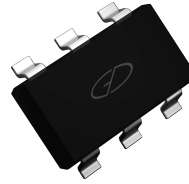


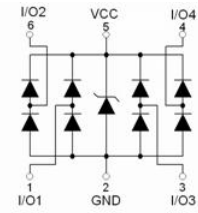
# GSES5VT236H-6U ESD Protection Diode

## Features

- Uni-directional ESD protection of four lines
- Low capacitance: 1.0pF(max)
- Low reverse stand-off voltage: 5V
- Low reverse clamping voltage
- Low leakage current



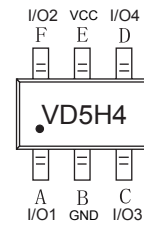
SOT-23-6L



Schematic Diagram

## Applications

- Video/Graphics Card
- Digital Visual Interface (DVI)
- USB2.0 Power and Data lines protection
- Notebook and PC Computers
- Monitors and Flat Panel Displays



Marking and Pin Assignment

## Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)

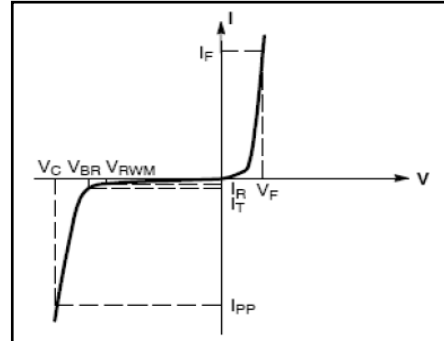
Parameter	Symbol	Value	Unit
IEC 61000-4-2 ESD Voltage	V <sub>ESD</sub> <sup>(1)</sup>	Air Model	±15
		Contact Model	±8
		Per Human Body Model	±16
		Machine Model	±0.4
Peak Pulse Power	P <sub>PP</sub> <sup>(2)</sup>	240	W
Peak Pulse Current	I <sub>PP</sub> <sup>(2)</sup>	12	A
Lead Solder Temperature – Maximum (10 Second Duration)	T <sub>L</sub>	260	°C
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

(1).Device stressed with ten non-repetitive ESD pulses.

(2).Non-repetitive current pulse 8/20µs exponential decay waveform according to 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
$V_F$	Forward Voltage @ $I_F$
$I_F$	Forward Current



