

4-Line Ultra Low Capacitance TVS Diode Array

Features

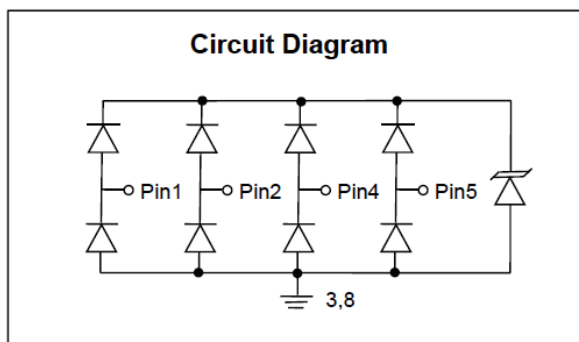
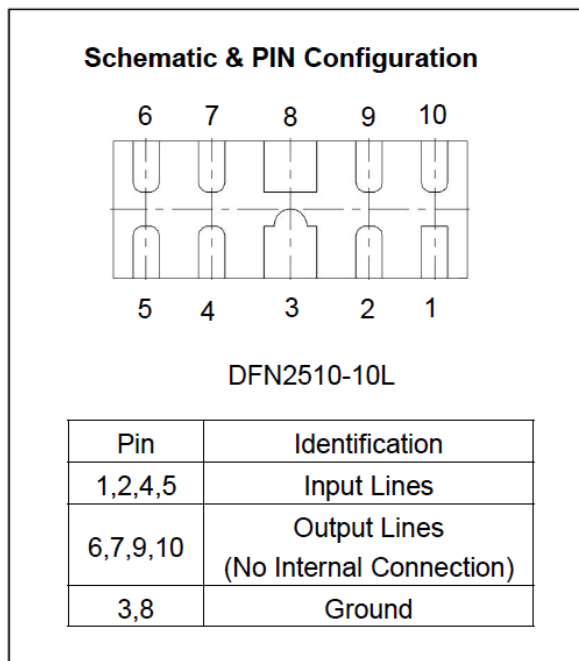
- IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- IEC 61000-4-5 (Lightning) 3A (8/20 μs)
- Ultra low Capacitance: 0.2pF typical (I/O to I/O)
- Low leakage current
- Low clamping Voltage
- Operating Voltage: 5V
- Up to 4 lines protects

Applications

- HDMI 1.3/1.4/2.0, USB 2.0/3.0 and MDDI ports
- Monitors and flat panel displays
- Set-top box and Digital TV
- Video graphics cards
- Digital Visual Interface (DVI)
- Notebook Computers

Mechanical Characteristics

- Package: DFN2510-10L (2.5 \times 1.0 \times 0.5mm)
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Right
- RoHS Compliant



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

Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PP}	39	W
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{PP}	3	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 15	KV
ESD per IEC 61000-4-2 (Contact)		± 8	KV
Operating Temperature Range	T_J	-55 ~ 125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ 150	$^\circ\text{C}$

Electrical Parameters ($T_A = 25^\circ\text{C}$ Unless otherwise noted)	
Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F

Electrical Characteristics ($T_A = 25^\circ\text{C}$ Unless otherwise noted)						
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Reverse Standoff Voltage	V_{RWM}	Any I/O pin to ground			5	V
Reverse breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$, Any I/O pin to ground	6			V
Reverse leakage current	I_R	$V_{RWM} = 5\text{V}$, Any I/O pin to ground			0.5	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ ($t_p = 8/20\mu\text{s}$), any I/O pin to ground			10	V
Clamping Voltage	V_C	$I_{PP} = 3\text{A}$ ($t_p = 8/20\mu\text{s}$), any I/O pin to ground			13	V
Junction capacitance	C_J	$V_R = 1.5\text{V}$, $f = 1\text{MHz}$, between I/O pins		0.2	0.3	pF
Junction capacitance	C_J	$V_R = 1.5\text{V}$, $f = 1\text{MHz}$, any I/O pin to ground			0.5	pF

