



## Discription

The HVCUT07B1-HD1-G4-08 protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD.

It gives designer the flexibility to protect one bi-directional line in applications where arrays are not practical.



DFN1006-2L

## Features

- ★ Small Body Outline Dimensions
- ★ Low Body Height
- ★ Peak Power up to 80 Watts @ 8 x 20  $\mu$ s Pulse
- ★ Low Leakage
- ★ Response Time is Typically < 1 ns
- ★ IEC61000-4-2 Level 4 ESD Protection
- ★ IEC61000-4-4 Level 4 EFT Protection
- ★ We declare that the material of product compliance with RoHS requirements.



Circuit Diagram

## Ordering information

| Product ID          | Pack       | Qty(PCS) |
|---------------------|------------|----------|
| HVCUT07B1-HD1-G4-08 | DFN1006-2L | 10000    |

## Absolute Ratings( $T_{amb} = 25^{\circ}\text{C}$ )

| Symbol           | Parameter                                         | Value                              | Units        |    |
|------------------|---------------------------------------------------|------------------------------------|--------------|----|
| P <sub>PP</sub>  | Peak Pulse Power (t <sub>p</sub> = 8/20μs)        | 130                                | W            |    |
| T <sub>L</sub>   | Maximum lead temperature for soldering during 10s | 260                                | °C           |    |
| T <sub>stg</sub> | Storage Temperature Range                         | -55 to +150                        | °C           |    |
| T <sub>op</sub>  | Operating Temperature Range                       | -40 to +125                        | °C           |    |
| T <sub>j</sub>   | Maximum junction temperature                      | 150                                | °C           |    |
|                  | IEC61000-4-2 (ESD)                                | air discharge<br>contact discharge | ± 20<br>± 15 | KV |
|                  | IEC61000-4-4 (EFT)                                | 40                                 | A            |    |



**Electrical Characteristics** Ratings at 25°C ambient temperature unless otherwise specified. VF = 0.9V at IF = 10mA

| Device              | $V_{RWM}$<br>(V) | $I_R$ ( $\mu$ A)<br>@ $V_{RWM}$ | $V_{BR}$ (V)@ $I_T$<br>(Note 1) |     | $I_T$ | $V_C$ (V)<br>@ $I_{PP}=3$ A* | $V_C$ (V)<br>@ Max $I_{PP}$ * | $I_{PP}$<br>(A)* | $P_{PK}$<br>(W)* | $C$<br>(pF) |
|---------------------|------------------|---------------------------------|---------------------------------|-----|-------|------------------------------|-------------------------------|------------------|------------------|-------------|
|                     | Max              | Max                             | Min                             | Max | mA    | Typ                          | Max                           | Max              | Max              | Typ         |
| HVCUT07B1-HD1-G4-08 | 7.0              | 1.0                             | 7.2                             | 9   | 1.0   | 13                           | 17                            | 9                | 153              | 8           |

\*Surge current waveform per Figure 2.