**V-I characteristics for a uni-directional TVS**

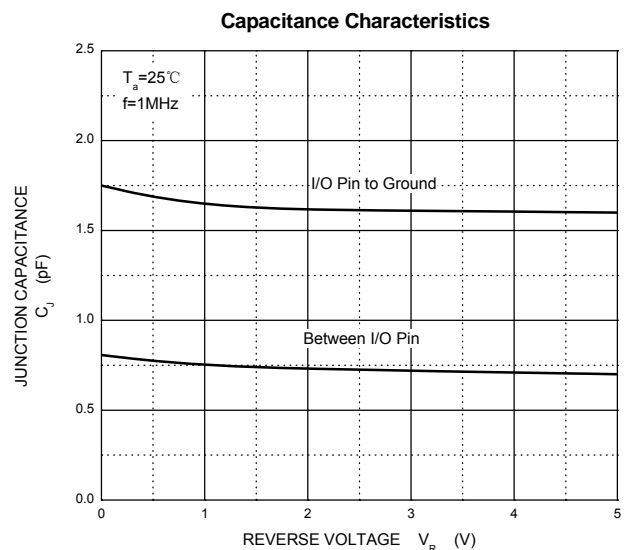
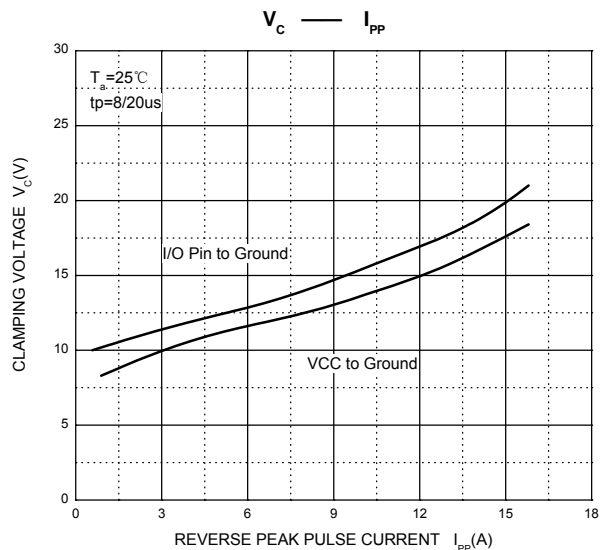
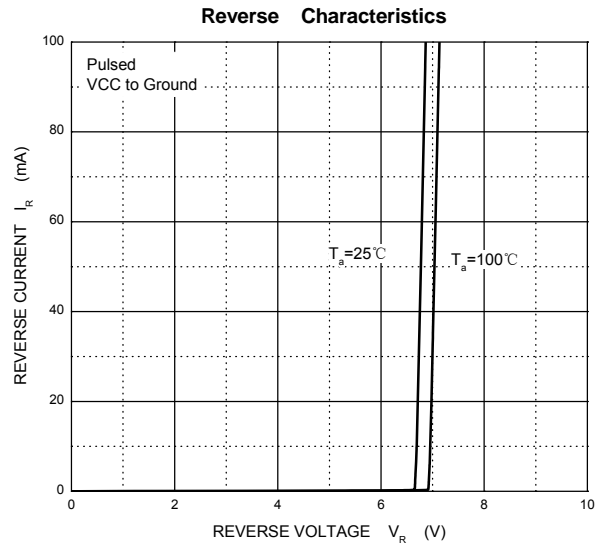
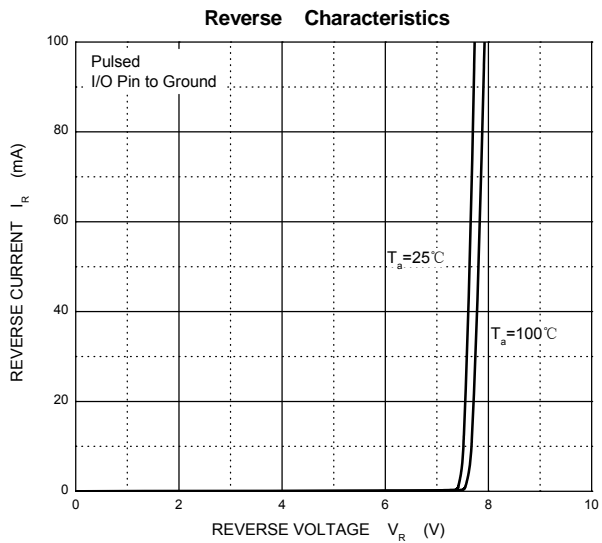
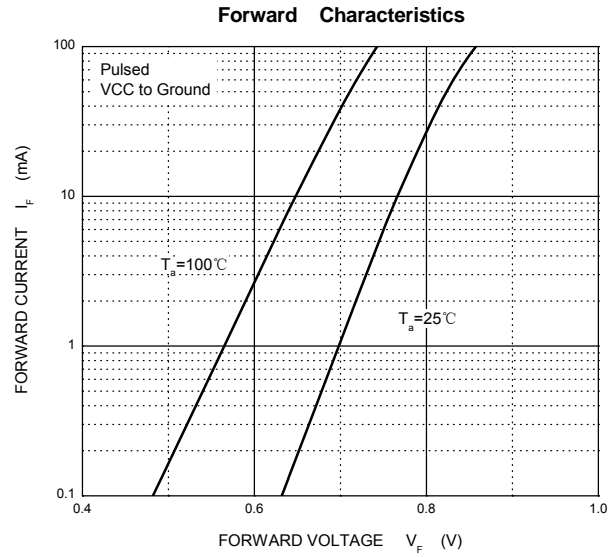
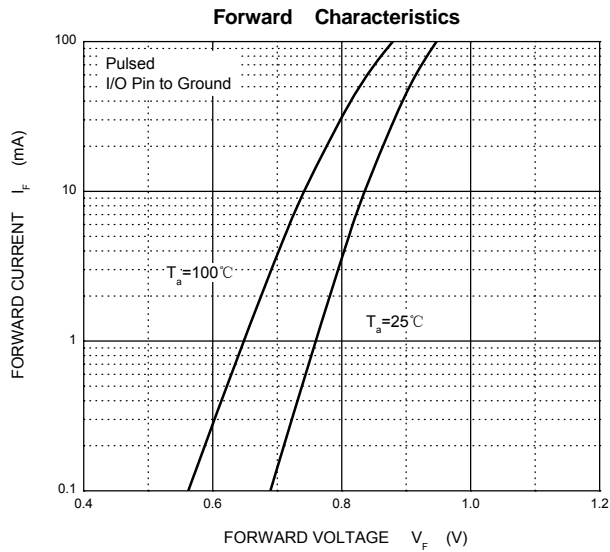
**Electrical Characteristics** ( $T_A=25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Per Channel(I/O to GND unless otherwise specified)					
Reverse Stand-off Voltage	$V_{RWM}^{(1)}$			5	V
Breakdown Voltage	$V_{(BR)}$	$I_T=1\text{mA}$	5.8	10	V
		$I_T=1\text{mA}$ $V_{CC}$ to GND	5.8	10	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5\text{V}$ (I/O to GND & $V_{CC}$ to GND)		5.0	$\mu\text{A}$
Forward Voltage	$V_F$	$I_F=15\text{mA}$ (I/O to GND & $V_{CC}$ to GND)		1.15	V
Clamping Voltage	$V_C^{(2)}$	$I_{PP}=5\text{A}$ (I/O to GND & $V_{CC}$ to GND)		15	V
		$I_{PP}=12\text{A}$ (I/O to GND & $V_{CC}$ to GND)		20	V
Junction Capacitance	$C_J$	$V_R=0\text{V}, f=1\text{MHz}$		2.0	pF
		$V_R=0\text{V}, f=1\text{MHz},$ I/O to I/O		1.0	pF

