GESDBH5V0Y1A

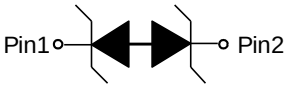
Bi-direction Transient Voltage Suppressors

Product Summary

The GESDBH5V0Y1A 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, MP3 players and many other portable applications where board space is at a premium.

DFN1006-2L

Schematic diagram



Feature

- Stand-Off Voltage: ±5V Max
- Transient Protection For Each Line According To
  IEC61000-4-2 (ESD): ±30KV Air,±30 Kvcontact
  IEC61000-4-5 (Surge): 5 A (8/20μS)
- Solid-State Silicon Technology
- Low Leakage Current

Application

- Cell Phone Handsets and Accessories
- Personal Digital Assistants(PDAs)
- Notebooks, Desktops, and Serves
- Portable Instrumentation
- Digital Cameras
- CAR/MID DVD/MP3/MP4/PMP Players

Marking: PB

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

Parameter	Symbol	Value	Unit
IEC 61000-4-2 ESD Voltage — Air Model	V_{ESD} 1)	±30	KV
IEC 61000-4-2 ESD Voltage — Contact Model		±30	
Peak Pulse Current	I_{PP} 2)	5	A
Lead Solder Temperature − Maximum (10 Second Duration)	T_L	260	℃
Junction Temperature	T_j	125	℃
Storage Temperature	T_{stg}	-55~ +150	℃

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

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

ESD Standards Compliance

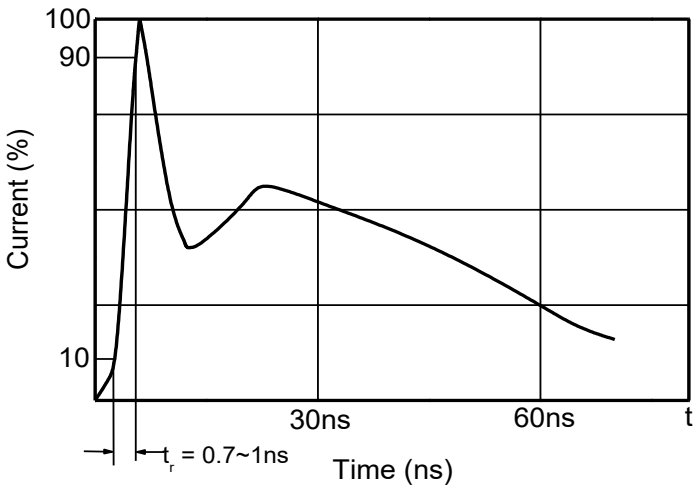
IEC61000-4-2 Standard

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

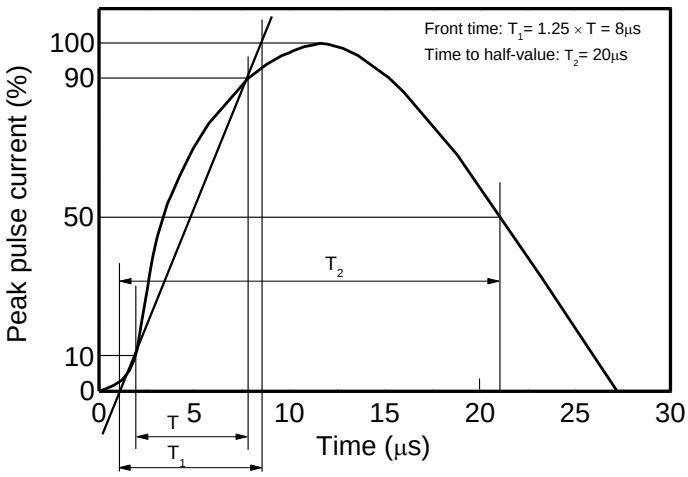
JESD22-A114-B Standard

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

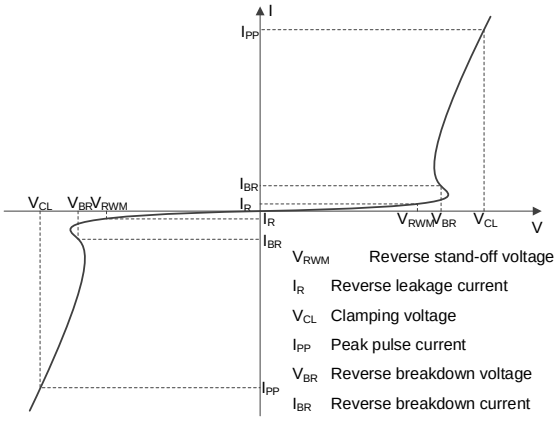


8/20μs waveform per IEC61000-4-5



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)