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

**Typical Characteristics**

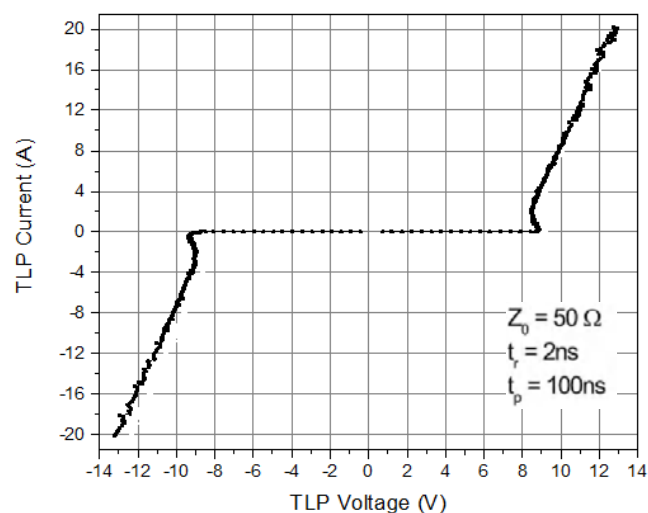


Fig1.TLP Measurement

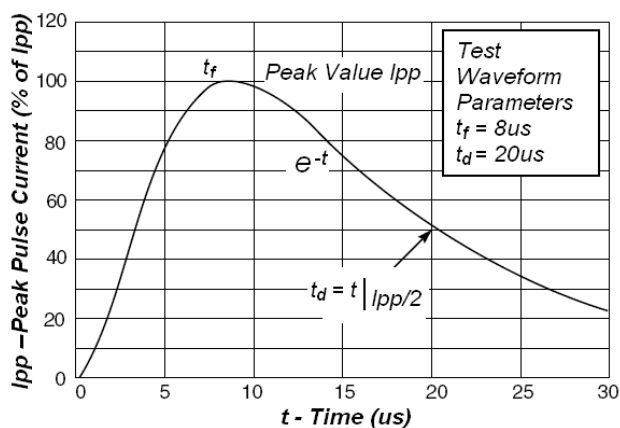


Fig2. Pulse Waveform

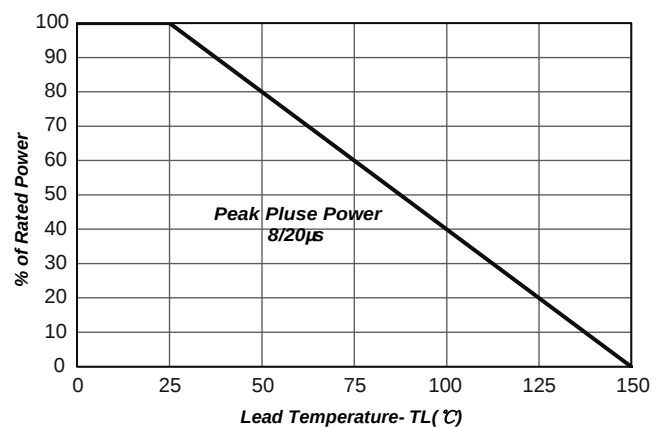
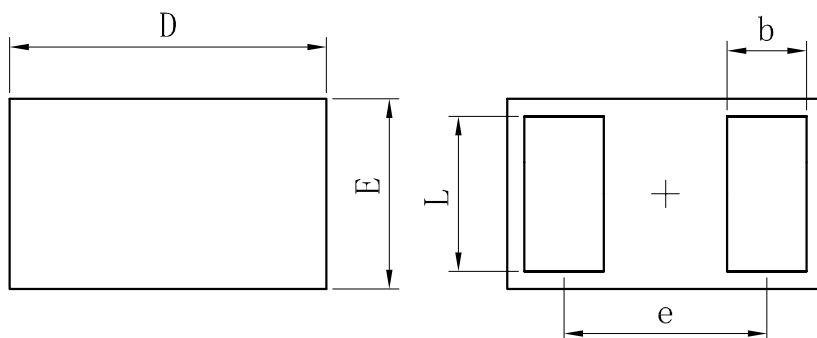


Fig3.Power Derating Curve



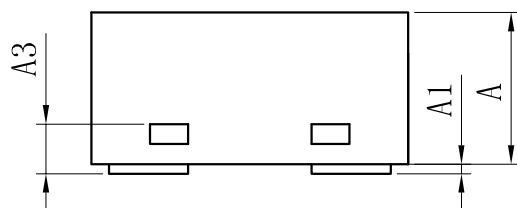
## Outline And Dimensions



TOP VIEW

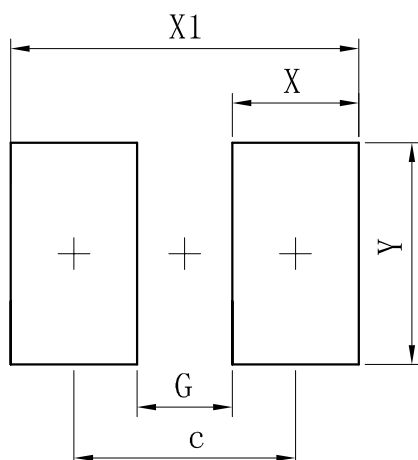
BOTTOM VIEW

| DFN1006-2L           |           |      |      |
|----------------------|-----------|------|------|
| Dim                  | Min       | Typ  | Max  |
| D                    | 0.95      | 1.00 | 1.05 |
| E                    | 0.55      | 0.60 | 0.65 |
| e                    | –         | 0.64 | –    |
| L                    | 0.44      | 0.49 | 0.54 |
| b                    | 0.20      | 0.25 | 0.30 |
| A                    | 0.43      | 0.48 | 0.53 |
| A1                   | 0         | –    | 0.05 |
| A3                   | 0.127REF. |      |      |
| All Dimensions in mm |           |      |      |



SIDE VIEW

## Soldering Footprint



| Dimensions | (mm) |
|------------|------|
| c          | 0.70 |
| G          | 0.30 |
| X          | 0.40 |
| X1         | 1.10 |
| Y          | 0.70 |



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