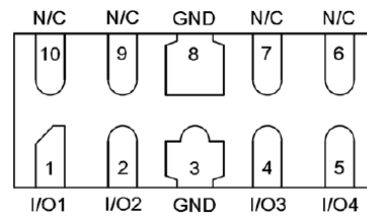


Ultra Low Capacitance TVS Array

Features

- IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 15\text{kV}$ (contact)
- IEC 61000-4-5 (Lightning) 5A (8/20 μs)
- IEC 61000-4-4 (EFT) 30A (5/50ns)
- Ultra-low Capacitance (IO to GND) : 0.29pF typ.
- Protects two line pairs
- Ultra-low leakage : nA level
- Operating voltage : 1.5V
- Ultra-low clamping voltage

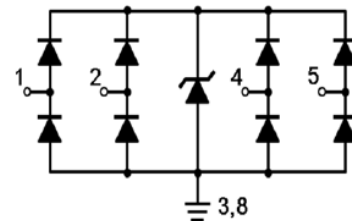
Pin Configuration



Applications

- USB 3.1/ USB 3.2
- Thunderbolt interface
- V-By-One interface
- LVDS Interface
- USB Type-C
- Consumer electronics

Circuit Diagram



Mechanical Characteristics

- DFN2510-10L (2.5 mm x 1.0 mm x 0.5 mm)
- Moisture Sensitivity: Level 1 per J-STD-020
- RoHS Compliant

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{PP}	5	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 15	KV
ESD per IEC 61000-4-2 (Contact)		± 15	KV
Operating Junction Temperature Range	T_J	-40 to +85	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +125	$^\circ\text{C}$
Lead Soldering Temperature	T_{SOL}	260 (10 sec.)	$^\circ\text{C}$

Electrical Characteristics (T _A = 25°C Unless otherwise noted)						
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	V _{RWM}	I/O Pin to GND			1.5	V
Breakdown Voltage	V _{BR}	I _{BR} = 1mA, I/O Pin to GND	5	8.5	12	V
Forward Voltage	V _F	I _F = 15mA, I/O Pin to GND		1		V
Reverse Leakage Current	I _R	V _{RWM} = 1.5V, I/O Pin to GND			1	μA
Clamping Voltage	V _C	I _{PP} = 5A (t _p = 8/20μs), I/O Pin to GND		3.5		V
TLP Clamping Voltage (t _{period} = 100ns, t _r = 1ns)	V _C	I _{TLP} = 16A, I/O Pin to GND		4.9		V
TLP Dynamic Resistance (t _{period} = 100ns, t _r = 1ns)	R _{DYN}	I/O Pin to GND		0.23		Ω
Junction capacitance	C _J	V _R = 1.5V, f = 1MHz, I/O Pin to GND		0.29	0.36	pF

Typical Performance Characteristics ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

