GSE5Z5VU

Ultra Low Capacitance Single-Line ESD Protection Array

Product Description

The GSE5Z5VU is an ESD transient voltage suppression component which provides a very high level of protection for sensitive electronic components that may be subjected to electrostatic discharge (ESD).

It is particularly well-suited for cellular phones, portable device, digital cameras, power supplies and many other portable applications because of its small package and low weight. The GSE5Z5VU is Uni-directional, Safely dissipate ESD strikes of Level 4, IEC61000-4-2, exceeding the maximum requirement. Using the MILSTD-883 (Method 3015) specification for Human Body Model (HBM) ESD, the device provides protection for contact discharges to greater than +/-10KV.

The GSE5Z5VU is available in a SOD-523 package with peak reverse working voltage of 5 voltages.

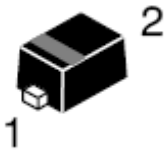
Features

- Peak Reverse Working Voltage: 5V
- Low leakage current
- High ESD protection Level: >+/-15KV per HBM
- IEC61000-4-2 Level 4 ESD Protection
- IEC61000-4-4 Level 4 EFT Protection
- RoHs Compliant,100%Pb & Halogen Free

Applications

- Cell phone handsets and accessories
- Personal Digital Assistants (PDAs)
- Notebooks, Desktops, and Serves
- Portable Instrumentation
- Digital Cameras
- MP3/MP4/PMP Players

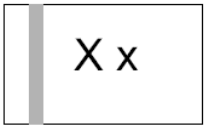
Packages & Pin Assignments



SOD-523

1 Cathode 2 Anode

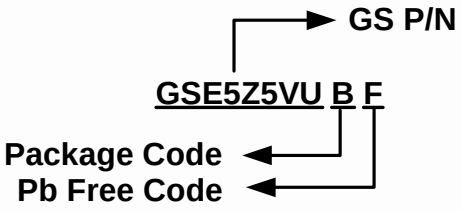
Marking Information



X= Date Code

x = Specific Device Code

Ordering Information



Part Number	Package	Part Marking	Unit	Quantity
GSE5Z5VUBF	SOD-523	Xx	Tape & Reel	3000 EA

Absolute Maximum Ratings

(T_A=25ºC Unless otherwise noted)

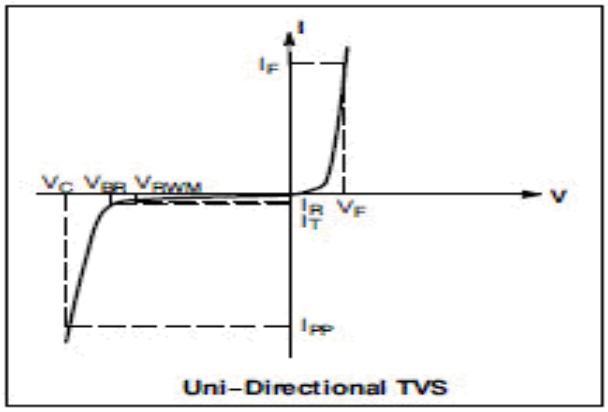
Symbol	Parameter	Typical	Unit
I_{PP}	Maximum Peak Pulse Current (t_P = 8/20 μs)	9	A
V_{PP}	ESD per IEC 61000 – 4 – 2 (Air)	±15	KV
V_{PP}	ESD per IEC 61000 – 4 – 2 (Contact)	±10	KV
T_J	Operating Junction Temperature	-55 ~ 150	ºC
T_{STG}	Storage Temperature Range	-55 ~ 150	ºC
T_L	Maximum Lead Temperature for soldering during 10s	260	ºC

Electrical Characteristics

(T_A=25ºC Unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{RWM}	Reverse Stand – Off Voltage				5	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	6.2			V
I_R	Reverse Leakage Current	V_{RWM} = 5V , T=25ºC			1	μA
V_C	Clamping Voltage	I_{pp} = 1A , t_p = 8/20 μs			8	V
C_J	Junction Capacitance			0.5	0.9	pF

Electrical Characteristics



Uni–Directional TVS

Symbol	Parameter
Vrwm	Peak Reverse Working Voltage
Ir	Reverse Leakage Current @ Vrwm
Vbr	Breakdown Voltage @ It
It	Test Current
Ipp	Maximum Reverse Peak Pulse Current
Vc	Clamping Voltage @ Ipp
Ppk	Peak Power Dissipation
C	Junction Capacitance
If	Forward Current
Vf	Forward Voltage @ If

Typical Performance Characteristics

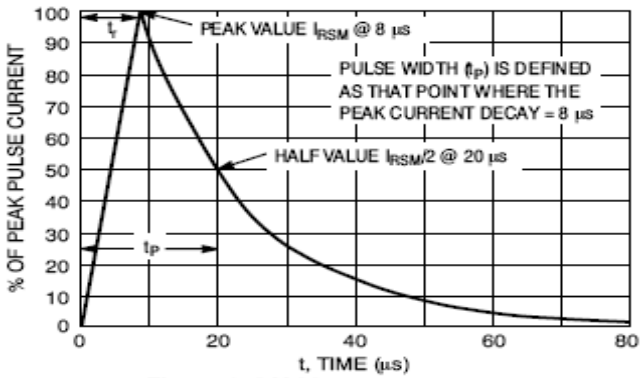


Figure 1. 8 X 20 µs Pulse Waveform

Typical Performance Characteristics (continue)

