

# ESDA6V8UD

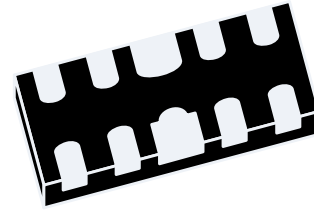
**4-Lines, Uni-directional, Ultra-low Capacitance,  
Transient Voltage Suppressors**

## Descriptions

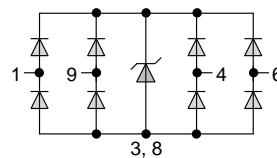
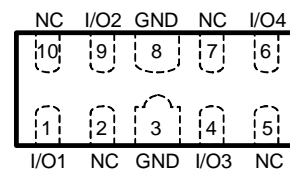
The ESDA6V8UD is a transient voltage suppressors (TVS) which provide a very high level protection for sensitive electronic components that may be subjected to electrostatic discharge (ESD). It is designed to replace multilayer varistors (MLV) in consumer equipments applications such as mobile phone, notebook, PAD, STB, LCD TV etc.

The ESDA6V8UD was past ESD transient voltage up to  $\pm 8\text{KV}$  (contact) according to IEC61000-4-2 and withstand peak current up to 2.5A for 8/20us pulse according to IEC61000-4-5.

The ESDA6V8UD is available in DFN2510-10L package. Standard products are Pb-free and Halogen-free.



DFN2510-10L



Pin configuration (Top view)



6V8 = Device code  
\* = Month code (A~Z)

**Marking**

## Features

- Working voltage : 5V
- Peak power (tp=8/20us) : 30W Max.
- Peak current (tp=8/20us) : 2.5A Max.
- Transient protection  
IEC61000-4-2 :  $\pm 15\text{kV}$  air  
:  $\pm 8\text{kV}$  contact
- Ultra-low clamping voltage
- Low leakage current
- Small package

## Applications

- Mobile phone
- PAD
- Notebook
- STB
- LCD TV
- Digital camera
- Other electronics equipments

## Order information

Device	Package	Shipping
ESDA6V8UD-10/TR	DFN2510-10L	3000/Tape&Reel

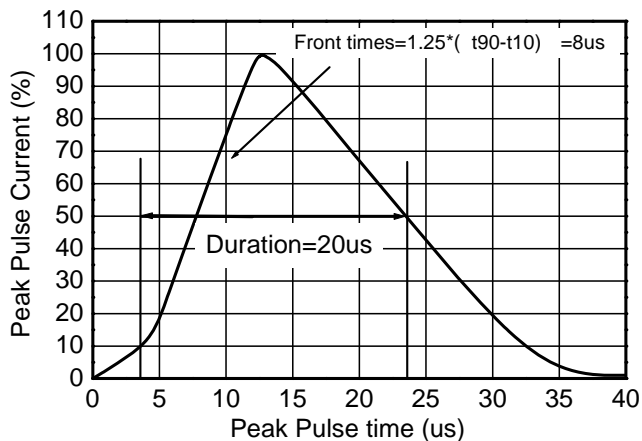
**ESDA6V8UD**

**Absolute maximum ratings**

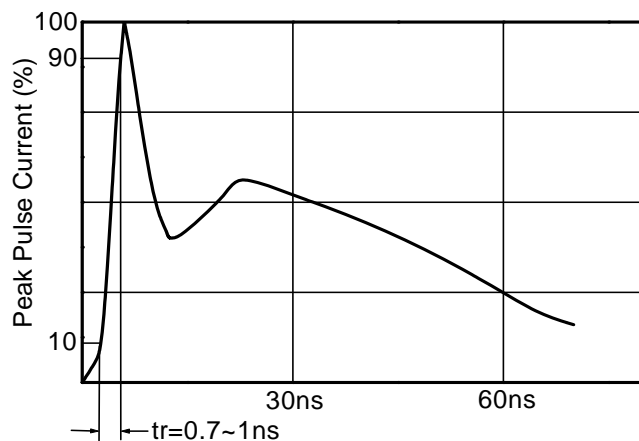
Parameter	Symbol	Rating	Unit
Peak pulse power (tp=8/20us)	Ppk	30	W
Peak pulse current (tp=8/20us)	Ipp	2.5	A
ESD voltage IEC61000-4-2 air	V <sub>ESD</sub>	±15	kV
ESD voltage IEC61000-4-2 contact		±8	
Operation junction temperature	T <sub>J</sub>	125	°C
Lead temperature	T <sub>L</sub>	260	°C
Storage temperature	T <sub>stg</sub>	-55~150	°C

