

## Product Summary

The GESDBH5V0AE1 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.

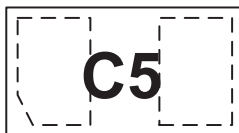
## Feature

- 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

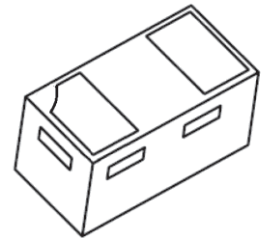
- Digital cameras
- Portable applications
- Audio and video equipment
- MP3 players
- Mobile phone

## Marking:



Front Side  
C5=Device Code

**DFN0603-2L**



Schematic diagram



## Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

| Parameter  | Symbol           | Value     | Unit |
|--|------------------|-----------|------|
| IEC 61000-4-2 ESD Voltage Air Model                    | V <sub>ESD</sub> | ±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 <sub>D</sub>   | 200       | mW   |
| Peak Pulse Power                                       | P <sub>PP</sub>  | 69        | W    |
| Peak Pulse Current                                     | I <sub>PP</sub>  | 5         | A    |
| Lead Solder Temperature – Maximum (10 Second Duration) | T <sub>L</sub>   | 260       | °C   |
| Junction Temperature                                   | T <sub>J</sub>   | 150       | °C   |
| Storage Temperature                                    | T <sub>stg</sub> | -55~ +150 | °C   |

