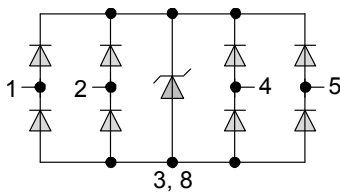
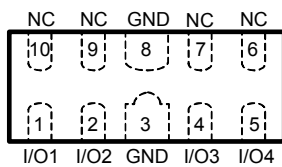
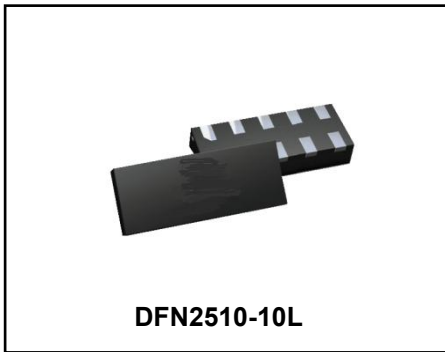


4-Lines, Uni-directional, Ultra-low Capacitance Transient Voltage Suppressors



Features

- Stand-off voltage: 5V max.
- Transient protection for each line according to IEC61000-4-2 (ESD): $\pm 20\text{kV}$ (contact discharge)
IEC61000-4-4 (EFT): 40A (5/50ns)
IEC61000-4-5 (surge): 4A (8/20 μs)
- Ultra-low capacitance: $C_J = 0.4\text{pF}$ typ.
- Ultra-low leakage current: $I_R < 1\text{nA}$ typ.
- Low clamping voltage: $V_{CL} = 14\text{V}$ typ. @ $I_{PP} = 16\text{A}$ (TLP)
- Solid-state silicon technology

Applications

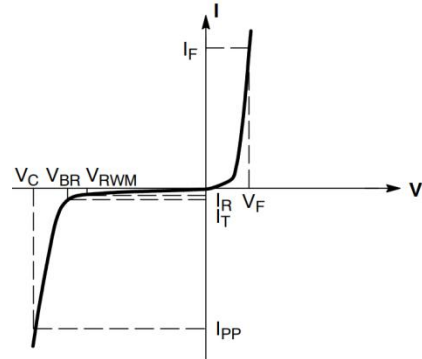
- USB 2.0 and USB 3.0
- HDMI 1.3, HDMI 1.4 and HDMI 2.0
- SATA and eSATA
- DVI
- IEEE 1394
- PCI Express
- Portable Electronics and Notebooks

Absolute maximum ratings

Parameter	Symbol	Rating	Unit
Peak pulse power ($t_p = 8/20\mu\text{s}$)	P_{pk}	50	W
Peak pulse current ($t_p = 8/20\mu\text{s}$)	I_{PP}	4	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 20	kV
ESD according to IEC61000-4-2 contact discharge		± 20	
Junction temperature	T_J	125	$^{\circ}\text{C}$
Operating temperature	T_{OP}	-40~85	$^{\circ}\text{C}$
Lead temperature	T_L	260	$^{\circ}\text{C}$
Storage temperature	T_{STG}	-55~150	$^{\circ}\text{C}$

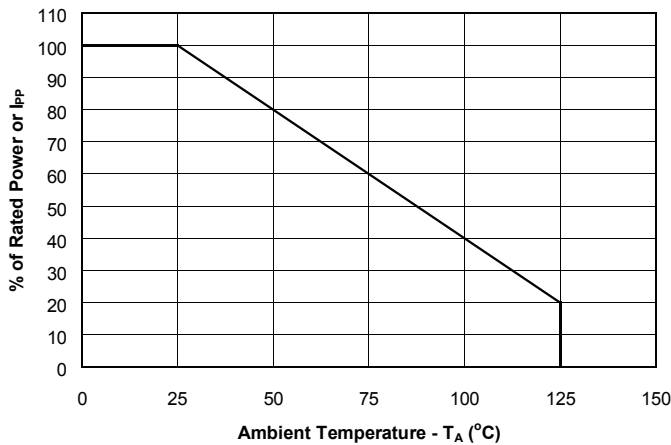
Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

