

Product Summary

The GESDW3V3AG1 provides a typical line to line capacitance of 0.08pF between I/O pins and low insertion loss up to 3GHz providing greater signal integrity making it ideally suited for HDMI applications, such as Digital TVs, DVD players, Computing, set-top boxes and MDDI applications in mobile computing devices.

It has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from overvoltage caused by ESD(electrostatic discharge), CDE (Cable Discharge Events),and EFT (electrical fast transients).

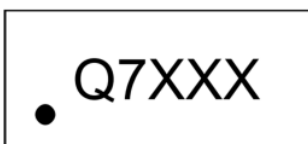
Feature

- Low reverse stand-off voltage: 3.3V
- Protects Four I/O lines
- 60.0 Watts Peak Pulse Power per Line (tp=8/20μs)
- Ultra Low Capacitance: 0.7pF typical (I/O to GND)

Application

- USB 2.0/3.0/3.1
- HDMI 1.3/1.4/2.0
- Unified Display Interface
- Digital Visual Interface
- High Speed Serial Interface

Marking:

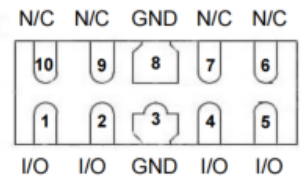


Front Side

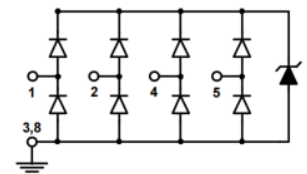
Q7=Device Code

XXX=Date Code

DFN2510-10L



Schematic diagram



Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
IEC 61000-4-2 ESD Voltage	$V_{\text{ESD}}^{1)}$	± 20	kV
IEC 61000-4-2 ESD Voltage		± 20	
Peak Pulse Power	$P_{\text{PP}}^{2)}$	60	W
Peak Pulse Current	$I_{\text{PP}}^{2)}$	12	A
Lead Solder Temperature – Maximum (10 Second Duration)	T_L	260	$^{\circ}\text{C}$
Junction Temperature	T_J	-55~ +125	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

- 1) Device stressed with ten non-repetitive ESD pulses.
- 2) Non-repetitive current pulse $8/20\mu\text{s}$ exponential decay waveform according to IEC61000-4-5.

