GESD9X5V0Y1

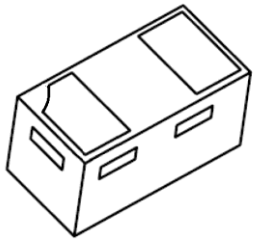
Uni-direction Transient Voltage Suppressors

Product Summary

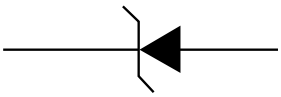
The GESD9X5V0Y1 is designed to protect voltage sensitive electronic components from ESD and other transients. Low clamping voltage and fast response time. make these parts ideal for ESD protection on designs where board space is at a premium.

The combination of small size, low capacitance, and high level of ESD protection makes them a flexible solution for applications such as HDMI, Display Port TM, and MDDI interfaces. It is designed to replace multiplayer varistors (MLV) in consumer equipment applications such as mobile phone, notebook, PAD, STB, LCD TV etc.

DFN1006-2L



Schematic diagram



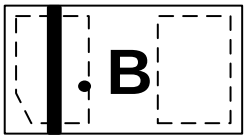
Feature

- Low reverse stand−off voltage: 5V
- 11A Peak pulse current per line (tp = 8/20μs)
- Low clamping voltage
- Unidirectional configurations
- Response time is typically<1ns
- Protect one I/O or power line
- Transient protection for data lines to
- IEC61000-4-2(ESD)±30kV(air), ±30kV(contact)

Mechanical Characteristics

- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:260°C

Marking:



Front Side
B=Device Code

Absolute Maximum Ratings (T_a=25℃ unless otherwise noted)

Parameter		Symbol	Value	Unit
IEC 61000-4-2 ESD Voltage	Air Model	V_{ESD}	±30	KV
IEC 61000-4-2 ESD Voltage	Contact Model		±30	
JESD22-A114-B ESD Voltage	Per Human Body Model		±16	
ESD Voltage	Machine Model		±0.4	
Peak Pulse Power		P_{PP}	198	W
Peak Pulse Current		I_{PP} 2)	11	A
Lead Solder Temperature − Maximum (10 Second Duration)		T_L	260	℃
Junction Temperature		T_J	-45~ +125	℃
Storage Temperature		T_{stg}	-45~ +125	℃

ESD standards compliance

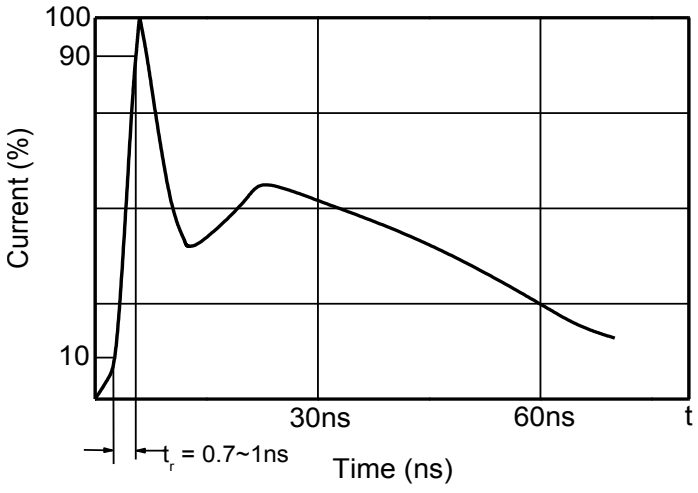
IEC61000-4-2 Standard

Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

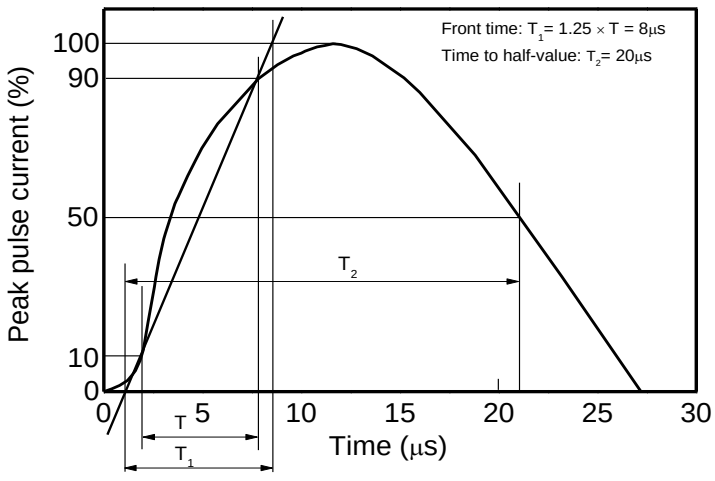
JESD22-A114-B Standard

ESD Class	Human Body Discharge V
0	0~249
1A	250~499
1B	500~999
1C	1000~1999
2	2000~3999
3A	4000~7999
3B	8000~15999

