

# MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

## ESD5344D-MS

Product specification

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

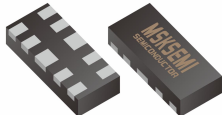
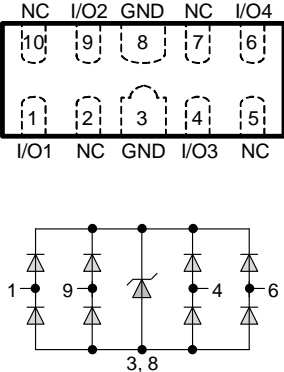

## Features

- 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

## Reference News

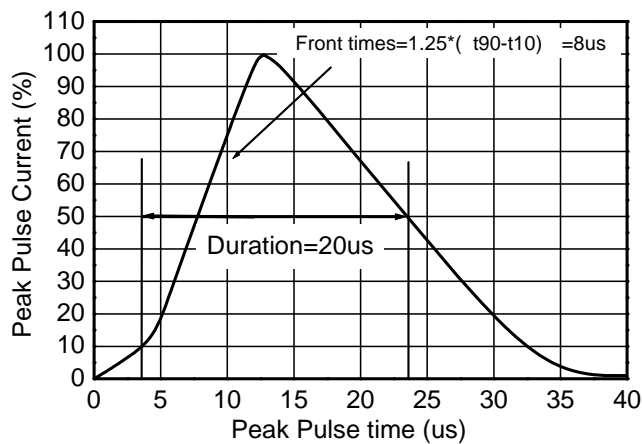
PACKAGE OUTLINE	Circuit Diagram	Marking
		
DFN2510-10L		

## Absolute maximum ratings

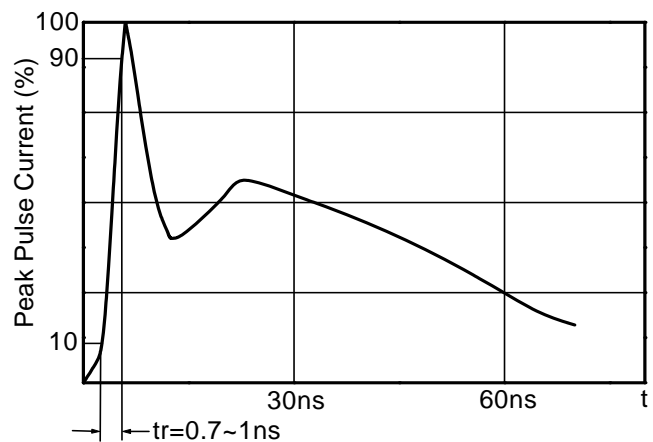
Parameter	Symbol	Rating	Unit
Peak pulse power ( $t_p=8/20\mu s$ )	Ppk	30	W
Peak pulse current ( $t_p=8/20\mu s$ )	Ipp	2.5	A
ESD voltage IEC61000-4-2 air	V <sub>ESD</sub>	±25	kV
ESD voltage IEC61000-4-2 contact		±25	
Operation junction temperature	T <sub>J</sub>	125	°C
Lead temperature	T <sub>L</sub>	260	°C
Storage temperature	Tstg	-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=1Atp=8/20us			10	V
		Ipp=2.5Atp=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