## ESD Standards Compliance

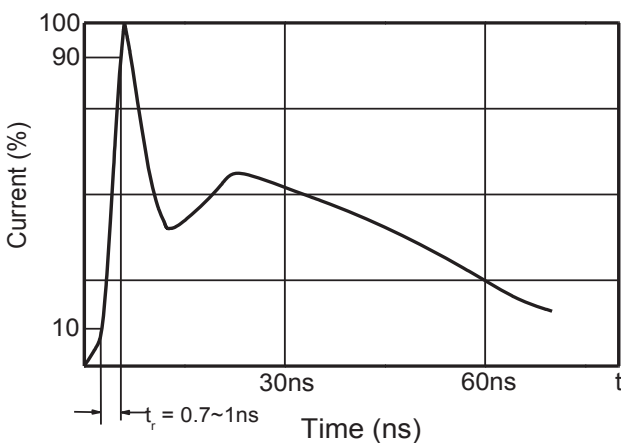
### IEC61000-4-2 Standard

| 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              |

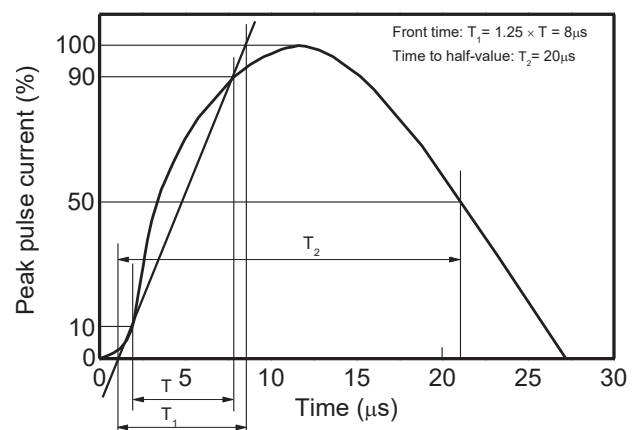
### JESD22-A114-B Standard

| 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

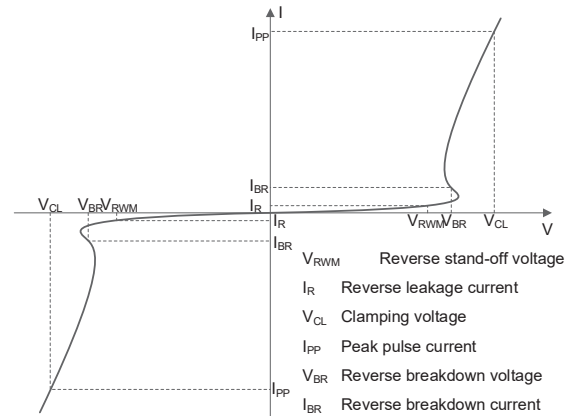


### 8/20µs waveform per IEC61000-4-5



## Electrical Parameter

| Symbol           | Parameter                                  |
|------------------|--|
| V <sub>C</sub>   | Clamping Voltage @ I <sub>PP</sub>         |
| I <sub>PP</sub>  | Peak Pulse Current                         |
| V <sub>BR</sub>  | Breakdown Voltage @ I <sub>BR</sub>        |
| I <sub>BR</sub>  | Test Current                               |
| I <sub>R</sub>   | Reverse Leakage Current @ V <sub>RWM</sub> |
| V <sub>RWM</sub> | Reverse Standoff Voltage                   |



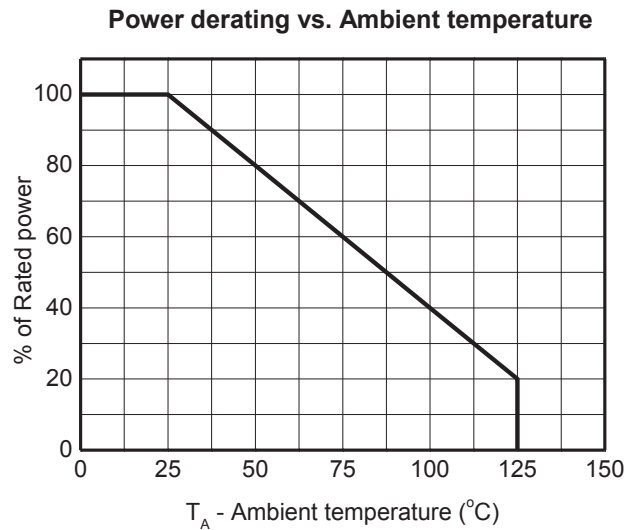
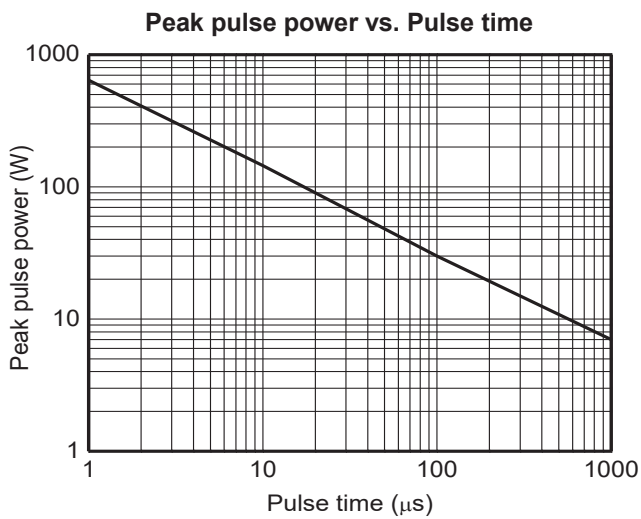
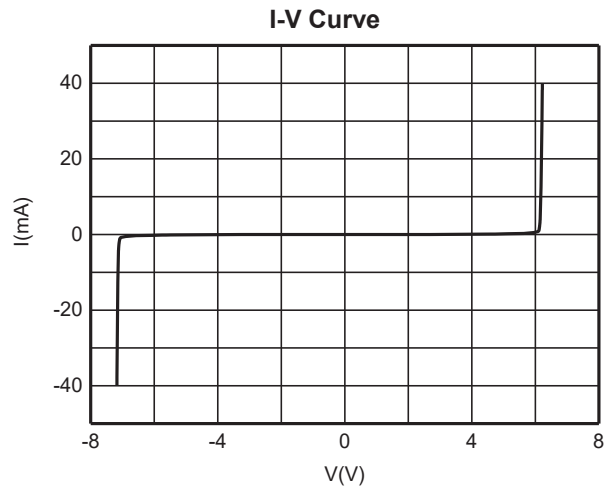
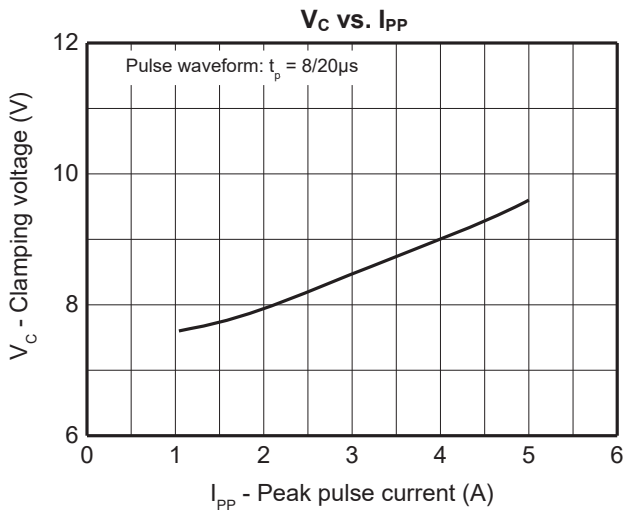
V-I characteristics for a Bi-directional TVS

