

DESCRIPTION

GESD0554S is a low capacitance TVS array designed to protect high speed data interfaces. This series has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD (electrostatic discharge), EFT (electrical fast transients) and lightning.

The unique design incorporates eight surge rated, low capacitance steering diodes and a TVS diode in a single package. During transient conditions, the steering diodes direct the transient to either the positive side of the power supply line or to ground. The internal TVS diode prevents over-voltage on the power line, protecting and downstream components.

FEATURES

- ✧ ESD protection for high-speed data lines to IEC 61000-4-2(ESD) ±30kV (Contact)
±30kV (Air)
- IEC 61000-4-4(EFT) 40A (5/50 ns)
- IEC 61000-4-5(Lightning) 25A (8/20μs)
- ✧ Protects four I/O lines and Voltage bus
- ✧ Working voltage: 5V
- ✧ Low clamping voltage
- ✧ Low leakage current
- ✧ Low capacitance

MACHANICAL DATA

- ✧ SOT-23-6L package
- ✧ Flammability Rating: UL 94V-0
- ✧ Terminal: Matte tin plated
- ✧ Packaging: Tape and Reel
- ✧ High temperature soldering guaranteed:
260°C/10s
- ✧ Reel size: 7 inch

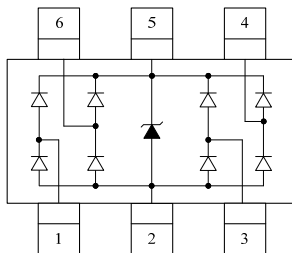
ORDERING INFORMATION

- ✧ Device: GESD0554S
- ✧ Package: SOT-23-6L
- ✧ Marking: V54
- ✧ Material: Halogen free and RoHS compliant
- ✧ Packing: Tape & Reel
- ✧ Quantity per reel: 3,000pcs

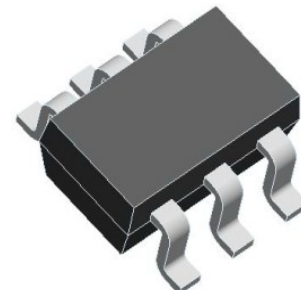
APPLICATIONS

- ✧ USB 2.0 Power and Data Line Protection
- ✧ Digital Video Interface (DVI)
- ✧ 10/100/1000 Ethernet
- ✧ Monitors and Flat Panel Displays
- ✧ Notebooks Computers
- ✧ IEEE 1394 Firewire Ports

PIN CONFIGURATION



PACKAGE OUTLINE



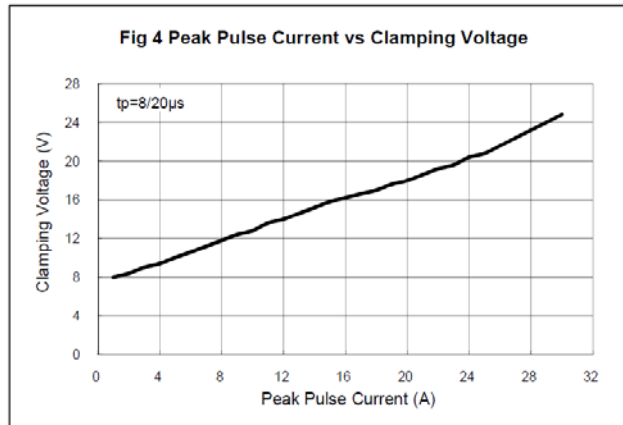
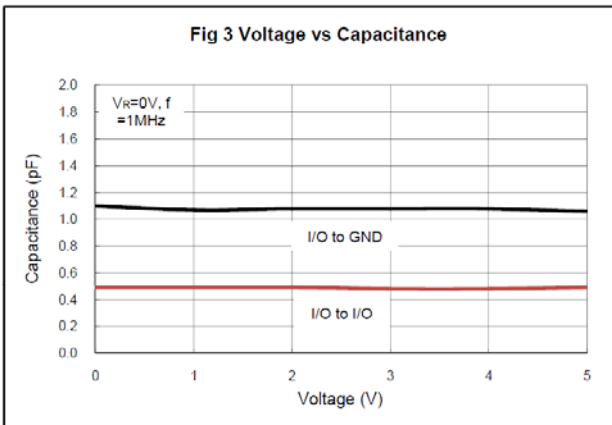
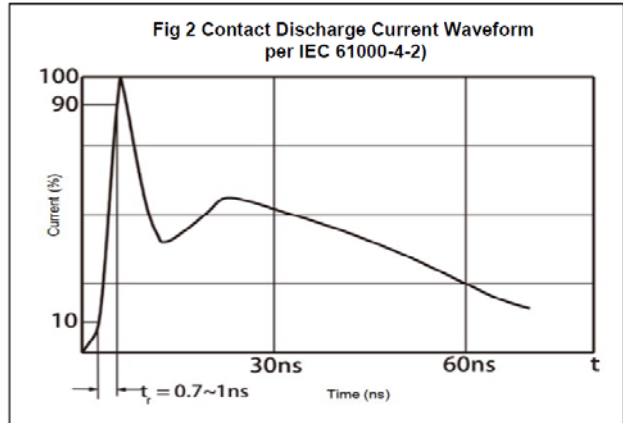
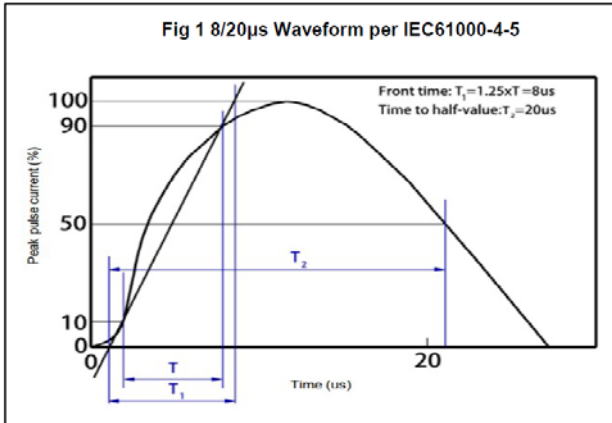
ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
P_{PK}	Peak Pulse Power (8/20 μ s)	625	W
I_{PP}	Peak Pulse Current (8/20 μ s)	25	A
V_{ESD}	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	± 30 ± 30	kV
T_{OPT}	Operating Temperature	-55/+125	$^{\circ}$ C
T_{STG}	Storage Temperature	-55/+150	$^{\circ}$ C