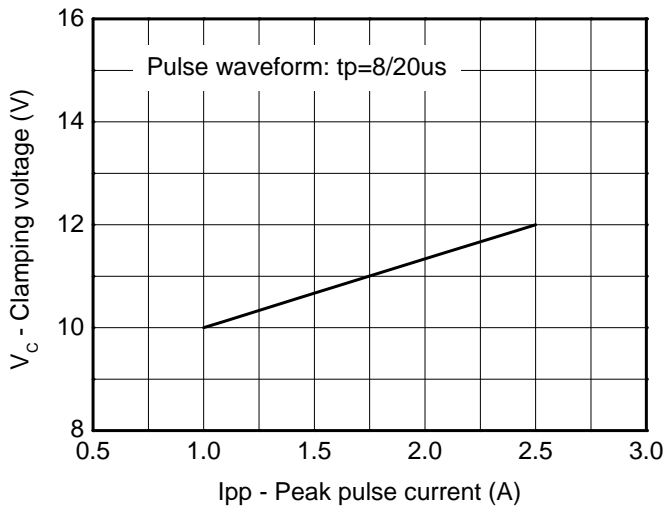


8/20us waveform

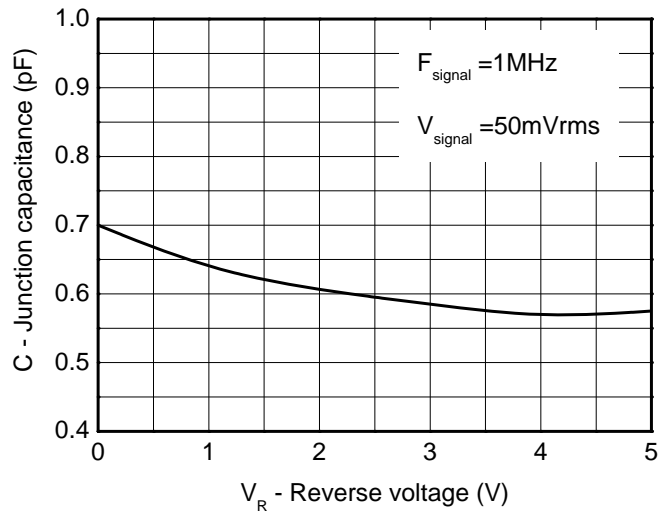


IEC61000-4-2 waveform

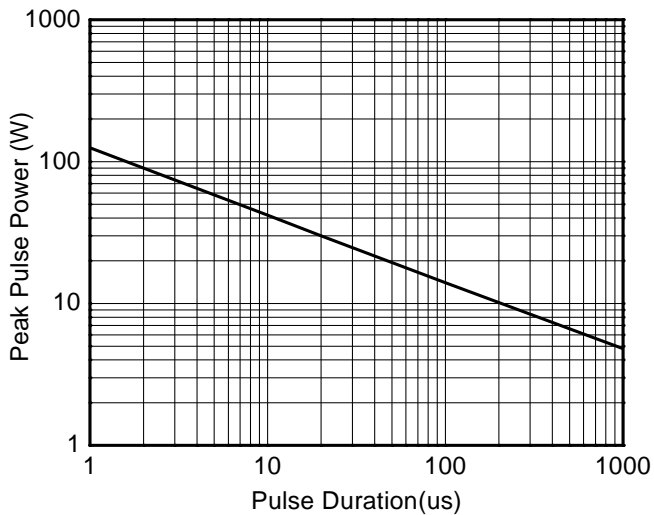
Typical characteristics ( $T_a=25^\circ\text{C}$  , unless otherwise noted)



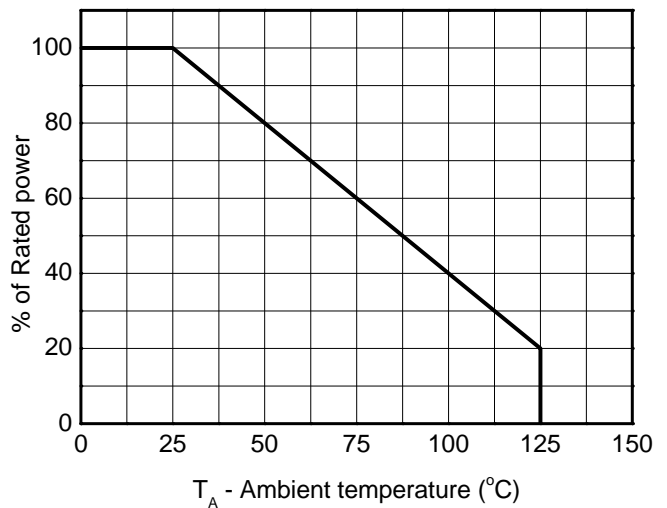
**Clamping voltage vs. Peak pulse current**