## Electrical Characteristics (T<sub>a</sub>=25°C unless otherwise specified)

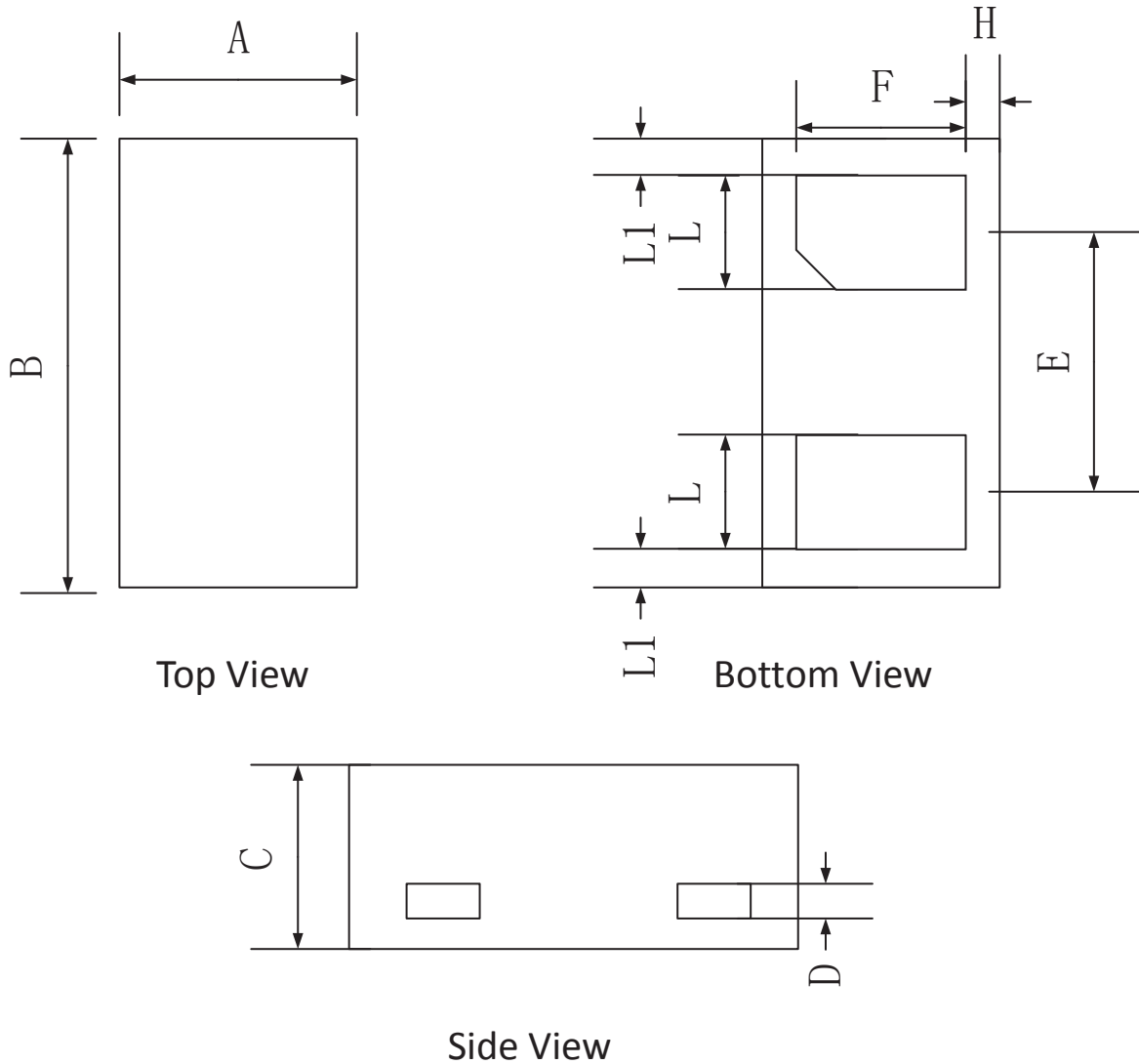
| Parameter                 | Symbol                        | Test conditions            | Min | Typ | Max  | Unit |
|---------------------------|-------------------------------|----------------------------|-----|-----|------|------|
| Reverse stand-off voltage | V <sub>RWM</sub>              |                            |     |     | 5    | V    |
| Reverse leakage current   | I <sub>R1</sub>               | V <sub>RWM</sub> =5V       |     |     | 0.5  | μA   |
| Reverse leakage current   | I <sub>R2</sub>               | V <sub>RWM</sub> =3.5V     |     |     | 0.3  | μA   |
| Breakdown voltage         | V <sub>BR</sub> <sup>1)</sup> | I <sub>T</sub> =1mA        | 5.6 | 6.1 |      | V    |
| Clamping voltage          | V <sub>C1</sub> <sup>2)</sup> | I <sub>PP</sub> =1A        |     | 7.8 | 9.8  | V    |
|                           | V <sub>C2</sub> <sup>2)</sup> | I <sub>PP</sub> =5A        |     | 9.6 | 12.5 | V    |
| Peak Pulse Current        | I <sub>PP</sub> <sup>2)</sup> |                            |     |     | 5    | A    |
| Junction capacitance      | C <sub>J</sub>                | V <sub>R</sub> =0V, f=1MHz |     | 10  | 15   | pF   |

