GESDBU3V3D51

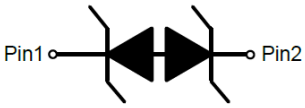
Bi-direction Transient Voltage Suppressors

Product Summary

The GESDBU3V3D51 is designed to protect voltage sensitive electronic components from ESD and other transients. Excellent clamping capability, low leakage, low capacitance, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is suited for use in digital cameras, cellular phones, many other portable applications where board space is at a premium.

SOD-523

Schematic diagram



Feature

- IEC61000-4-4(EFT):40A(5/50ns)
- IEC61000-4-5(Surge): 2.0A（8/20us）
- Line Capacitance :0.5 Pf@1mhz
- Very Low Reverse Current:IR<0.2ua(Typical)
- Halogen Free ,Lead Free And Rohs

Application

- Cellular Phones
- Portable Devices
- Digital Cameras
- Player
- Smart Home
- Robot

Marking:L5

Absolute Maximum Ratings (T_A=25℃ unless otherwise noted)

Parameter		Symbol	Value	Unit
IEC 61000-4-2 ESD Voltage	Air Model	V_{ESD}	±15	kV
IEC 61000-4-2 ESD Voltage	Contact Model		±10	
Peak Pulse Current (8/20μs)		I_{PP}	2	A
Junction Temperature		T_J	-40~ +125	℃
Storage Temperature		T_{stg}	-55~ +155	℃