(1).Other voltages available upon request.

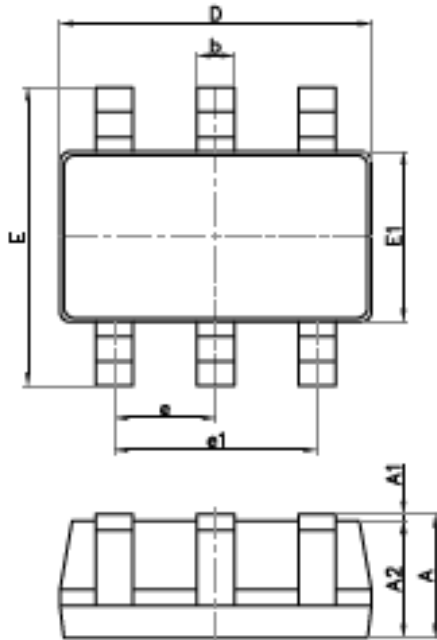
(2).Non-repetitive current pulse 8/20 $\mu\text{s}$  exponential decay waveform according to IEC61000-4-5

**Ratings and Characteristic Curves**



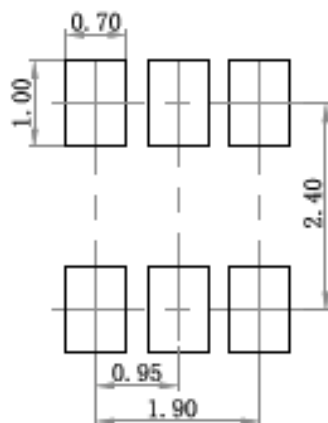
**Package Outline Dimensions**

**SOT-23-6L**



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°

**Suggested Pad Layout**



**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05mm.
3. The pad layout is for reference purposes only.