- 1) V<sub>BR</sub> is measured with a pulse test current I<sub>T</sub> at an ambient temperature of 25°C
- 2) Surge current waveform per Figure 2.

**Typical Characteristics**

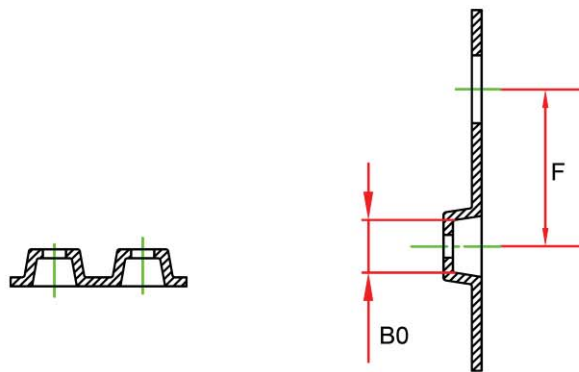
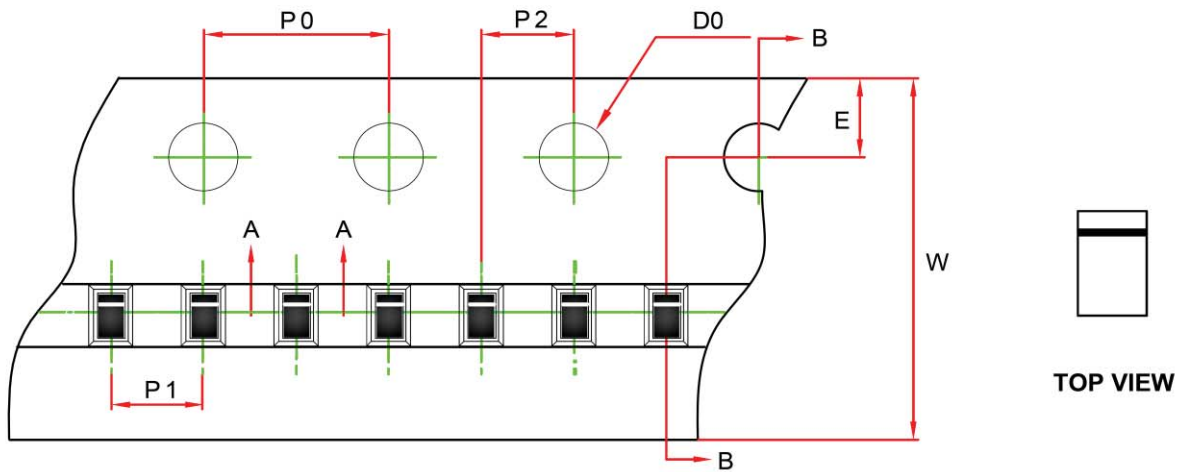