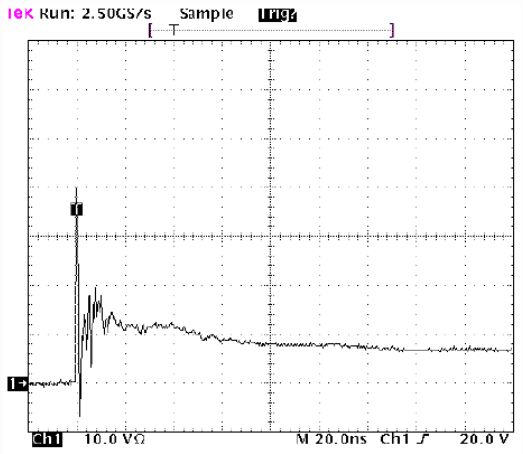


Figure 2. ESD Clamping Voltage Screenshot
Positive 8 kV Contact per IEC61000–4–2

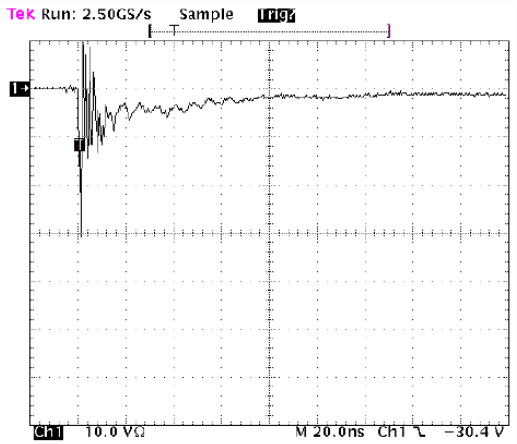
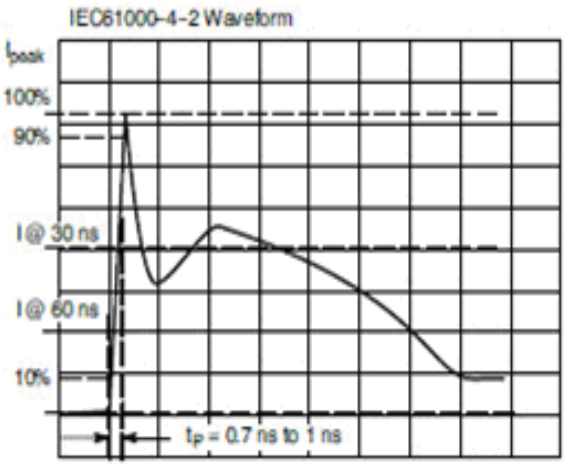


Figure 3. ESD Clamping Voltage Screenshot
Negative 8 kV Contact per IEC61000–4–2

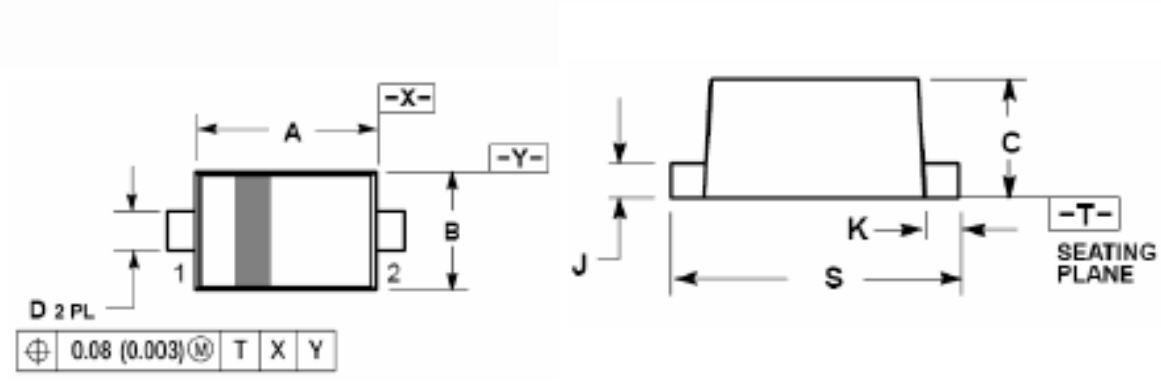
IEC 61000-4-2 Spec.

Level	Test Voltage (kV)	First Peak Current (A)	Current at 30 ns (A)	Current at 60 ns (A)
1	2	7.5	4	2
2	4	15	8	4
3	6	22.5	12	6
4	8	30	16	8



Package Dimension

SOD-523



Dimensions								
Symbol	Millimeters				Inches			
	Min	Nom	Max	Min	Min	Nom	Max	Min
A	1.10	1.20	1.30	0.043	0.043	0.047	0.051	0.001
B	0.70	0.80	0.90	0.028	0.027	0.031	0.035	0.001
C	0.50	0.60	0.70	0.020	0.019	0.023	0.027	0.000
D	0.25	0.30	0.35	0.010	0.009	0.011	0.013	0.000
J	0.07	0.14	0.20	0.002	0.002	0.005	0.007	0.000
K	0.15	0.20	0.25	0.006	0.005	0.007	0.009	0.000
S	1.50	1.60	1.70	0.059	0.059	0.062	0.066	0.002

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