

Product Summary

The GESDBH5V0Y1 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.

Feature

- Low reverse stand-off voltage: 5V Max.
- Low reverse clamping voltage
- Low leakage current
- Fast response time
- ESD Rating of Class 3(>16KV) Per Human Body Model
- IEC 61000-4-2 Level 4 ESD protection

Application

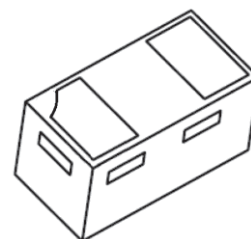
- Digital cameras
- Portable applications
- Audio and video equipment
- MP3 players
- Mobile phone

Marking:



Front Side
BB=Device Code

DFN1006-2L



Schematic diagram



Absolute Maximum Ratings (Ta=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		±8	
ESD Voltage Per Human Body Model		16	
Total Power Dissipation on FR-5 Board	P _D	200	mW
Peak Pulse Power	P _{PP}	69	W
Peak Pulse Current	I _{PP}	5	A
Lead Solder Temperature – Maximum (10 Second Duration)	T _L	260	℃
Junction Temperature	T _J	150	℃
Storage Temperature	T _{stg}	-55~ +150	℃

ESD Standards Compliance

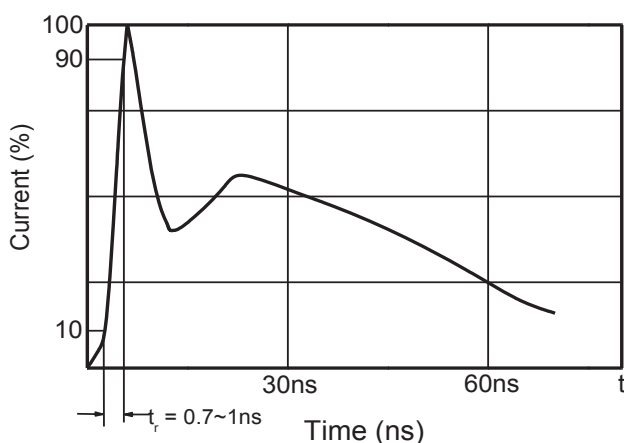
IEC61000-4-2 Standard

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

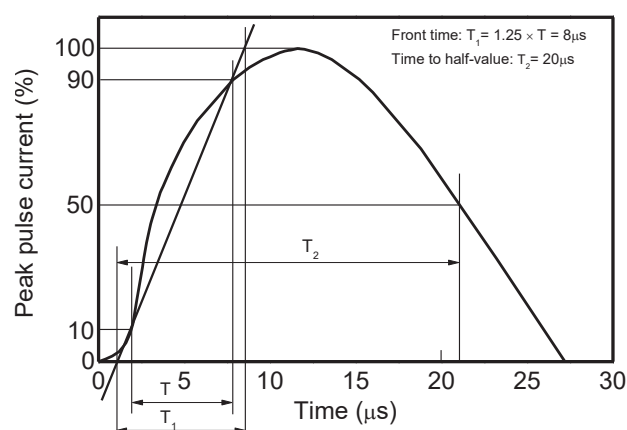
JESD22-A114-B Standard

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

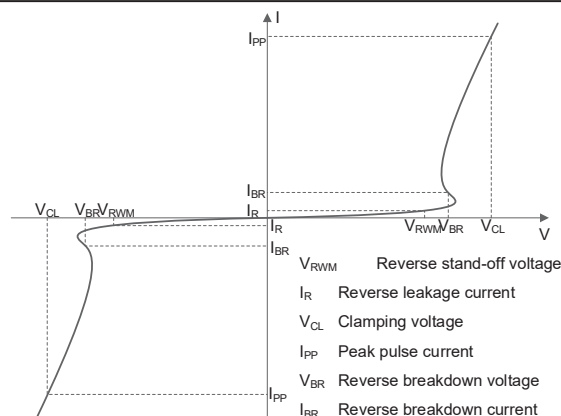


8/20μs waveform per IEC61000-4-5



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

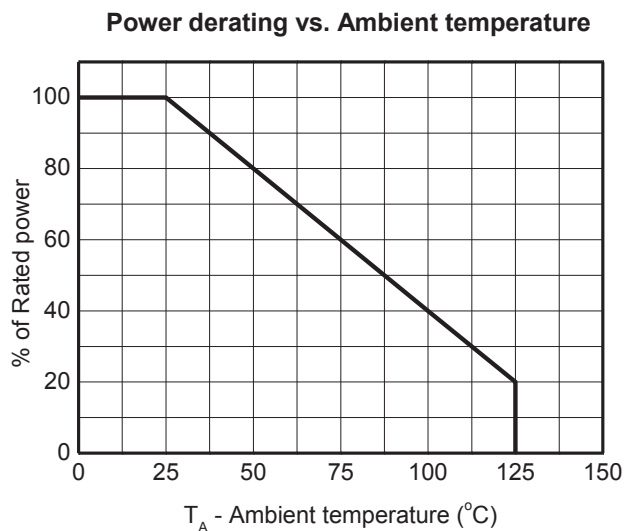
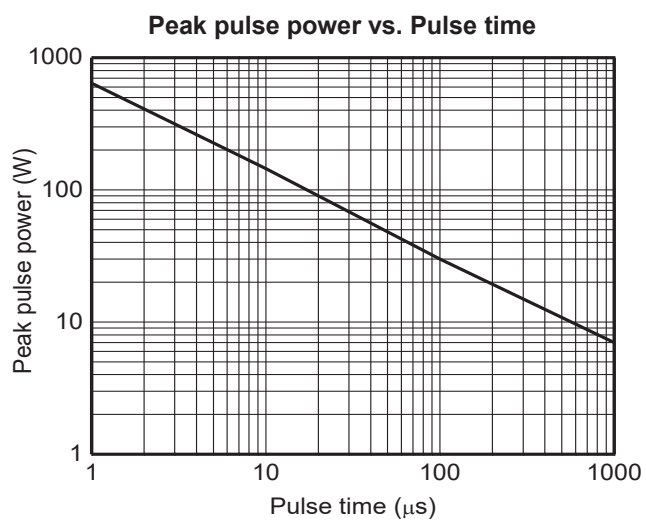
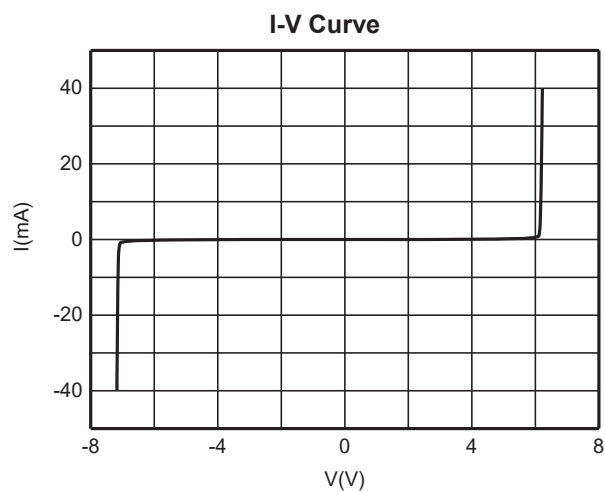
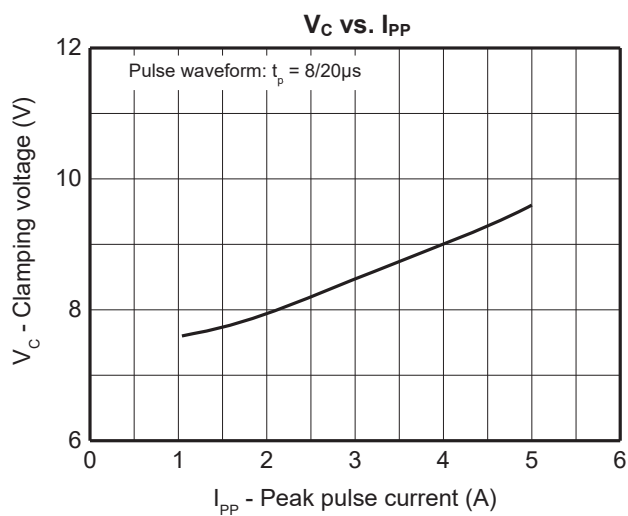
Electrical Characteristics ($T_a=25^\circ\text{C}$ unless otherwise specified)