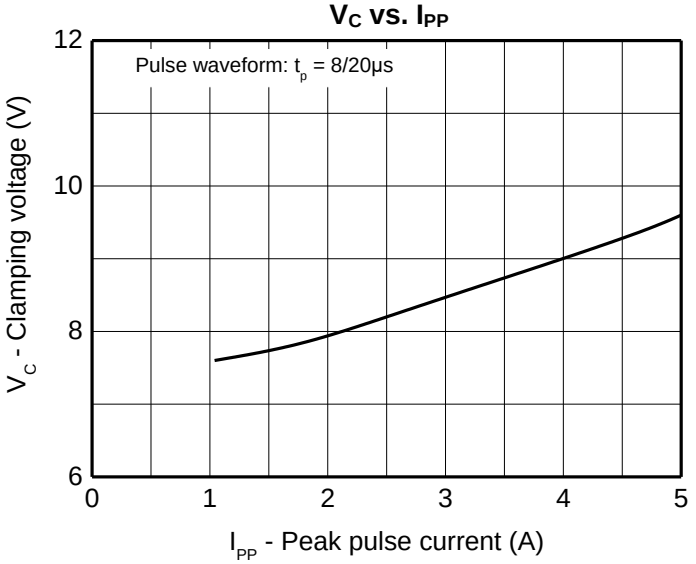
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse Stand-Off Voltage	V_{RWM} 1)				5	V
Reverse Leakage Current	I_{R1}	V_{RWM}=5V			0.2	μA
Breakdown Voltage	V_{BR}	I_T=1mA	5.5		8	V
Clamping Voltage	V_{C1} 2)	I_{PP}=1A			8.6	V
	V_{C2} 2)	I_{PP}=5A			12.5	V
Junction Capacitance	C_J	V_R=0V,f=1MHz		10	20	pF

1) Other voltages available upon request.

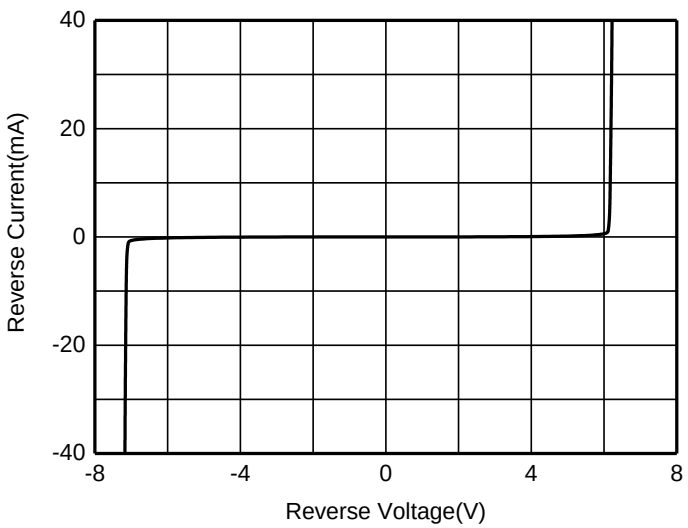
2) Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5