ESD standards compliance

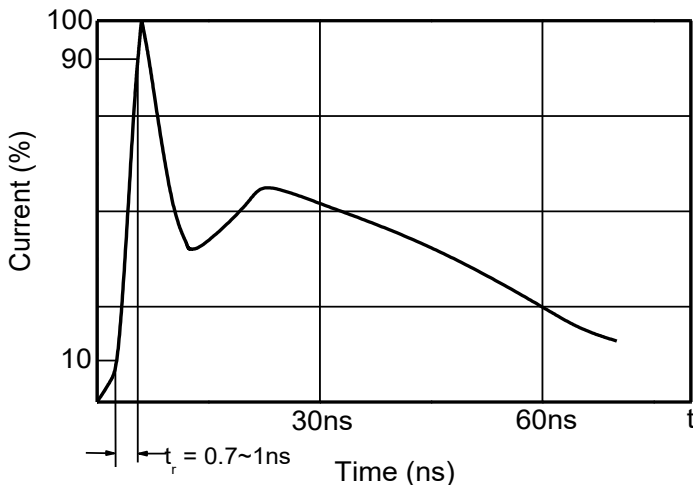
IEC61000-4-2 Standard

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

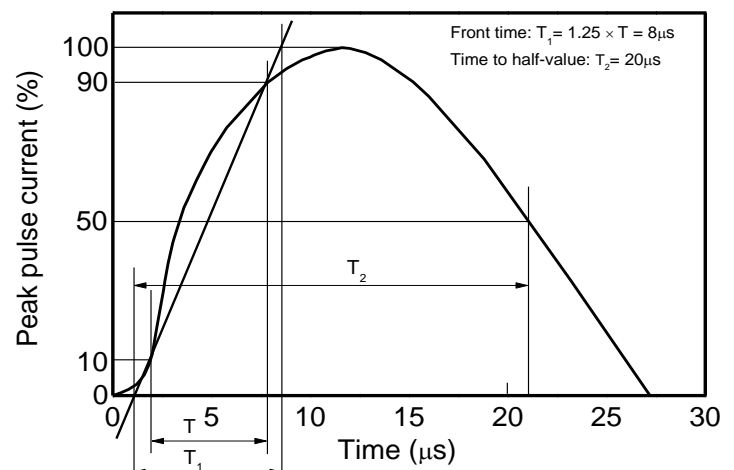
JESD22-A114-B Standard

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

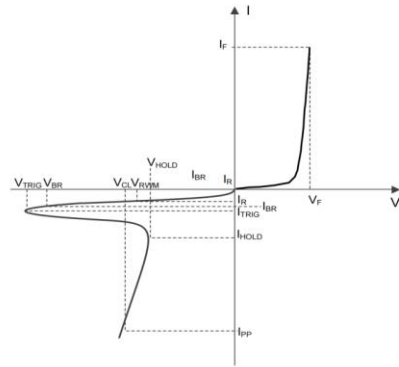


8/20 μs waveform per IEC61000-4-5



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

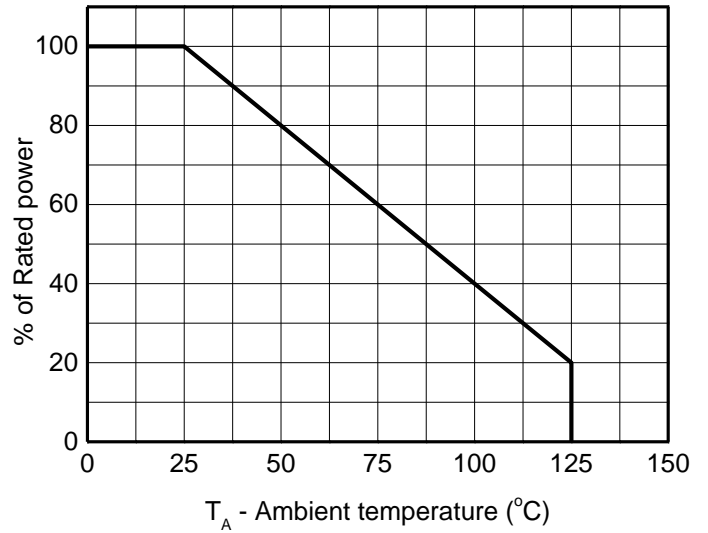
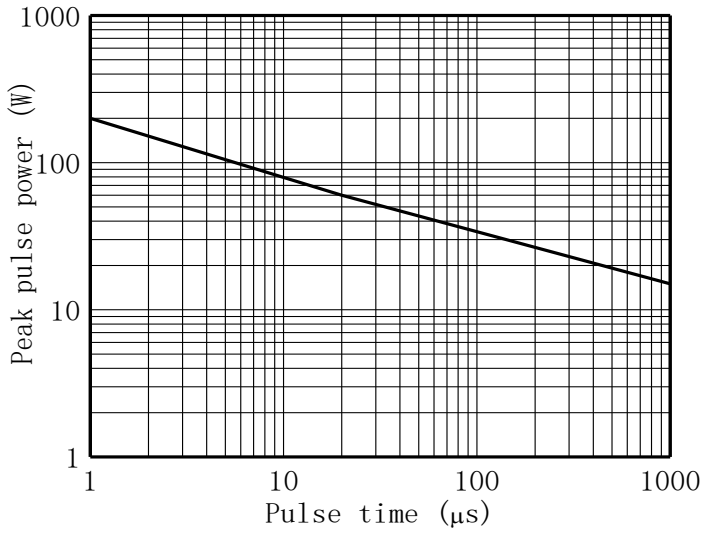
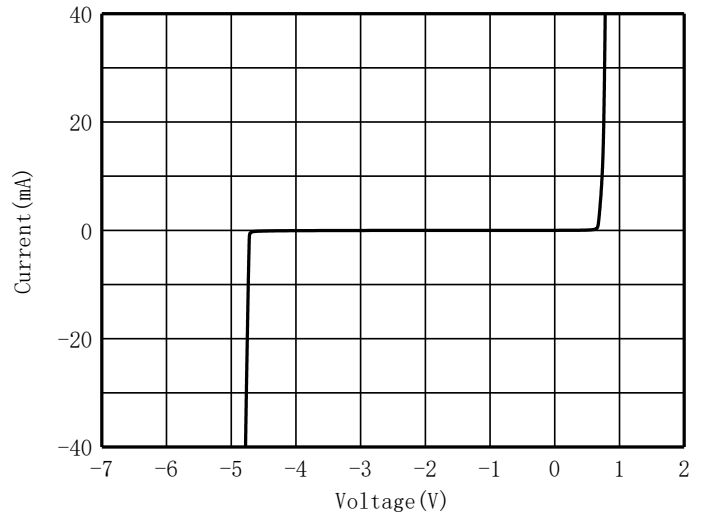
