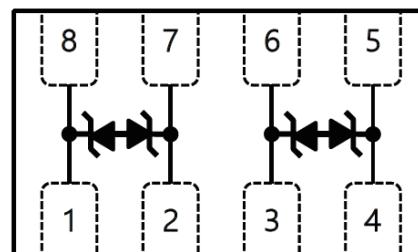


Ultra Low Capacitance TVS Array

Features

- IEC 61000-4-2 (ESD) $\pm 18\text{kV}$ (air), $\pm 18\text{kV}$ (contact)
- IEC 61000-4-5 (Lightning) 8A (8/20 μs)
- IEC 61000-4-4 (EFT) 30A (5/50ns)
- Ultra-low Capacitance (IO to I/O) : 0.38pF typ.
- Protects two line pairs
- Ultra-low leakage : nA level
- Operating voltage : 2.5V
- Ultra-low clamping voltage

Pin Configuration**Applications**

- High-speed differential data lines
- 5G/10G Ethernet
- RJ-45 Connectors
- LAN/WAN Device
- Ethernet interface

Circuit Diagram**Mechanical Characteristics**

- Package: DFN2010-8L (2.0×1.0×0.36mm)
- 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 Power ($tp = 8/20\mu\text{s}$)	P_{PK}	50	W
Peak Pulse Current ($tp = 8/20\mu\text{s}$)	I_{PP}	8	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 18	kV
ESD per IEC 61000-4-2 (Contact)		± 18	kV
Operating Junction Temperature Range	T_J	-40 to +85	°C
Storage Temperature Range	T_{STG}	-55 to +125	°C
Lead Soldering Temperature	T_{SOL}	260 (10 sec.)	°C

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	V_{RWM}				2.5	V
Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{mA}$	5			V
Reverse Leakage Current	I_R	$V_{RWM} = 2.5\text{V}$			1	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ ($t_p = 8/20\mu\text{s}$)	2.5	3.1		V
Clamping Voltage	V_C	$I_{PP} = 2\text{A}$ ($t_p = 8/20\mu\text{s}$)	2.7	3.2		V
Clamping Voltage	V_C	$I_{PP} = 5\text{A}$ ($t_p = 8/20\mu\text{s}$)	4.0	4.6		V
Clamping Voltage	V_C	$I_{PP} = 8\text{A}$ ($t_p = 8/20\mu\text{s}$)	5.0	5.6		V
TLP Clamping Voltage (tperiod = 100ns, tr = 1ns)	V_C	$I_{TLP} = 16\text{A}$, I/O Pin to I/O Pin		8.2		V
TLP Dynamic Resistance (tperiod = 100ns, tr = 1ns)	R_{DYN}	I/O Pin to I/O Pin		0.35		Ω
Junction capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		0.38	0.75	pF

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

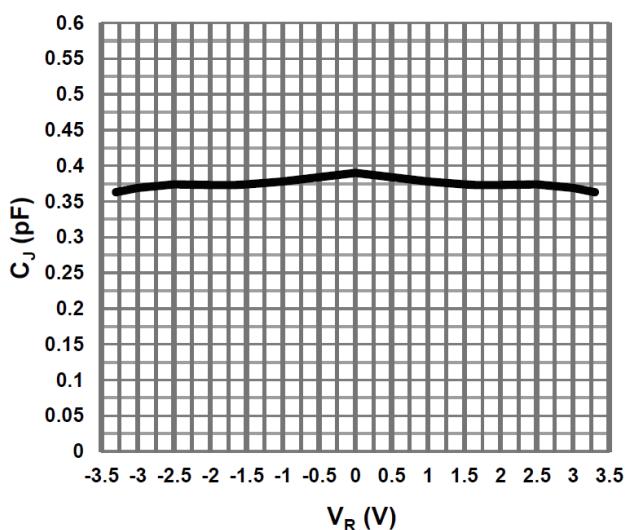


Fig 1. Junction Capacitance vs. Reverse Voltage

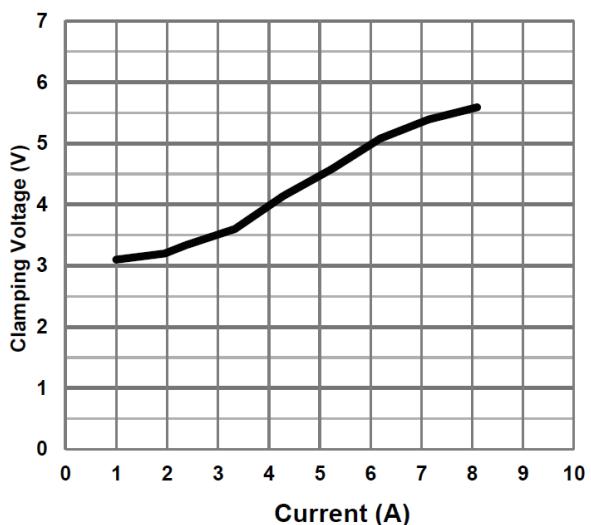


Fig 2. Clamping Voltage vs. Peak Pulse Current

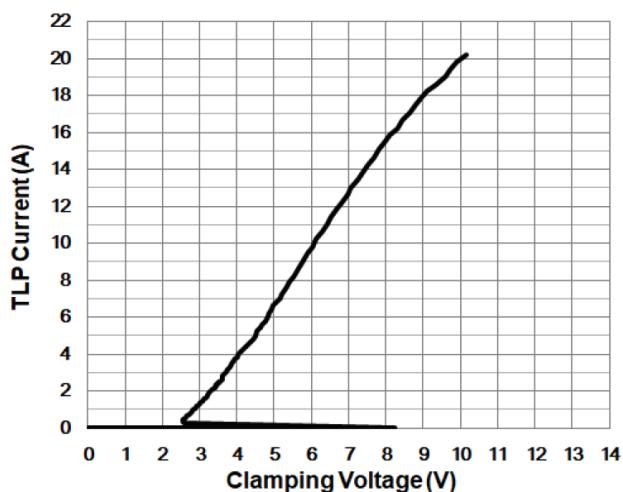


Fig 3. TLP Waveform (tperiod = 100ns, tr = 1ns)

Package Mechanical Data

Symbol	Dimensions in millimeters		
	Min.	Typ.	Max.
A	0.32	--	0.40
A1	0.00	--	0.05
A3	0.20 REF		
b	0.20	0.25	0.30
D	1.90	2.00	2.10
E	0.90	1.00	1.10
e	0.50 BSC		
L	0.30	0.35	0.40

The mechanical drawings provide three views of the package: Top view, Bottom view, and Side view. The Top view shows the overall width D and height E. The Bottom view shows the lead pitch L and lead width e. The Side view shows the thickness A, lead width b, and lead spacing A1 and A3.

Suggested Land Layout

Symbol	Dimensions in millimeters
C	0.5
X	0.3
X1	1.8
Y	0.6
Y1	1.4

The suggested land layout diagram shows a grid of pads. The total width of the grid is labeled X1. The total height of the grid is labeled Y. The distance from the left edge to the center of the first column of pads is labeled X. The distance between the centers of two adjacent columns of pads is labeled C. The distance from the bottom edge to the center of the first row of pads is labeled Y1. The distance between the centers of two adjacent rows of pads is also labeled C.

Ordering information

Part Number	Package	Marking code	Base qty	Reel Size	Delivery mode
			(pcs)	(inch)	
STKD8E62BSL	DFN2010-8L	E62	3,000	7	Tape and reel