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

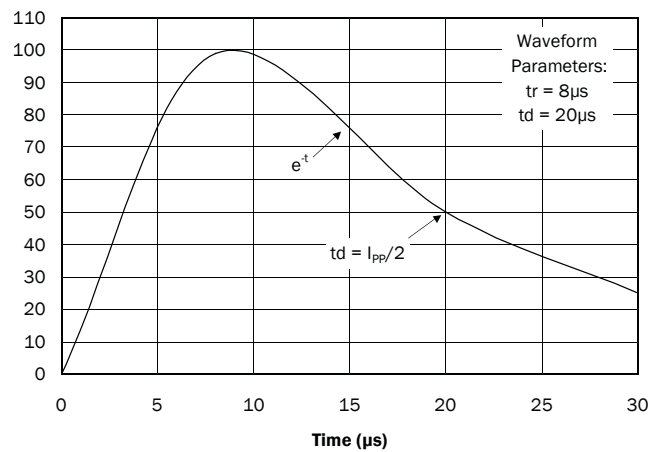


Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}	--	--	5	V	
Breakdown Voltage	V_{BR}	7.0	8.0	9.0	V	$I_T=1\text{mA}$
Leakage Current I_{Leak}	I_R	--	<1	100	nA	$V_{RWM}=5\text{V}$
Clamping Voltage (I/O-GND)	V_C	--	--	12	V	$I_{PP}=4\text{A}, T_p=8/20\mu\text{s}$
Junction Capacitance (I/O to GND)	C_J	--	0.4	0.65	pF	$V_R=0\text{V}, f=1\text{MHz}$
Junction Capacitance (I/O to I/O)	C_J	--	0.25	0.4	pF	$V_R=0\text{V}, f=1\text{MHz}$

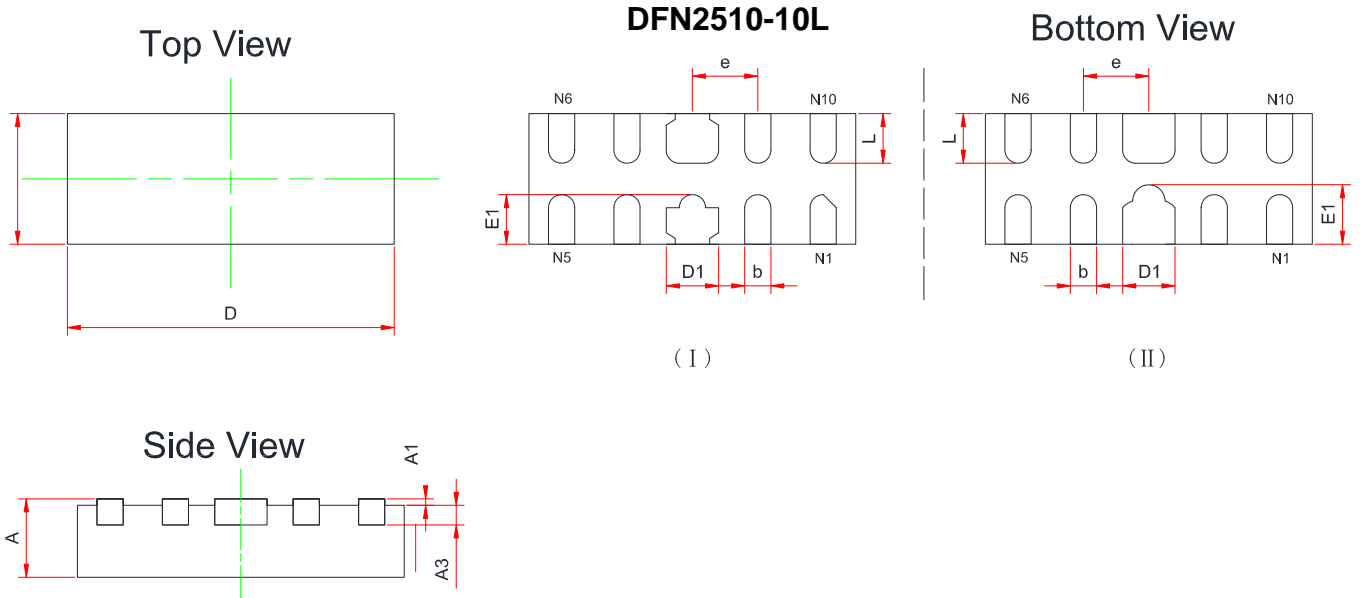


Power Derating Curve



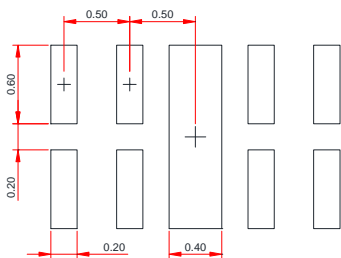
Pulse Waveform

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)



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