**Electronics characteristics (Ta=25 °C, unless otherwise noted)**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse maximum working voltage	V <sub>RWM</sub>				5.0	V
Reverse leakage current	I <sub>R</sub>	V <sub>RWM</sub> =5V			1.0	uA
Reverse breakdown voltage	V <sub>BR</sub>	I <sub>T</sub> =1mA	6.5	8.0	10	V
Forward voltage	V <sub>F</sub>	I <sub>T</sub> =10mA	0.4	0.8	1.4	V
Clamping voltage	V <sub>C</sub>	Ipp=1A tp=8/20us			10	V
		Ipp=2.5A tp=8/20us			12	V
Junction capacitance	C <sub>J</sub>	I/O-to-GND F=1MHz, V <sub>R</sub> =0V		0.7	0.9	pF
		I/O-to-I/O F=1MHz, V <sub>R</sub> =0V		0.35	0.5	pF

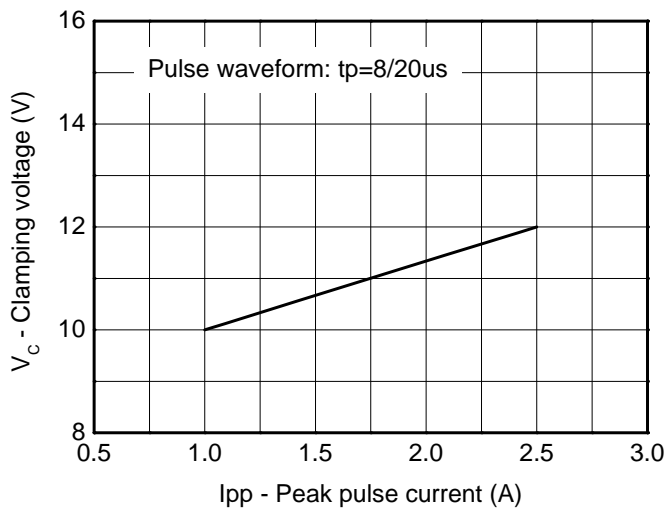


**8/20us waveform**

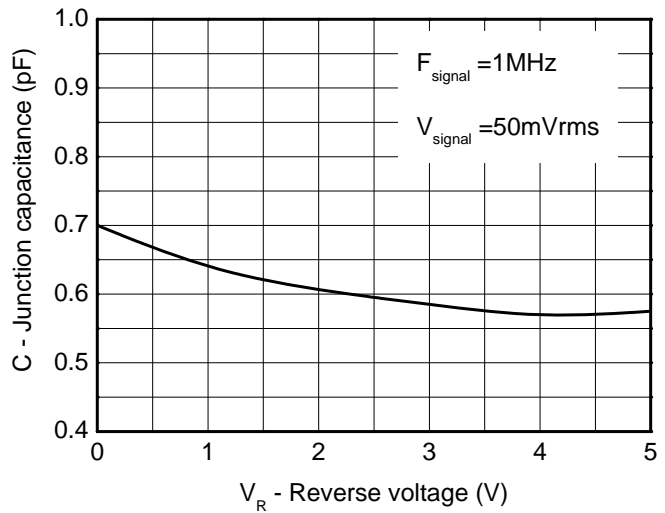


**IEC61000-4-2 waveform**

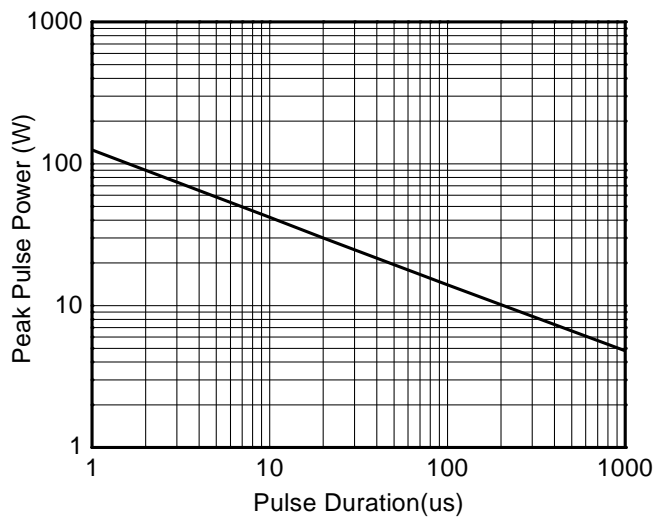
Typical characteristics (Ta=25°C, unless otherwise noted)



