

## Product Summary

The GESDW5V0L1 provides a typical line to line capacitance of 0.80pF and low insertion loss up to 5GHz providing greater signal integrity making it ideally suited for USB 2.0/3.0 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

- Protects 4 I/O lines and 1 Vcc line
- Low reverse clamping voltage
- Low leakage current
- Fast response time
- Low capacitance
- Response Time is <1 ns

## Application

- USB 2.0 and USB 3.0
- Digital Visual Interface (DVI)
- Computers and peripherals
- Set Top Box
- Projection TV
- Notebook Computers

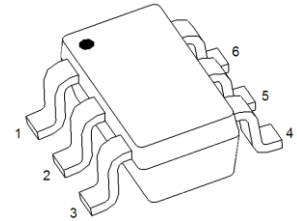
## Marking:



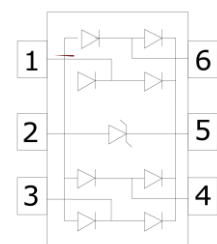
Front Side

V05=Device Code

**SOT-23-6L**



Schematic diagram



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

Parameter	Symbol	Value	Unit
IEC 61000-4-2 ESD Voltage	$V_{\text{ESD}}^{1)}$	$\pm 8$	kV
IEC 61000-4-2 ESD Voltage		$\pm 15$	
JESD22-A114-B ESD Voltage		$\pm 15$	
ESD Voltage		$\pm 0.4$	
Peak Pulse Power	$P_{\text{PP}}^{2)}$	50	W
Peak Pulse Current	$I_{\text{PP}}^{2)}$	5	A
Lead Solder Temperature – Maximum (10 Second Duration)	$T_L$	260	$^{\circ}\text{C}$
Junction Temperature	$T_j$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{\text{stg}}$	-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

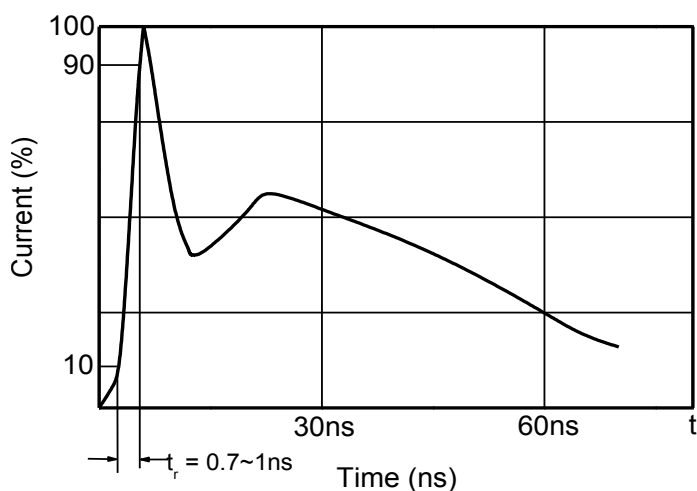
### IEC61000-4-2 Standard

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

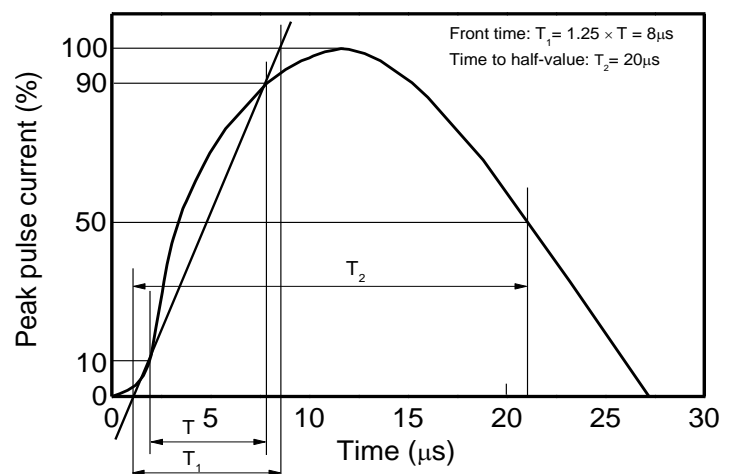
### JESD22-A114-B Standard

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

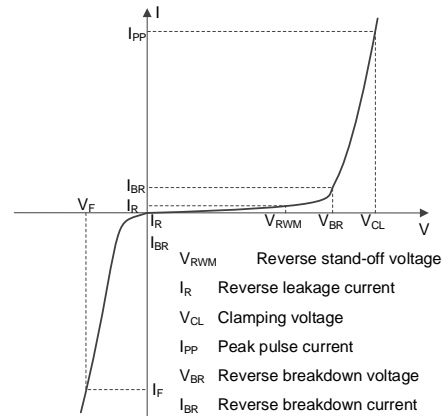


### 8/20 $\mu\text{s}$ waveform per IEC61000-4-5



## Electrical Parameter

Symbol	Parameter
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>
I <sub>PP</sub>	Peak Pulse Current
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>T</sub>	Test Current
I <sub>R</sub>	Reverse Leakage Current @ V <sub>RWM</sub>
V <sub>RWM</sub>	Reverse Standoff Voltage