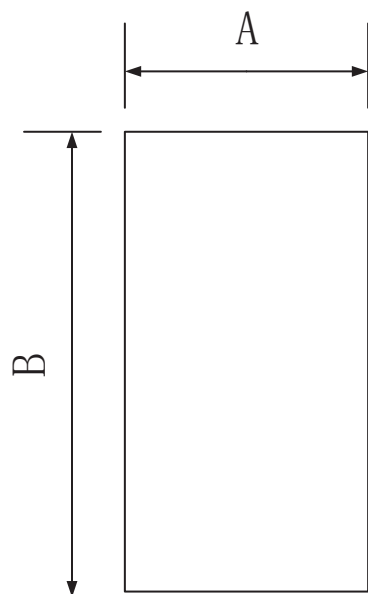
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse stand-off voltage	V_{RWM}				5	V
Reverse leakage current	I_{R1}	$V_{RWM}=5\text{V}$			0.5	μA
Reverse leakage current	I_{R2}	$V_{RWM}=3.5\text{V}$			0.3	μA
Breakdown voltage	$V_{BR}^{(1)}$	$I_T=1\text{mA}$	5.6	6.1		V
Clamping voltage	$V_{C1}^{(2)}$	$I_{PP}=1\text{A}$		7.8	9.8	V
	$V_{C2}^{(2)}$	$I_{PP}=5\text{A}$		9.6	12.5	V
Peak Pulse Current	$I_{PP}^{(2)}$				5	A
Junction capacitance	C_J	$V_R=0\text{V}, f=1\text{MHz}$		10	15	pF

1) V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C

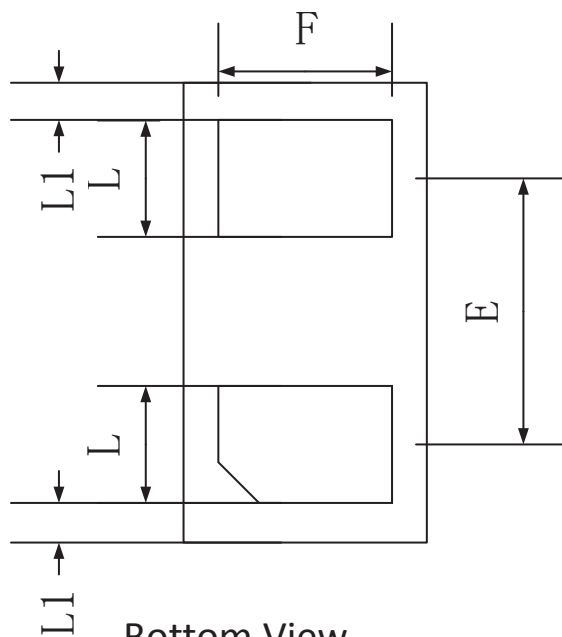
2) Surge current waveform per Figure 2.