## DFN0603-2L Package Outline Dimensions



|    | Dimensions In Millimeters |      |      |
|----|---------------------------|------|------|
|    | Min.                      | Typ. | Max. |
| A  | 0.25                      | 0.30 | 0.35 |
| B  | 0.55                      | 0.60 | 0.65 |
| C  | 0.27                      | 0.30 | 0.34 |
| D  | 0.050REF                  |      |      |
| E  | -                         | 0.35 | -    |
| F  | 0.20                      | 0.25 | 0.35 |
| H  | 0.045 REF                 |      |      |
| L  | 0.13                      | 0.18 | 0.23 |
| L1 | 0.045REF                  |      |      |

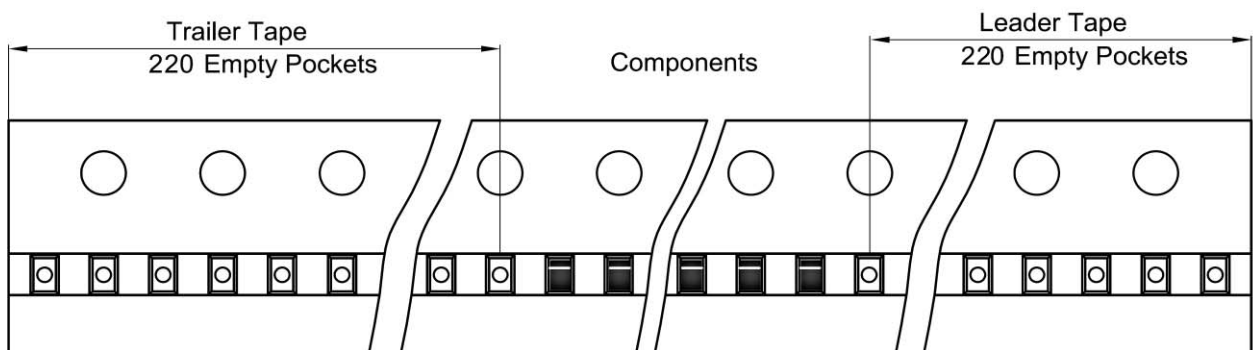
**DFN0603-2L Tape and Reel**



A - A

B - B

| Dimensions In Millimeters (mm) |         |        |        |        |        |        |        |        |
|--------------------------------|---------|--------|--------|--------|--------|--------|--------|--------|
| Pkg type                       | B0      | P0     | P1     | P2     | E      | F      | W      | D0     |
| DFN 0.6×0.3-2L                 | 0.67    | 4.00   | 2.00   | 2.00   | 1.75   | 3.50   | 8.00   | 1.55   |
| Tolerance                      | +/-0.05 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.3 | +/-0.1 |



单击下面可查看定价，库存，交付和生命周期等信息

[>>GP\(格瑞宝\)](#)