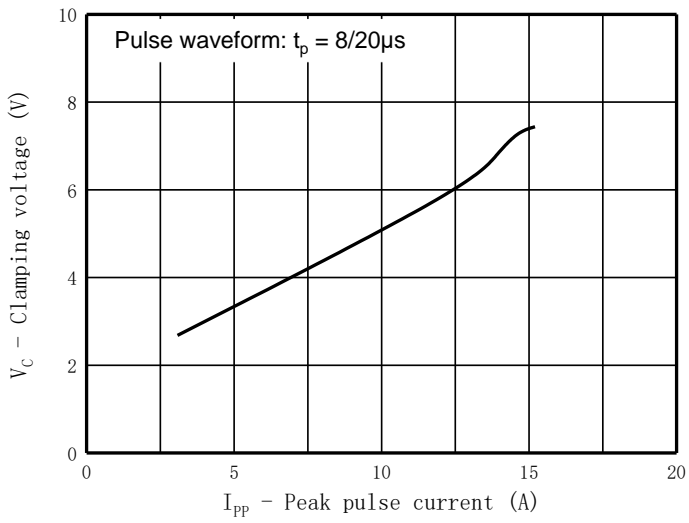
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse Standoff Voltage	V _{RWM} ¹⁾				3.3	V
Reverse Leakage Current	I _R	V _{RWM} =3.3V			0.1	uA
Breakdown Voltage	V _{BR}	I _T =1mA	3.6			V
Hold Current Voltage	V _H	I _H =100mA	0.8			V
ESD Clamping Voltage	V _C	I _{PP} =16A, t _p =10/100ns		4.5		V
Clamping Voltage	V _C ²⁾	I _{PP} =5A		4		V
		I _{PP} =12A		5		V
Dynamic Resistance	R _{dyn}	t _p =10/100ns		0.2		Ω
Junction Capacitance ²⁾	C _{IN}	V _{IN} =0V, f=1MHz, I/O to GND		0.6		pF