Typical Characteristics

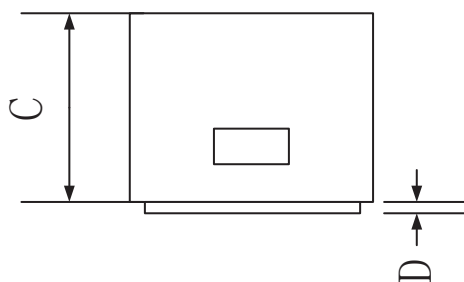


DFN1006-2L Package Outline Dimensions


Top View

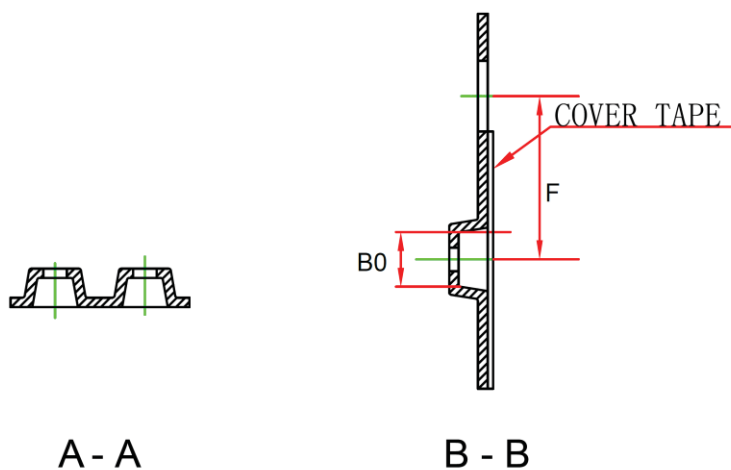
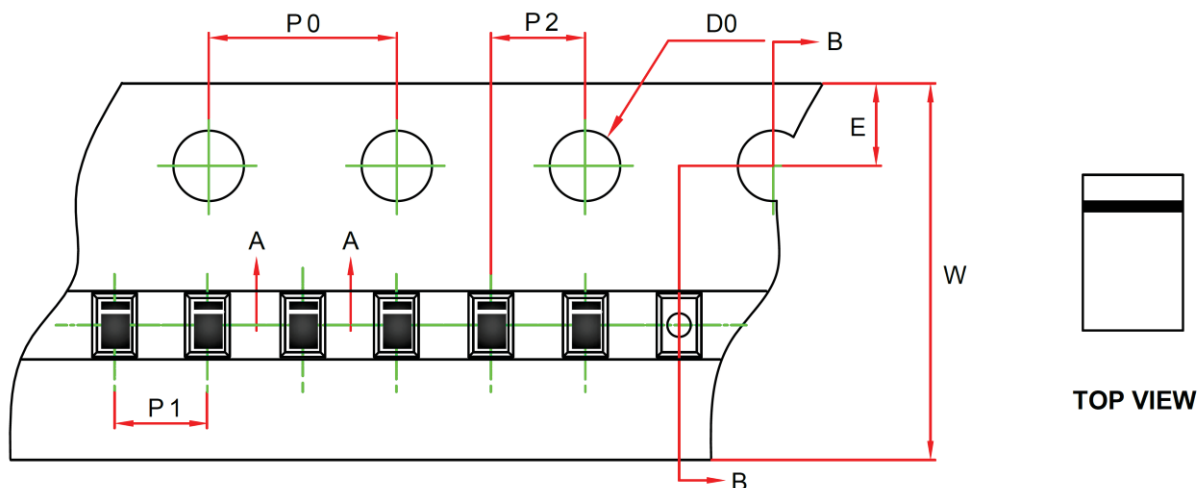


Bottom View



Side View

	Dimensions In Millimeters		
	Min.	Typ.	Max.
A	0.55	0.60	0.68
B	0.95	1.00	1.08
C	0.34	0.37	0.40
D	0.00	0.03	0.05
E	-	0.65	-
F	0.40	0.50	0.60
L	0.20	0.25	0.30
L1	0.05REF		

DFN1006-2L Tape and Reel


Dimensions In Millimeters (mm)								
Pkg type	B0	P0	P1	P2	E	F	W	D0
DFN1.0×0.6-2L	1.11	4.00	2.00	2.00	1.75	3.50	8.00	1.55
Tolerance	+/-0.06	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.3	+/-0.15