Typical Characteristics

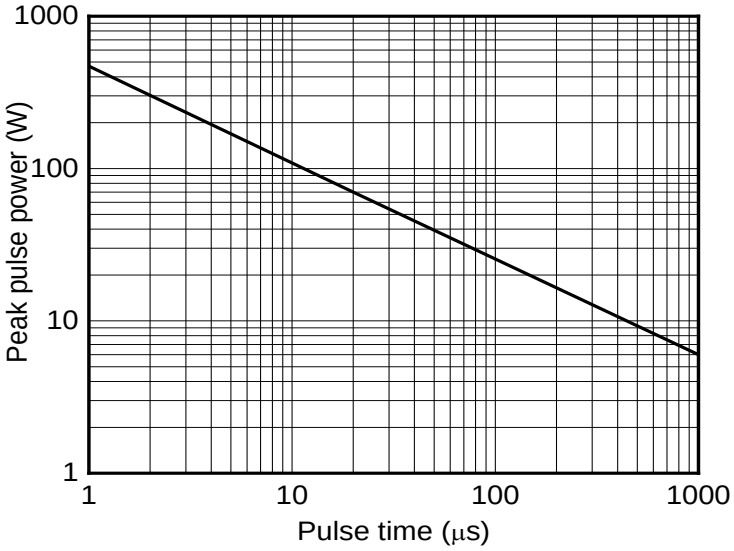
V_C vs. I_{PP}



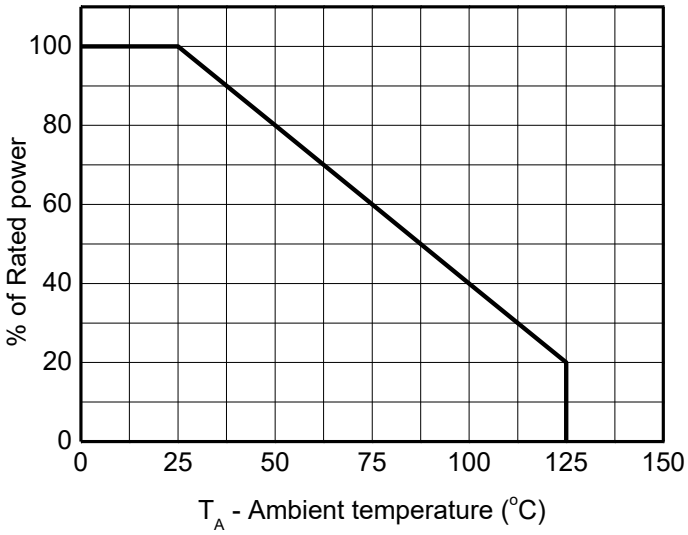
I-V Curve



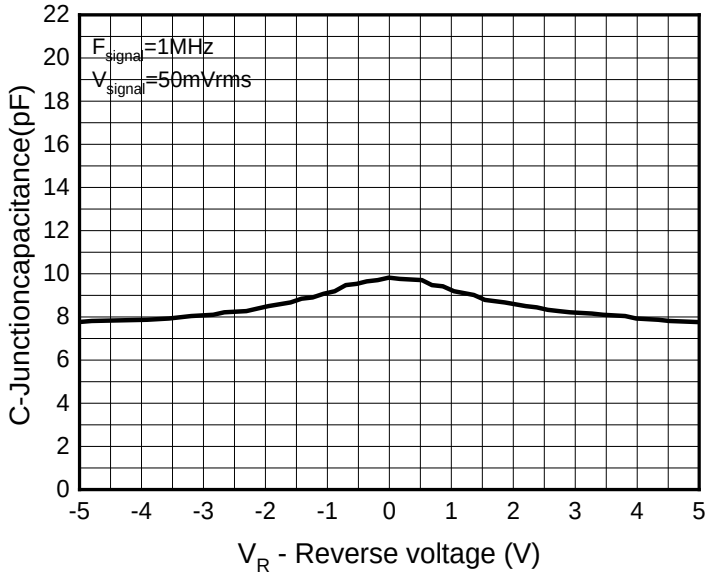
Peak pulse power vs. Pulse time



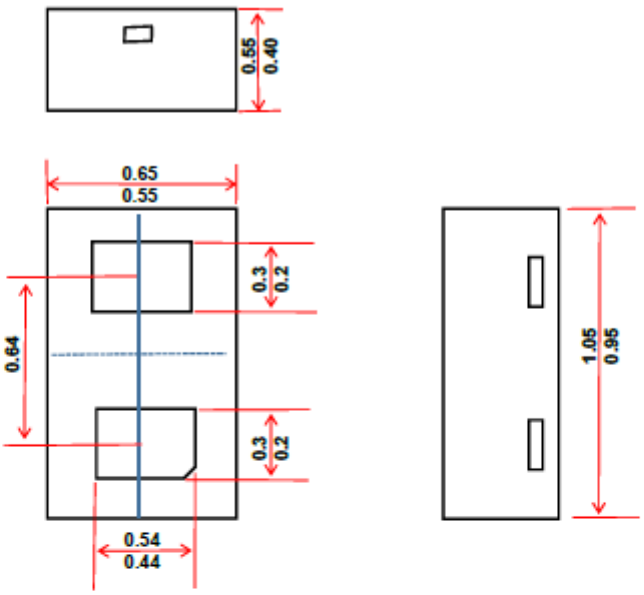
Power derating vs. Ambient temperature



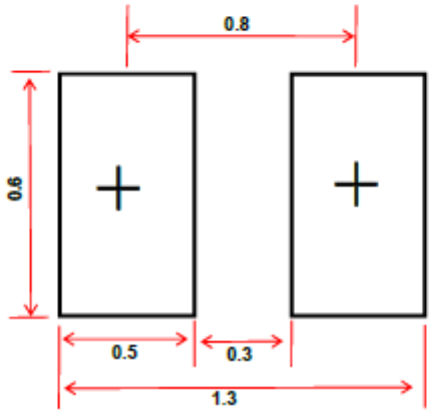
Capacitance vs. Reveres Voltage



DFN1006-2L Package Outline Dimensions



Recommened Mounting Pad Layout Unit:mm



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