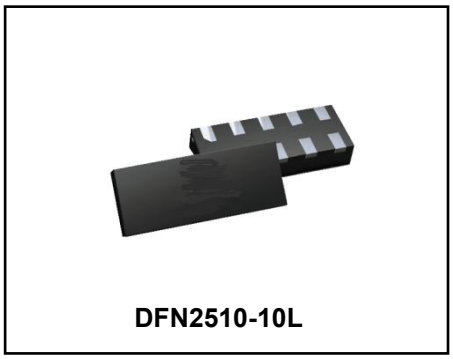
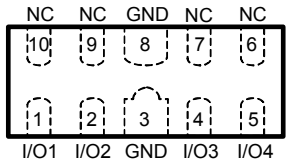
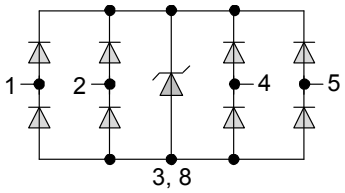
4-Lines, Uni-directional, Ultra-low Capacitance Transient Voltage Suppressors



DFN2510-10L





Features

- Protects 4 I/O Lines
- Low Working Voltage: 5 V
- Low Clamping Voltage
- Low Capacitance: 0.3pF (I/O to I/O)
- Response time is typically < 1 ns
- IEC61000−4−2 (ESD) ±20 kV (air), ±15 kV (contact)
- IEC61000−4−5 (Surge) 4 A (I/O to GND)
- Pb-Free, RoHS compliant

Applications

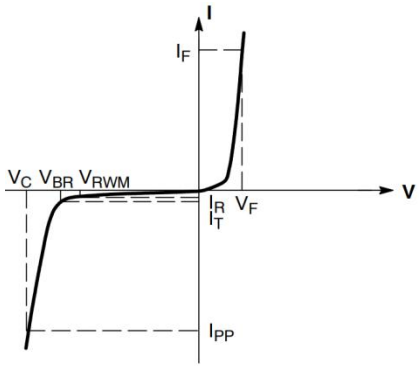
- High Definition Multi-Midia Interface (HDMI)
- Digital Visual Interface (DVI)
- DisplayPort™ Interface
- MDDI Ports
- PCI Express
- SATA and eSATA Interface
- USB3.0 and USB2.0 up to 480Mb/s
- IEEE1394 up to 3.2 Gb/s
- Ethernet port:10/100/1000 Mb/s

Absolute maximum ratings

Parameter	Symbol	Rating	Unit
Peak pulse power (t_p = 8/20μs)	P_{pk}	52	W
Peak pulse current (t_p = 8/20μs)	I_{PP}	4	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±20	kV
ESD according to IEC61000-4-2 contact discharge		±15	
Junction temperature	T_J	125	°C
Operating temperature	T_{OP}	-40~85	°C
Lead temperature	T_L	260	°C
Storage temperature	T_{STG}	-55~150	°C

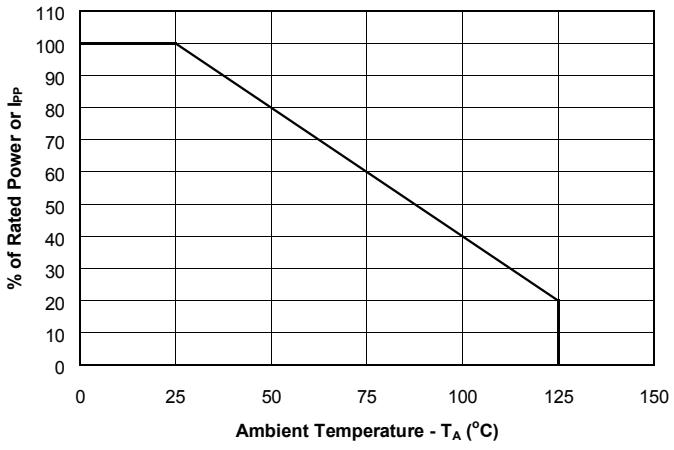
Electrical Characteristics (T_A=25℃ unless otherwise specified)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum 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
P_{pk}	Peak Power Dissipation
C	Max. Capacitance @ V_R = 0 and f = 1.0 MHz