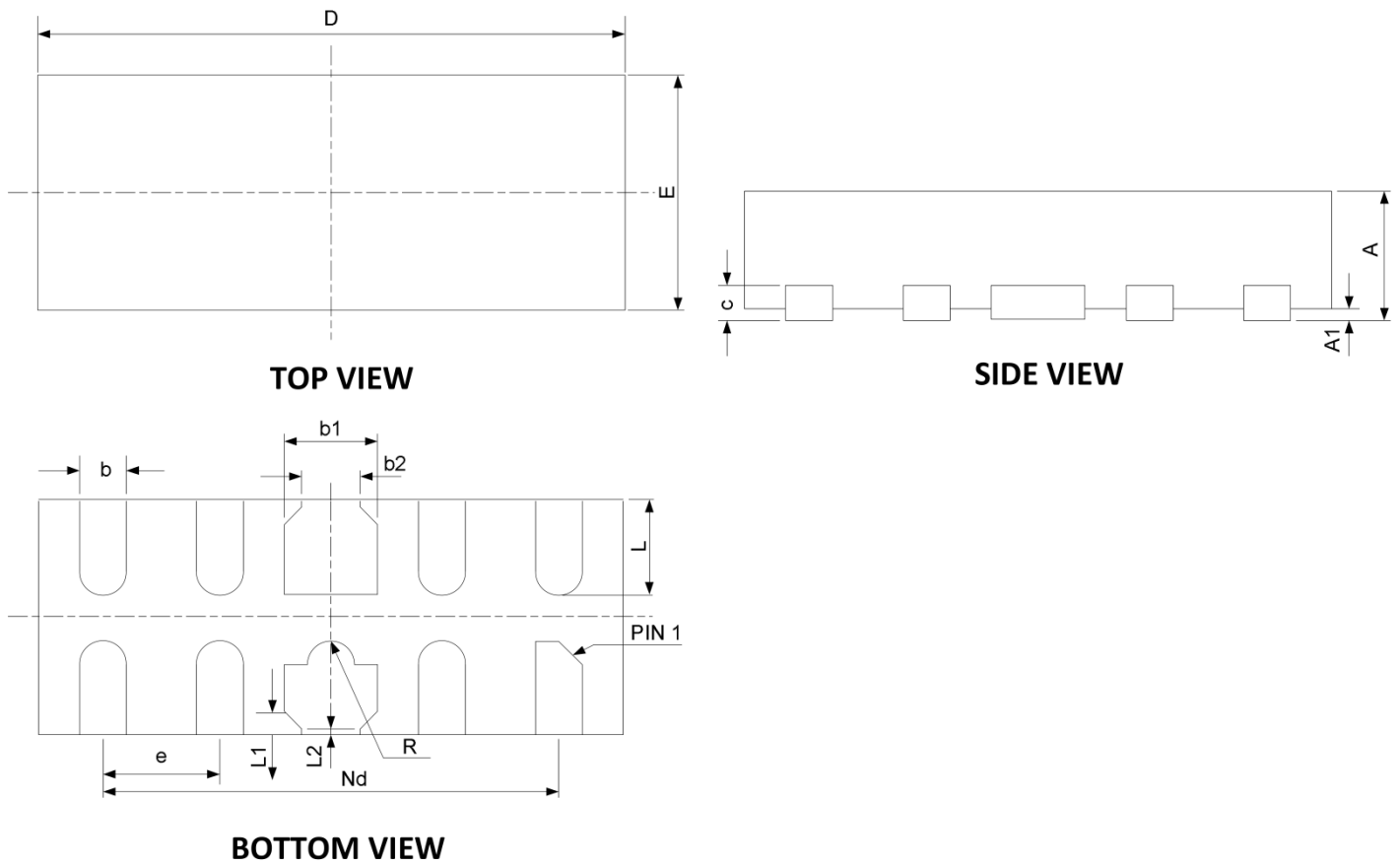
1) Other voltages available upon request.

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

Typical Characteristics



DFN2510-10L Package Outline Dimensions



SYM	MILLIMETERS		
	MIN	NOM	MAX
A	0.5	0.55	0.65
A1	0.05REF		
b	0.15	0.2	0.25
b1	0.3	0.4	0.5
b2	0.2REF		
c	0.13 REF		
D	2.4	2.5	2.6
e	0.50RER		
Nd	2.00BSC		
E	0.9	1	1.1
L	0.30	0.4	0.45
L1	0.075REF		
L2	0.050REF		