Contact discharge current waveform per IEC61000-4-2

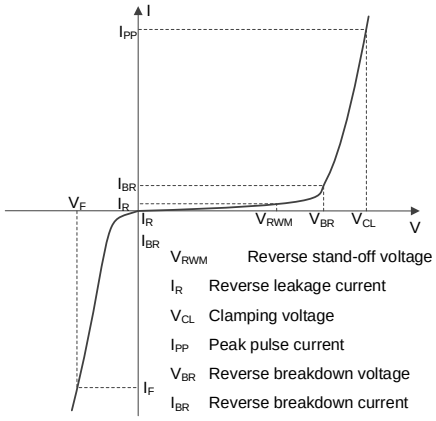


8/20μs waveform per IEC61000-4-5



Electrical Parameter

Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Standoff Voltage



V-I characteristics for a Uni-directional TVS

Electrical Characteristics (T_a=25℃ unless otherwise specified)

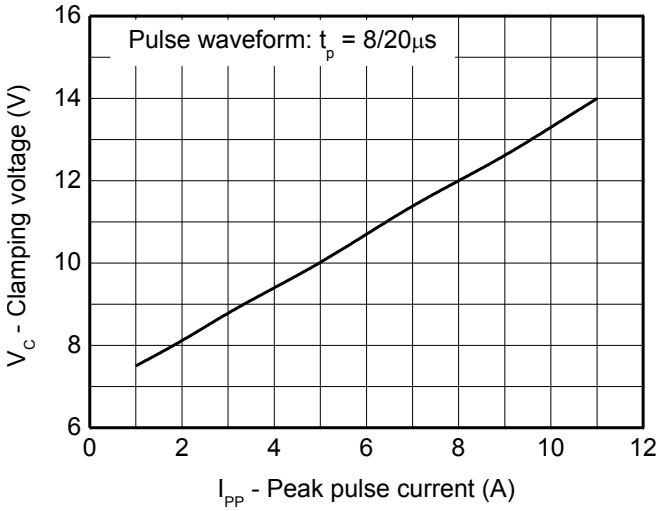
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse stand-off voltage	V_{RWM}[1)]				5	V
Reverse leakage current	I_R	V_{RWM}=5V			1	uA
Breakdown voltage	V_{BR}	I_T=1mA	5.8		7.6	V
Clamping voltage	V_C[2)]	I_{PP}=11A		14	18	V
Junction capacitance	C_J	V_R=0V,f=1MHz		60	80	pF

1) Other voltages available upon request.

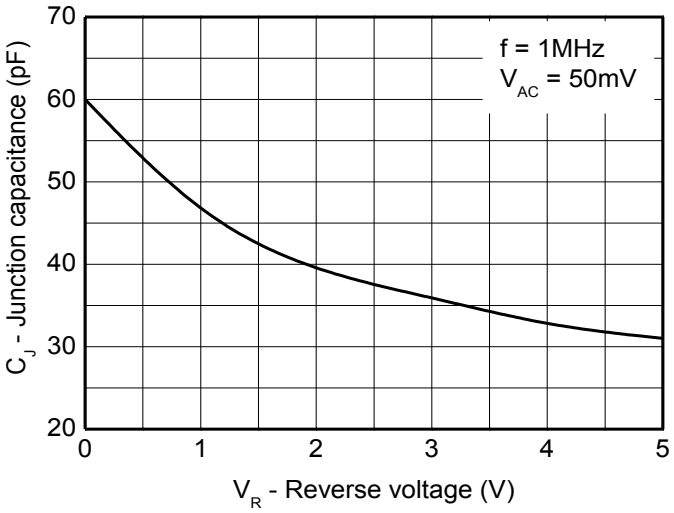
2) Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5