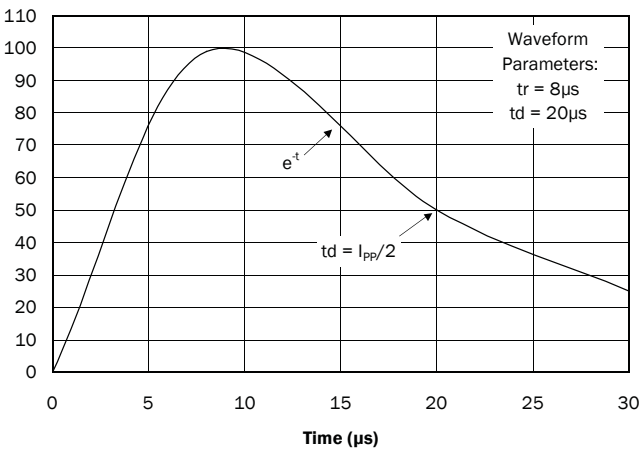


Electrical Characteristics (T_A=25℃ unless otherwise specified)

Paramete	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}	--	--	5	V	
Breakdown Voltage	V_{BR}	6.5	--	8.5	V	I_T=1mA
Leakage Current ILeak	I_R	--	--	100	nA	V_{RWM}=5V
Clamping Voltage（I/O-GND）	V_C	--	--	13	V	I_{PP}=4A,Tp=8/20μs
Junction Capacitance (I/O to GND)	C_J	--	--	0.7	pF	V_R=0V, f=1MHz
Junction Capacitance (I/O to I/O)	C_J	--	0.3	0.4	pF	V_R=0V, f=1MHz

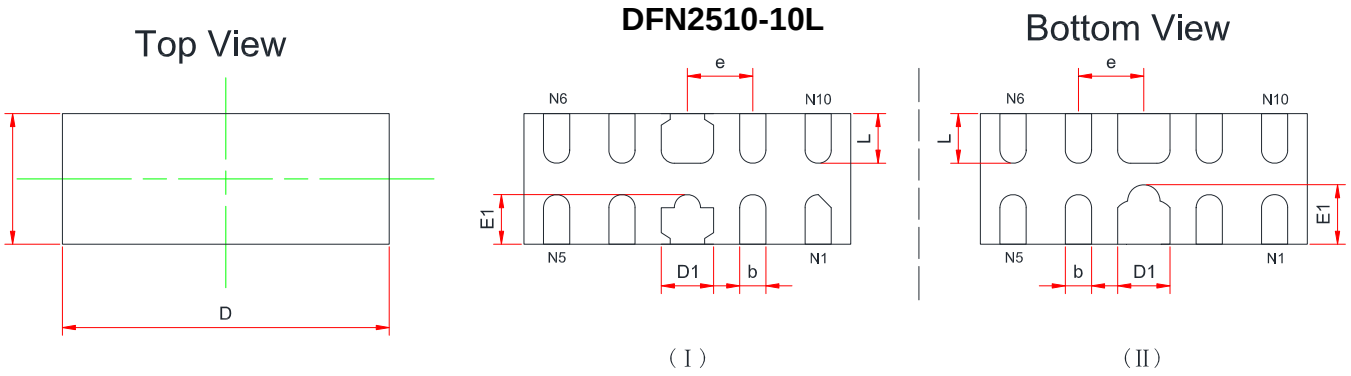


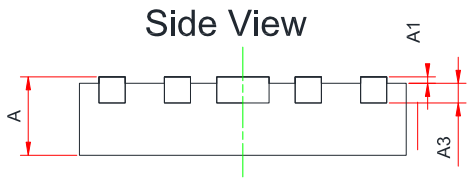
Power Derating Curve



Pulse Waveform

PACKAGE OUTLINE DIMENSIONS





Symbol	Dimensions in Millimeters		
	Min.	Typ.	Max.
A	0.500	0.575	0.650
A1	0.000	-	0.050
A3	0.150 Ref.		
D	2.400	2.500	2.600
E	0.900	1.000	1.100
D1	0.300	0.400	0.500
E1	0.300	0.455	0.610
b	0.130	0.190	0.250
e	0.500 BSC		
L	0.280	0.390	0.500

Recommended land pattern (Unit: mm)