ESD standards compliance

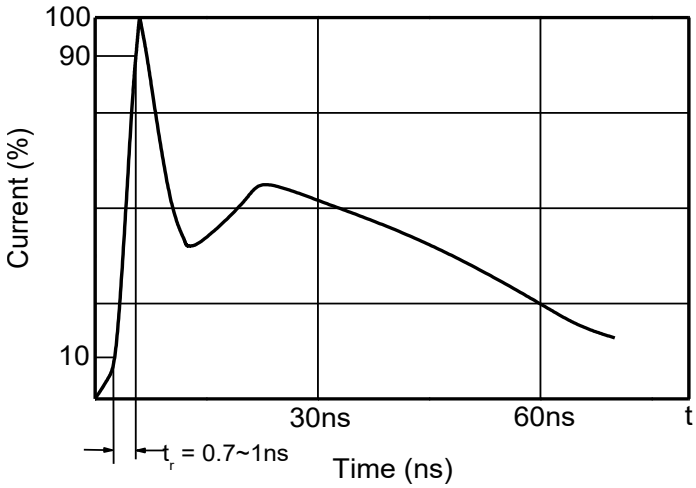
IEC61000-4-2 Standard

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

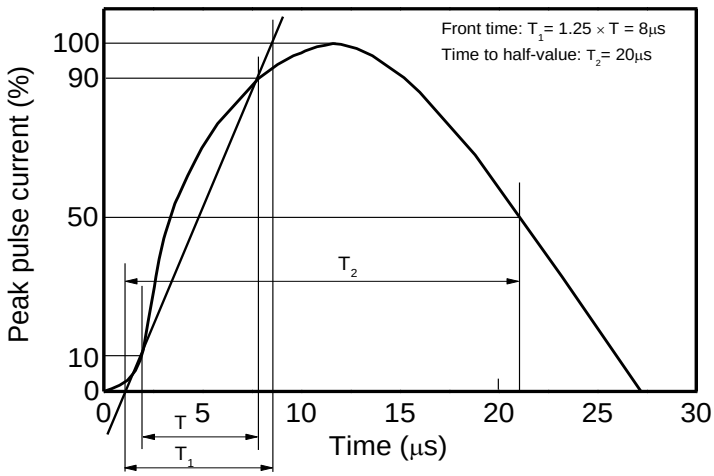
JESD22-A114-B Standard

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

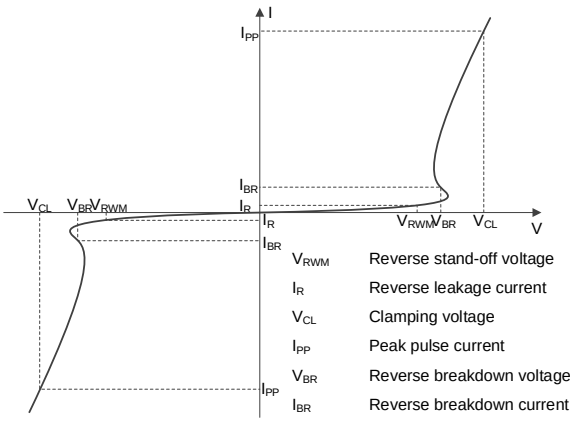


8/20μs waveform per IEC61000-4-5



Electrical Parameter

Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_{BR}
I_{BR}	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Standoff Voltage



V-I characteristics for a Bi-directional TVS

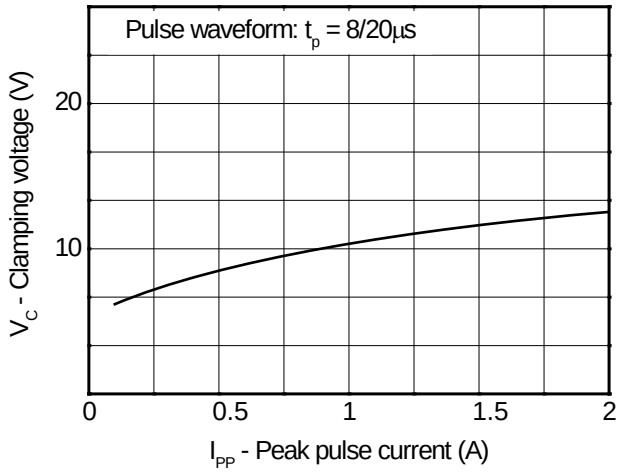
Electrical Characteristics (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse Stand-Off Voltage	V_{RWM}[1)]				±3.3	V
Reverse Leakage Current	I_R	V_{RWM}=3.3V			0.2	μA
Breakdown Voltage	$V_{(BR)}$	I_T=1mA	4.8			V
Clamping Voltage	V_C[2)]	I_{PP} = 1A			10	V
		I_{PP} = 2A		10	12	V
Junction Capacitance	C_J	V_R=0V,f=1GHz		0.3		pF
		V_R=0V,f=1MHz		0.5	1.0	pF

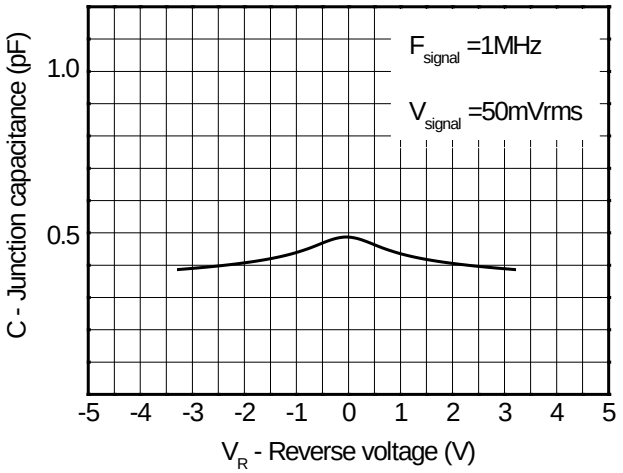
1) Other voltages available upon request.