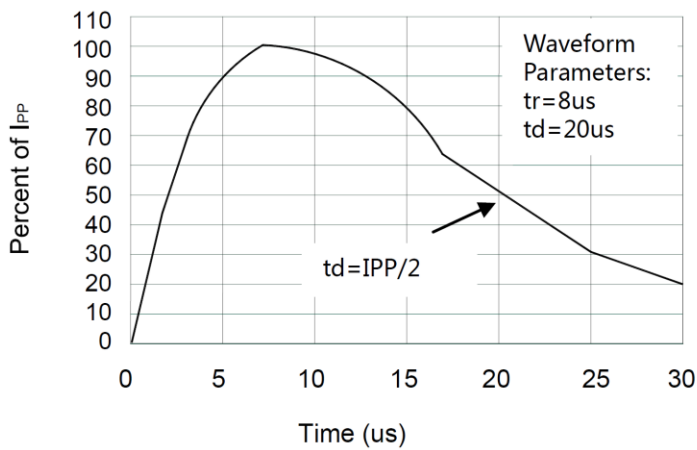
V-I characteristics for a Uni-directional TVS

## Electrical Characteristics (T<sub>a</sub>=25°C unless otherwise specified)

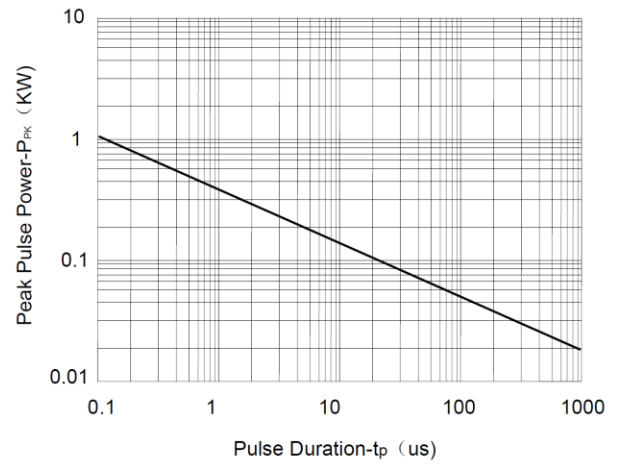
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse standoff voltage	V <sub>RWM</sub> <sup>1)</sup>				5	V
Reverse leakage current	I <sub>R</sub>	V <sub>RWM</sub> =5V			1	uA
Breakdown voltage	V <sub>BR</sub>	I <sub>T</sub> =1mA	6			V
Clamping voltage	V <sub>C</sub> <sup>2)</sup>	I <sub>PP</sub> =1A			9	V
		I <sub>PP</sub> =5A		12.3	15	V
Channel Input Capacitance	C <sub>IN</sub>	V <sub>IN</sub> =0V, f=1MHz, I/O to GND		0.35	0.45	pF
		V <sub>IN</sub> =0V, f=1MHz, I/O to I/O		0.80	1.0	pF

- 1) Other voltages available upon request.
- 2) Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5

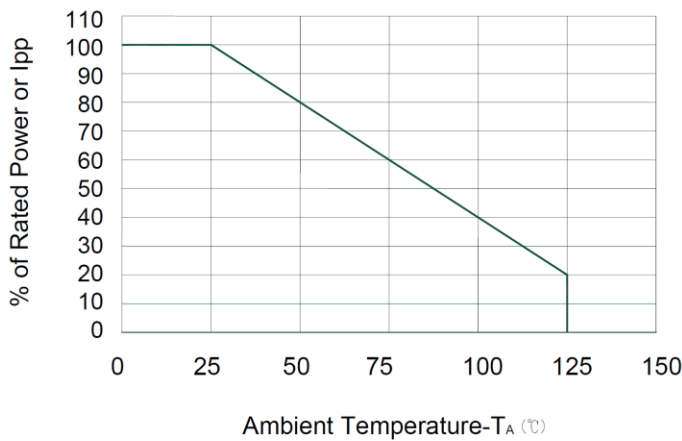
**Typical Characteristics**



**Pulse Waveform**

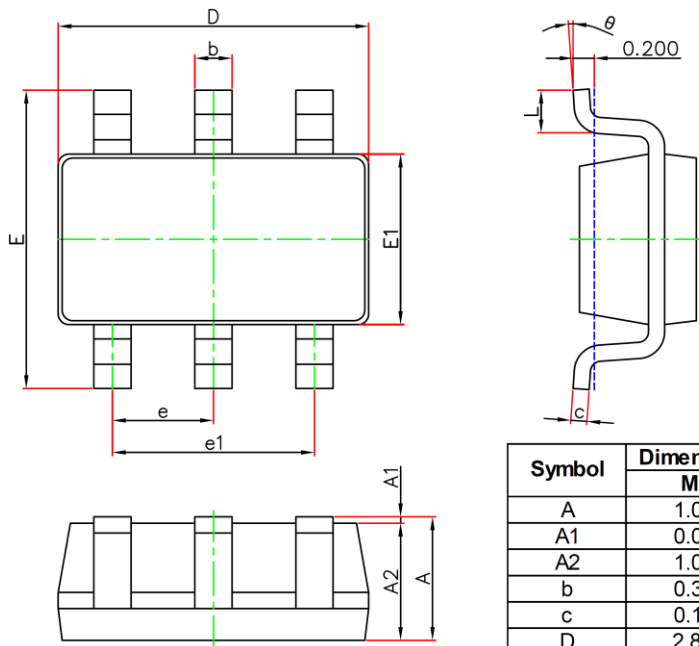


**Non-Repetitive Peak Pulse Power vs. Pulse Time**



**Power Derating Curve**

## SOT-23-6L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

单击下面可查看定价，库存，交付和生命周期等信息

[>>GP\(格瑞宝\)](#)