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

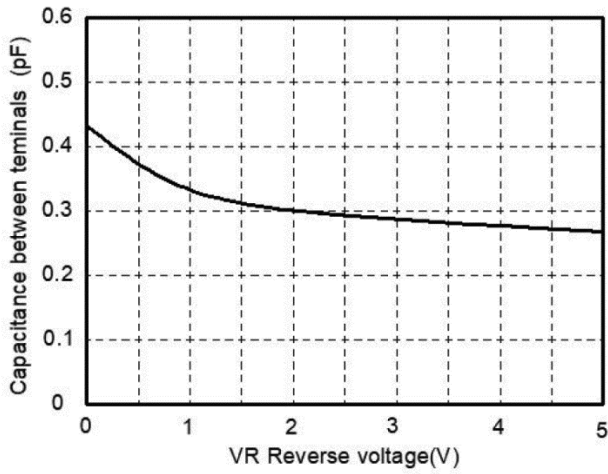


Fig 1. Junction Capacitance vs. Reverse Voltage

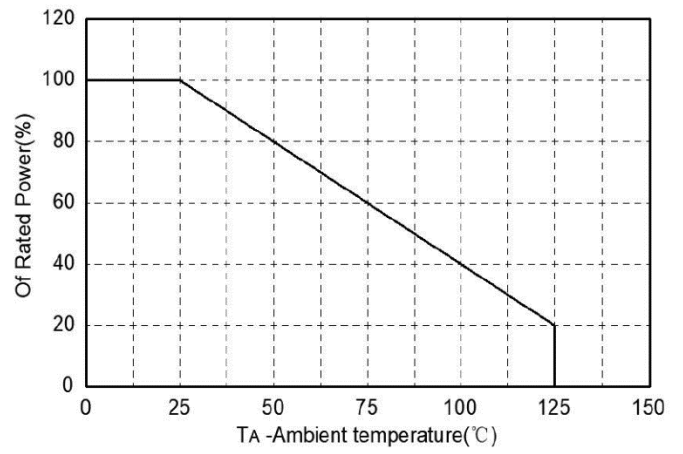


Fig 2. Power Derating Curve

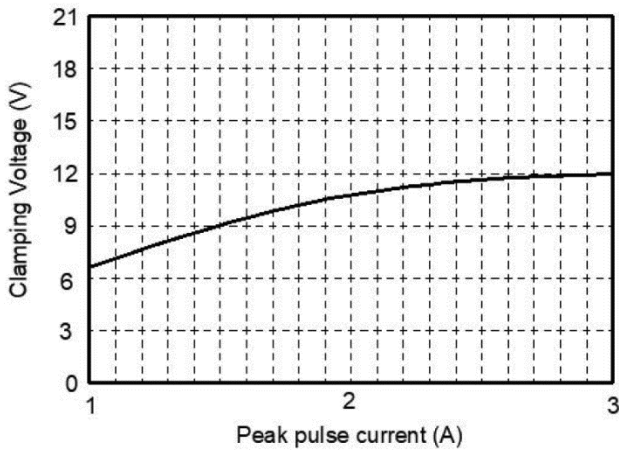


Fig 3. Clamping voltage vs. Peak Pulse Current

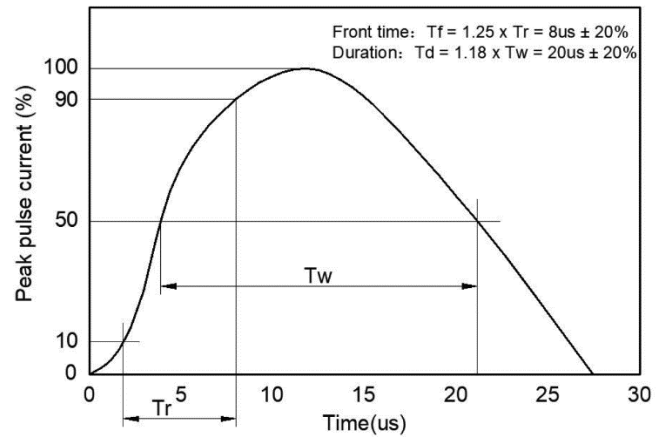


Fig 4. 8/20µs Pulse Waveform

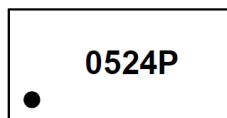
DFN2510-10L Package Outline Drawing

Symbol	Dimension in Millimeters	
	Min.	Max.
A	0.50	0.65
A1	0.00	0.05
c	0.15REF	
D	2.40	2.60
E	0.90	1.10
e	0.50REF	
N	2.00REF	
b	0.15	0.25
b1	0.35	0.50
b2	0.35	0.50
L	0.35	0.45

Suggested PAD Layout

Symbol	Dimension in Millimeters	
	Typ.	
X	0.30	
X1	0.45	
Y	0.67	
Y1	1.55	
Z	0.87	
P	0.50	
P1	1.00	

Marking Code



Marking Code = 0524P

Ordering information

Part Number	Package	Base qty	Reel Size	Delivery mode
		(pcs)	(inch)	
SZ05L4UDF	DFN2510-10L	3,000	7	Tape and reel