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

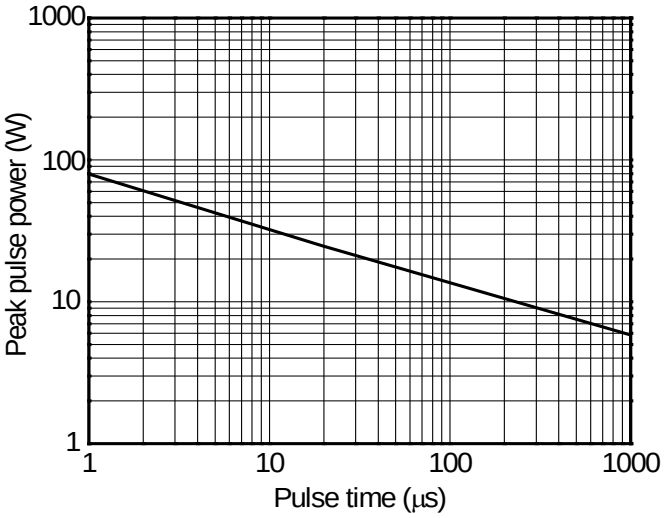
Typical Characteristics



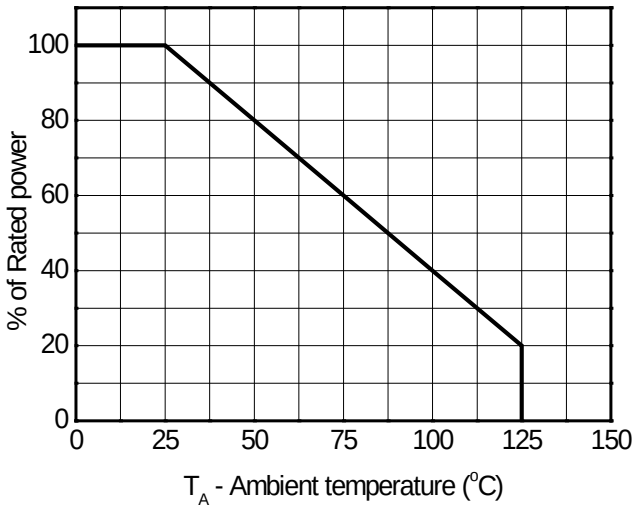
Clamping voltage vs. Peak pulse current



Capacitance vs. Reveres voltage

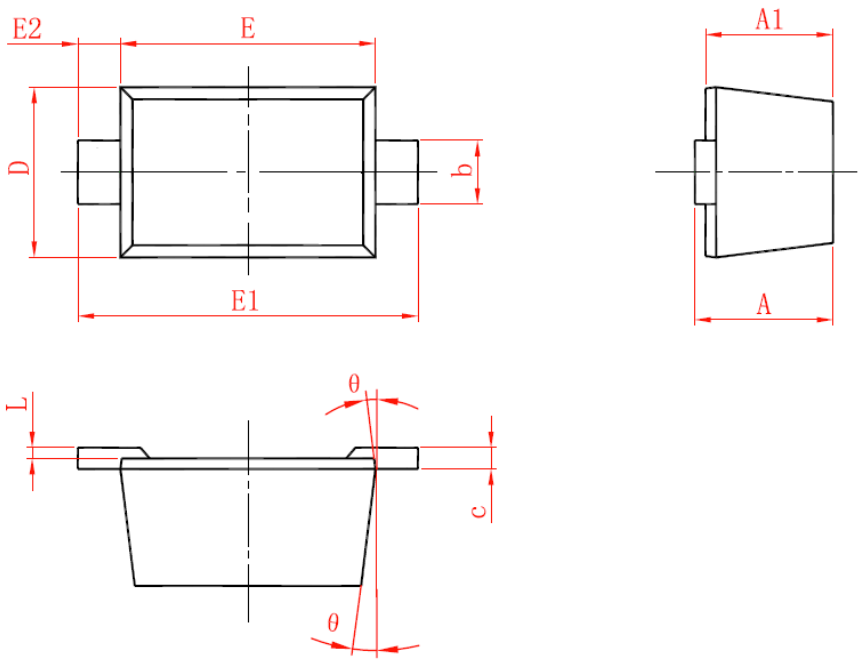


Non-repetitive peak pulse power vs. Pulse time



Power derating vs. Ambient temperature

SOD-523 Package Outline Dimensions



Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	0.510	0.640	0.770
A1	0.500	0.600	0.700
b	0.250	0.300	0.350
c	0.080	0.115	0.150
D	0.750	0.800	0.850
E	1.100	1.200	1.300
E1	1.500	1.600	1.700
E2	0.200 Ref		
L	0.010	0.040	0.070
θ	7° Ref		

Attention：

- GreenPower Electronics reserves the right to improve product design function and reliability without notice.
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