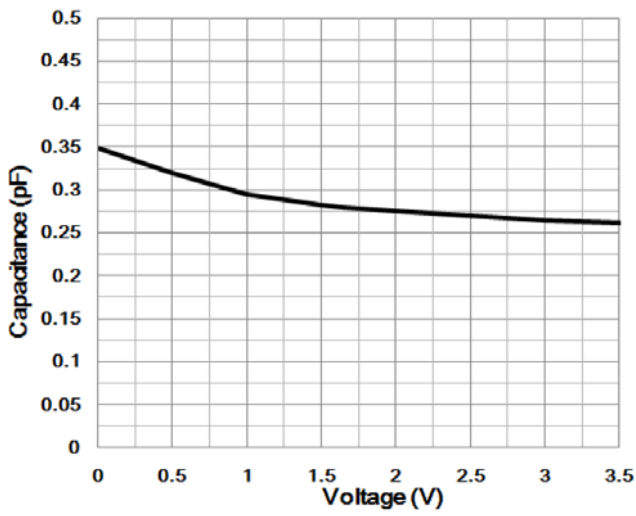


Fig 1. Junction Capacitance vs. Reverse

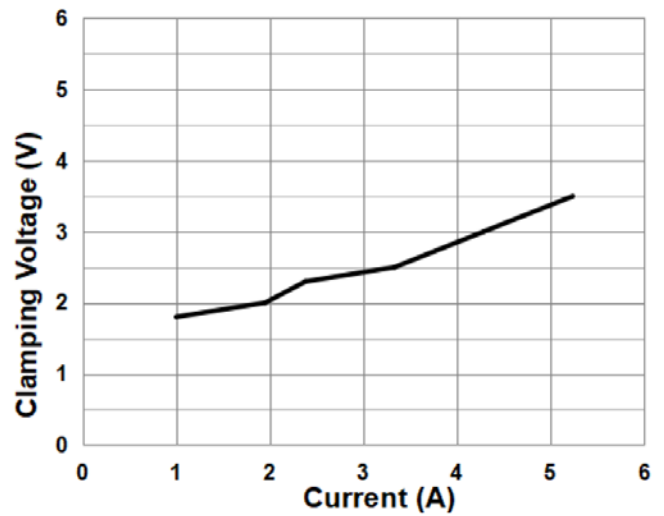


Fig 2. Clamping Voltage vs. Peak Pulse Current

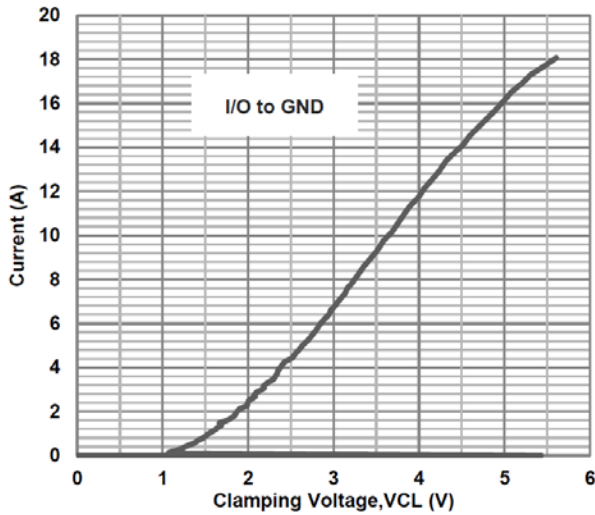


Fig 3. TLP Waveform (tperiod = 100ns, tr = 1ns)

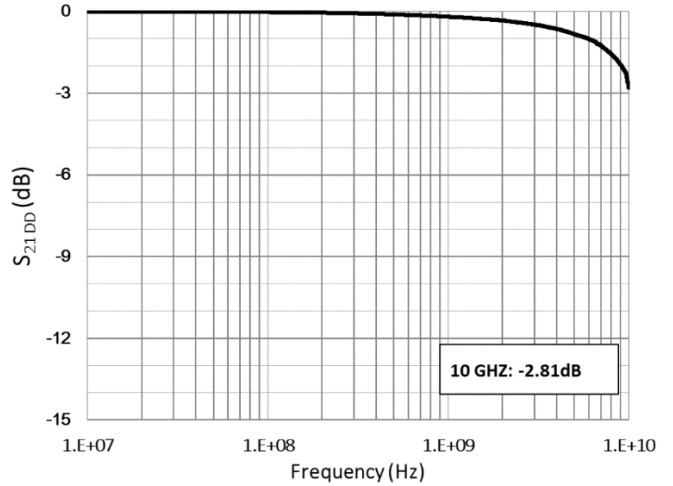
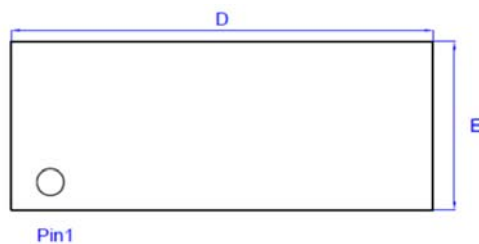


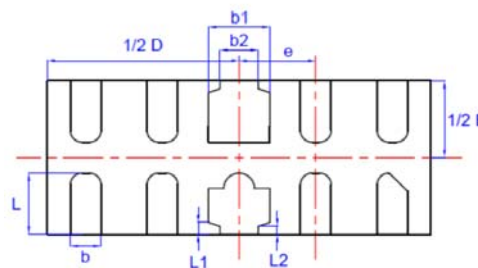
Fig 4. Insertion Loss S_{21DD}

Package Mechanical Data

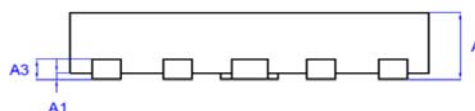
Symbol	Dimensions in millimeters		
	Min.	Typ.	Max.
A	0.45	0.50	0.55
A1	0.00	0.02	0.05
A3	0.152 REF		
b	0.15	0.20	0.25
b1	0.35	-	0.45
b2	0.13	-	0.30
D	2.40	2.50	2.60
E	0.90	1.00	1.10
e	0.5 BSC		
L1	0.075 REF		
L2	0.050 REF		
L	0.30	0.40	0.50



TOP VIEW

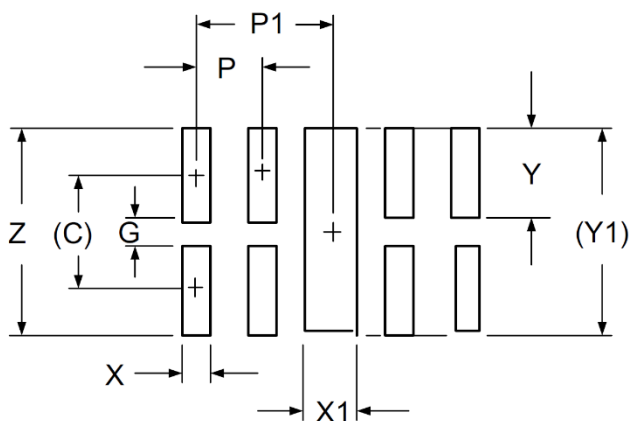


Bottom view



Suggested Land Layout

Symbol	Dimensions in millimeters
C	(0.875)
G	0.20
P	0.50
P1	1.00
X	0.25
X1	0.45
Y	0.675
Y1	(1.55)
Z	1.55



Ordering information

Part Number	Marking Code	Package	Base qty	Reel Size	Delivery mode
			(pcs)	(inch)	
SK1V5L4UDF	33U	DFN2510-10L	3,000	7	Tape and reel