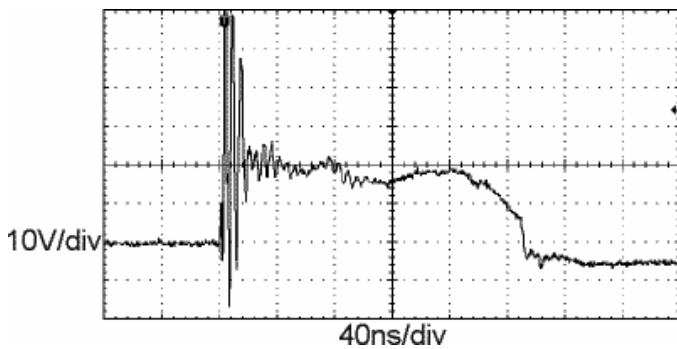
**Capacitance vs. Reverse voltage**



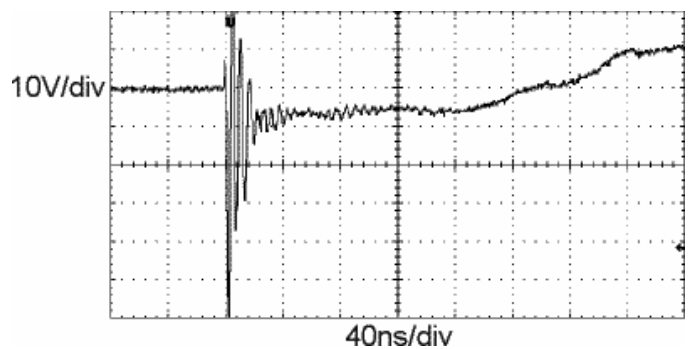
**Non-Repetitive Peak Pulse Power vs. Pulse time**



**Power derating vs. Temperature**

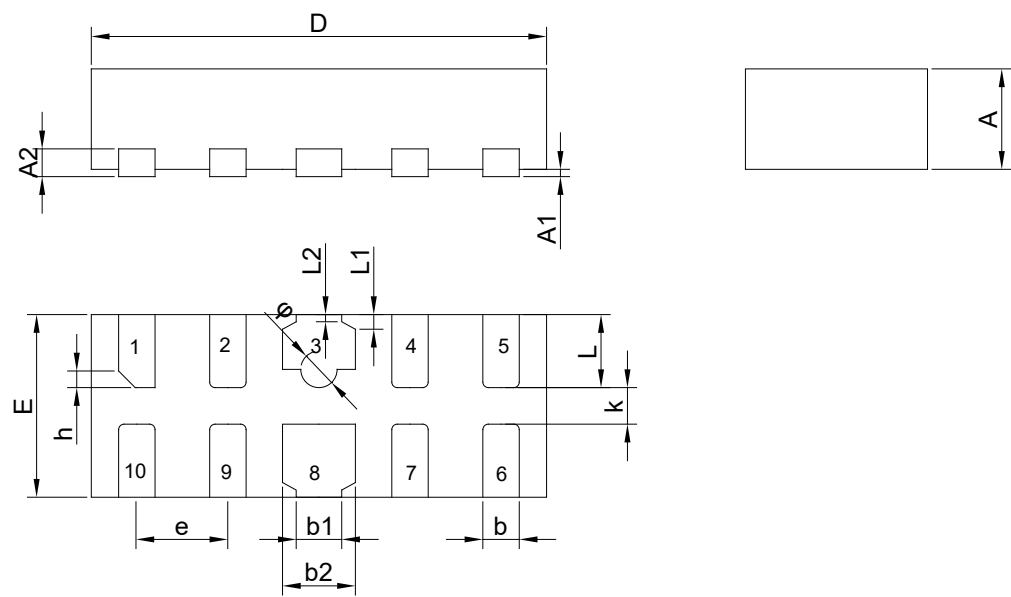


**ESD clamping voltage  
(IEC61000-4-2 +8kV contact)**



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

Dimension (DFN2510-10L)



Dimensions in Millimeter							
Symbol	Min.	Nom.	Max.	Symbol	Min.	Nom.	Max.
A	0.500	0.550	0.600	D	2.450	2.500	2.550
A1	0.00	/	0.05	E	0.950	1.00	1.050
A2	0.122	0.152	0.200	e	0.450	0.500	0.550
b	0.150	0.200	0.250	h	0.080	0.120	0.150
b1	0.200	0.250	0.300	k	0.150	0.200	0.250
b2	0.350	0.400	0.450	L	0.350	0.400	0.450
L1	0.075 REF			L2	0.05 REF		
$\phi$	0.150	0.200	0.250				

REEL SPECIFICATION

P/N	PKG	QTY
ESD5304D-MS	DFN2510-10L	3000

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