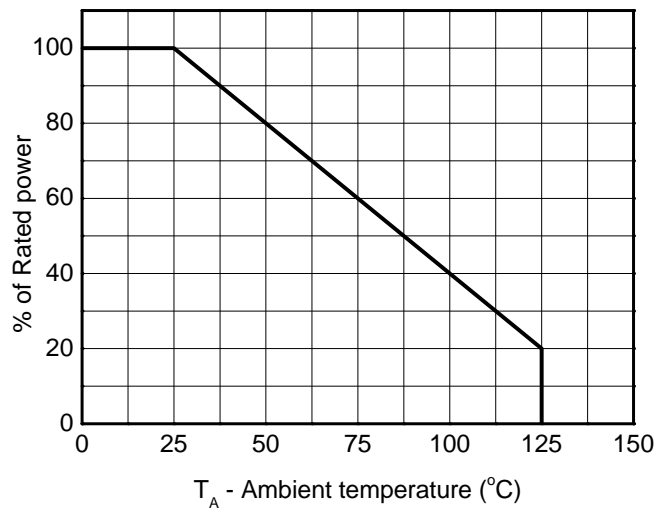
Clamping voltage vs. Peak pulse current



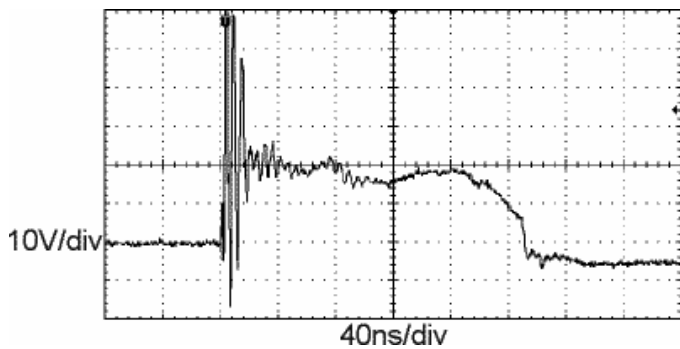
Capacitance vs. Reverse voltage



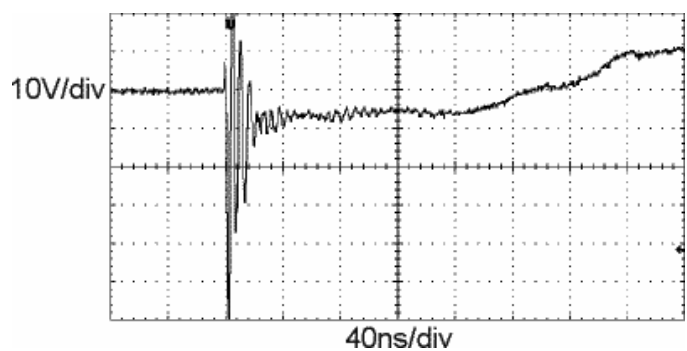
Non-Repetitive Peak Pulse Power vs. Pulse time



Power derating vs. Temperature

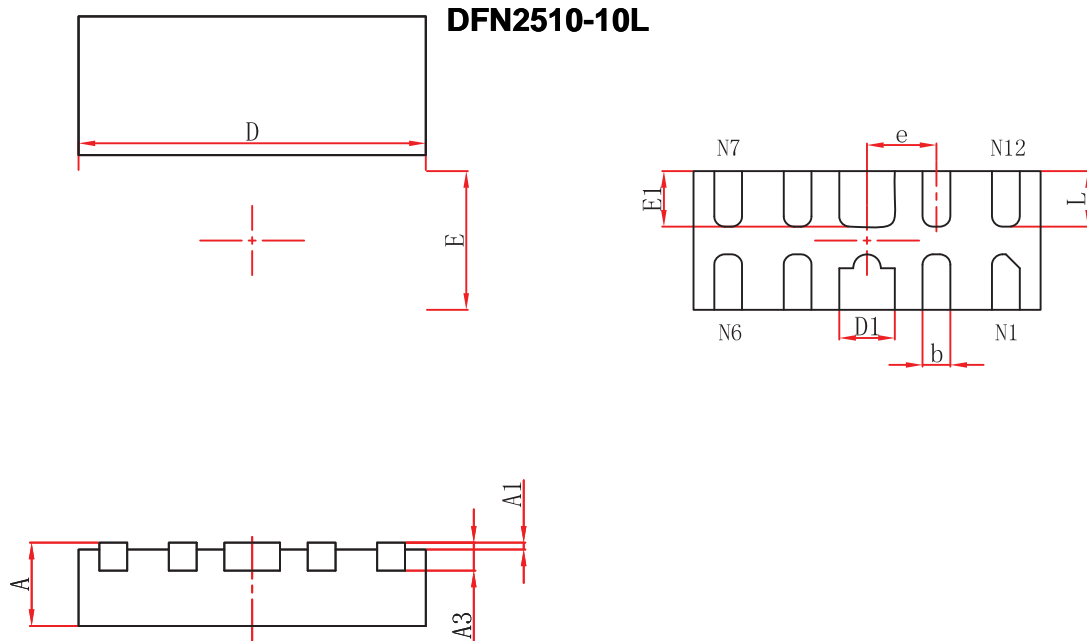


ESD clamping voltage  
(IEC61000-4-2 +8kV contact)



ESD clamping voltage  
(IEC61000-4-2 -8kV contact)

Package outline dimensions



Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	0.55	0.60	0.65
A1	-	-	0.05
A3	0.152 Ref.		
D	2.45	2.50	2.55
E	0.95	1.00	1.05
D1	0.35	0.40	0.45
E1	0.35	0.40	0.45
b	0.15	0.20	0.25
L	0.35	0.40	0.45
e	0.500BSC		

Recommend PCB Layout Unit:inch(mm)