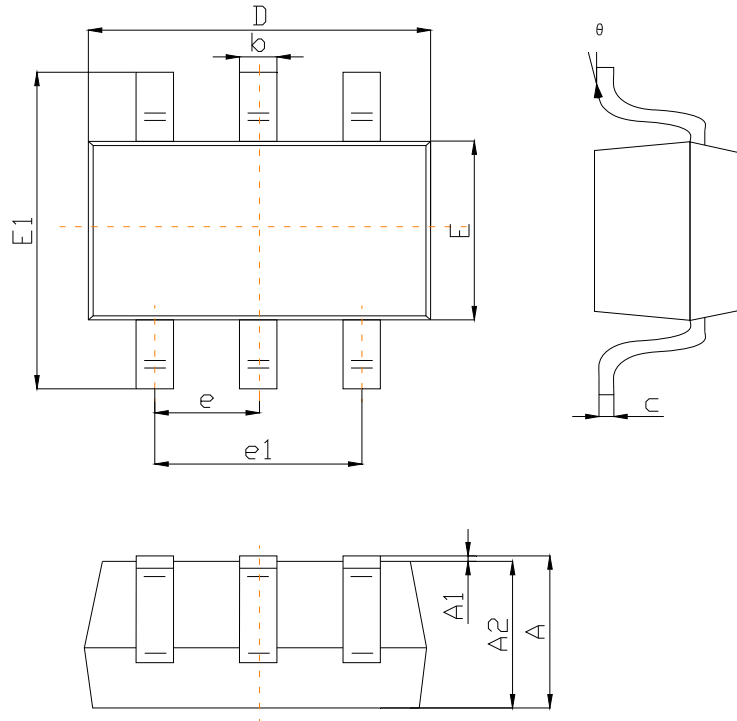
ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}$ C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage	Any I/O pin to GND			5.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1\text{mA}$ Any I/O pin to GND	6.0			V
I_R	Reverse Leakage Current	$V_{RWM} = 5\text{V}$ Any I/O pin to GND			1.0	μ A
V_C	Clamping Voltage	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$ Any I/O pin to GND			9.8	V
		$I_{PP} = 25\text{A}$, $t_p = 8/20\mu\text{s}$ Any I/O pin to GND			25	V
C_J	Junction Capacitance	$V_R = 0\text{V}$, $f = 1\text{MHz}$ Between I/O pins		0.5		pF
		$V_R = 0\text{V}$, $f = 1\text{MHz}$ Any I/O pin to GND		1.2	2	pF

ELECTRICAL CHARACTERISTICS 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		0.004
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
E	1.500	1.700	0.059	0.067
E1	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
	0°	8°	0°	8°