material: "Green" Molding Compound.
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Moisture Sensitivity: Level 3 per J-STD-020
- ◆ Terminal Connections: See Diagram Below

## Applications

- ◆ USB Type-C
- ◆ Thunderbolt 3
- ◆ Set-Top Boxes
- ◆ DisplayPort 1.3
- ◆ PCI Express 3

## Dimensions and Pin Configuration



Or

Marking:

| 5C

G

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

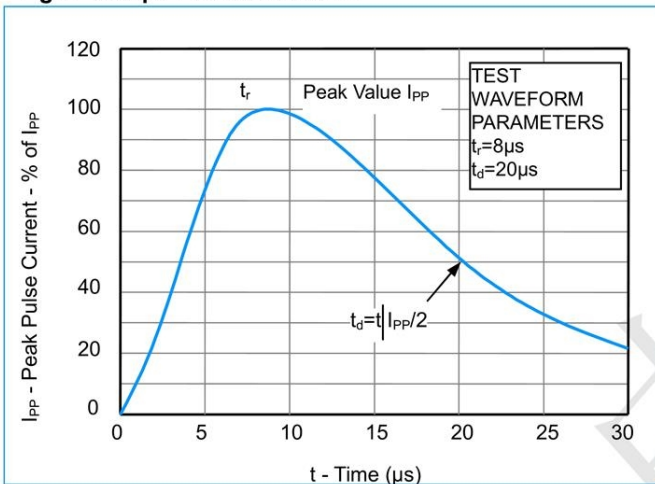
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	30	W
Peak Pulse Current (8/20μs)	IPP	3	A
ESD per IEC 61000-4-2 (Air)	VESD	± 20	kV
ESD per IEC 61000-4-2 (Contact)		± 15	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

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

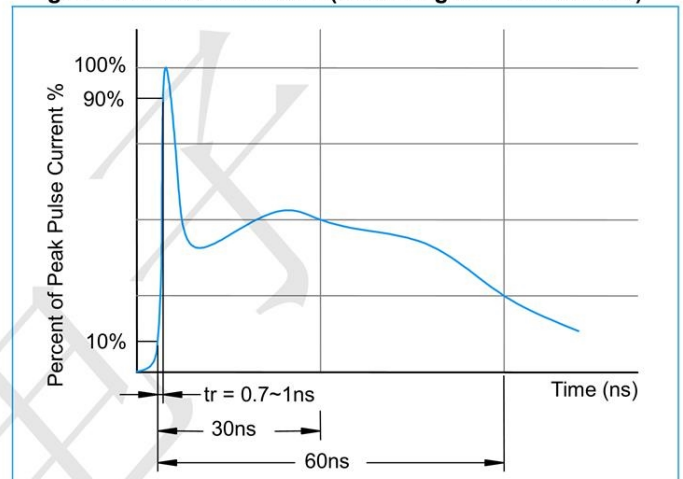
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM	-3.6		3.6	V	IIO < 10 nA
Breakdown Voltage	VBR	5.5	6.4	7.5	V	IT = 1mA, any I/O pin to ground
Breakdown Voltage	VBR	-5.5	-6.4	-7.5	V	IT = 1mA, any ground pin to I/O
Reverse Leakage Current	IR			10	nA	VIO = ± 2.5V any I/O pin to ground
Dynamic resistance	RDYN		0.47		Ω	any I/O pin to ground
Clamping Voltage	VC		7.2		V	IPP = 1A (8 x 20μs pulse), any I/O pin to ground
Clamping Voltage	VC		9		V	IPP = 3A (8 x 20μs pulse), any I/O pin to ground
Junction Capacitance	CJ			0.25	pF	VR = 0V, f = 1MHz, between I/O pins

**Characteristic Curves**

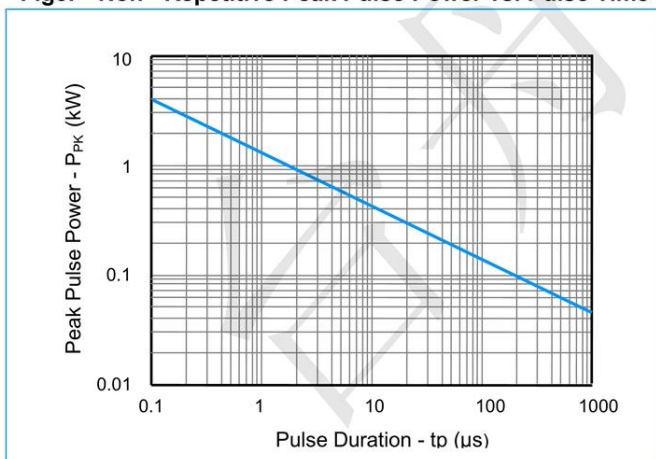
**Fig1. 8/20 $\mu$ s Pulse Waveform**



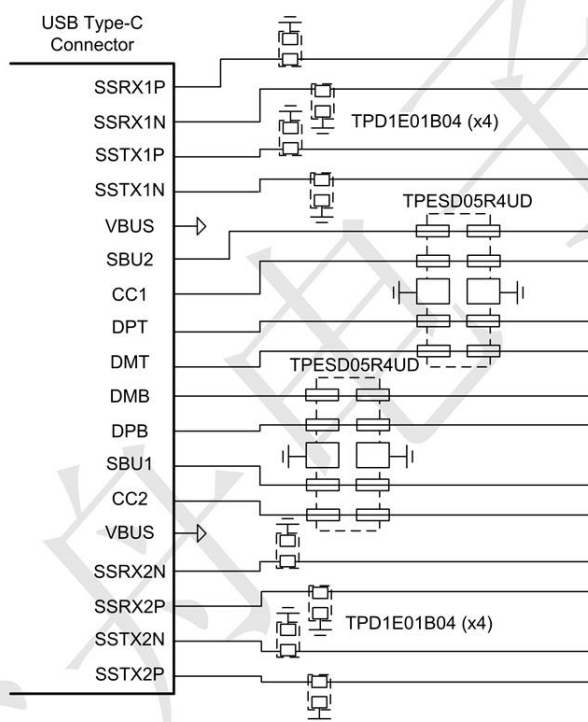
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Non - Repetitive Peak Pulse Power vs. Pulse Time**



**Application Information**



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[SA110CA](#) [SA60CA](#) [SA64CA](#) [SMBJ12CATR](#) [SMBJ33CATR](#) [SMBJ8.0A](#) [ESD101-B1-02ELS E6327](#) [ESD105-B1-02EL E6327](#) [ESD112-B1-02EL E6327](#) [ESD119B1W01005E6327XTSA1](#) [ESD5V0L1B02VH6327XTSA1](#) [ESD7451N2T5G](#) [19180-510](#) [CPDT-5V0USP-HF](#)  
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