Typical Characteristics

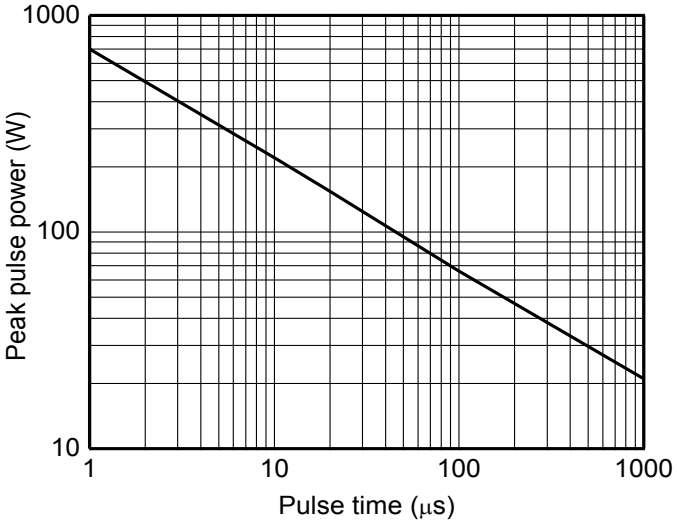
V_C vs. I_{PP}



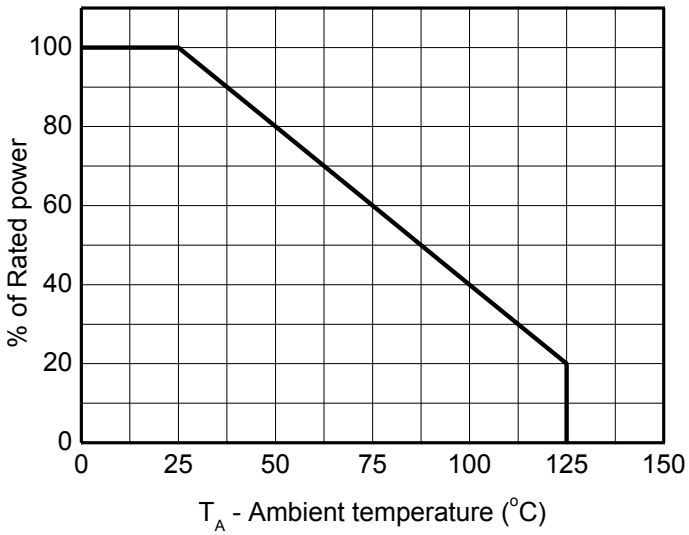
Capacitance Characteristics



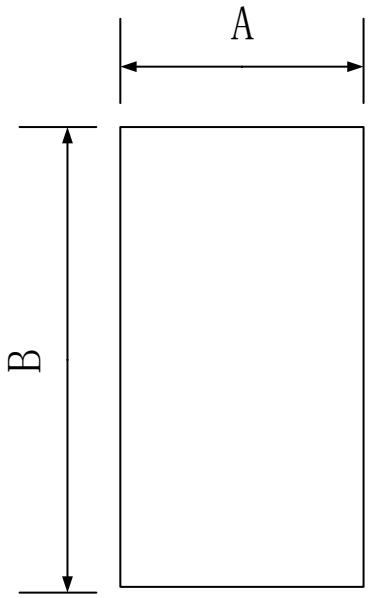
Peak pulse power vs. Pulse time



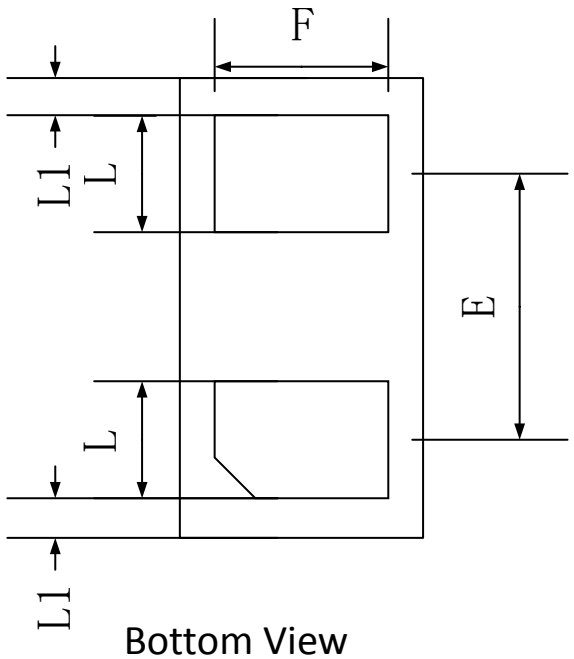
Power derating vs. Ambient temperature



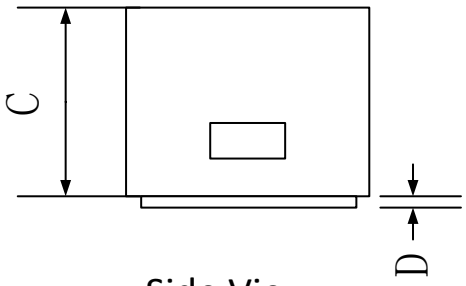
DFN1006-2L Package Outline Dimensions



Top View



Bottom View



Side View

	Dimensions In Millimeters		
	Min.	Typ.	Max.
A	0.55	0.60	0.68
B	0.95	1.00	1.08
C	0.44	0.47	0.50
D	0.00	0.03	0.05
E	-	0.65	-
F	0.40	0.50	0.60
L	0.20	0.25	0.30
L1	0.05REF		