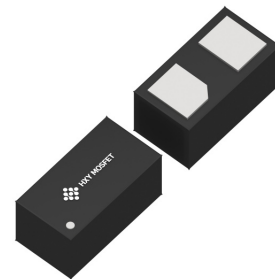




## Discription

The HCPDZ5V0C-HF 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.



DFN0603-2L

## Features

- ★ Small Body Outline Dimensions:  
0.61 mm x 0.31 mm
- ★ Low Body Height: 0.28 mm
- ★ Low Leakage
- ★ Response Time is Typically < 1 ns
- ★ ESD Rating of Class 3 per Human Body Model
- ★ IEC61000-4-2 Level 4 ESD Protection
- ★ These are Pb-Free Devices
- ★ We declare that the material of product compliance with RoHS requirements and Halogen Free.



Circuit Diagram

## Ordering information

| Product ID   | Pack       | Qty(PCS) |
|--------------|------------|----------|
| HCPDZ5V0C-HF | DFN0603-2L | 10000    |

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

| Symbol    | Parameter                                         | Value                              | Units                      |
|-----------|---------------------------------------------------|------------------------------------|----------------------------|
| $P_{PP}$  | Peak Pulse Power ( $t_p = 8/20\mu\text{s}$ )      | 30                                 | W                          |
| $T_L$     | Maximum lead temperature for soldering during 10s | 260                                | $^{\circ}\text{C}$         |
| $T_{stg}$ | Storage Temperature Range                         | -55 to +150                        | $^{\circ}\text{C}$         |
| $T_{op}$  | Operating Temperature Range                       | -40 to +125                        | $^{\circ}\text{C}$         |
| $T_j$     | Maximum junction temperature                      | 150                                | $^{\circ}\text{C}$         |
|           | IEC61000-4-2 (ESD)                                | air discharge<br>contact discharge | $\pm 20$<br>$\pm 20$<br>KV |



## Electrical Characteristics

| $V_{RWM}$<br>(V) | $I_R(\mu A)$<br>@ $V_{RWM}$ | $V_{BR}$ (V)@ $I_T$<br>(Note 1) | $I_T$ | $V_C$ (V)<br>@ $I_{PP}=1 A^*$ | $V_C$ (V)<br>@ Max $I_{PP}^*$ | $I_{PP}$<br>(A)* | $P_{PK}$<br>(W)* | C<br>(pF) |
|------------------|-----------------------------|---------------------------------|-------|-------------------------------|-------------------------------|------------------|------------------|-----------|
| Max              | Max                         | Min                             | mA    | Typ                           | Max                           | Max              | Max              | Max       |
| 5.0              | 1.0                         | 6.0                             | 1     | 8                             | 12                            | 2.5              | 30               | 3.0       |

\*Surge current waveform per Figure 1.

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

## Typical Characteristics

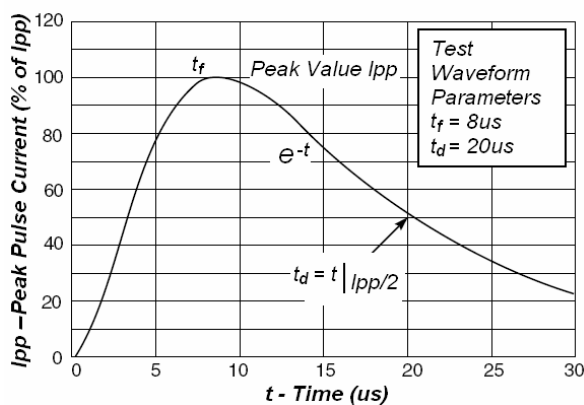


Fig1. Pulse Waveform

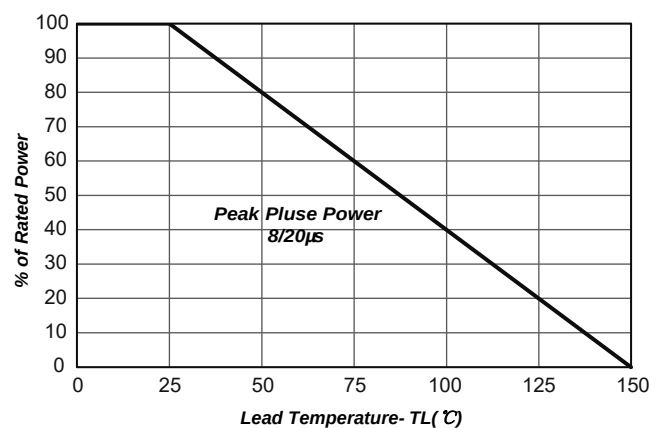


Fig2.Power Derating Curve

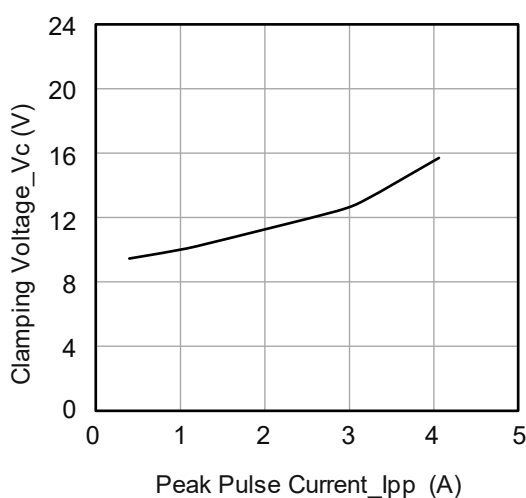


Fig 3.Clamping Voltage vs.Peak Pulse Current

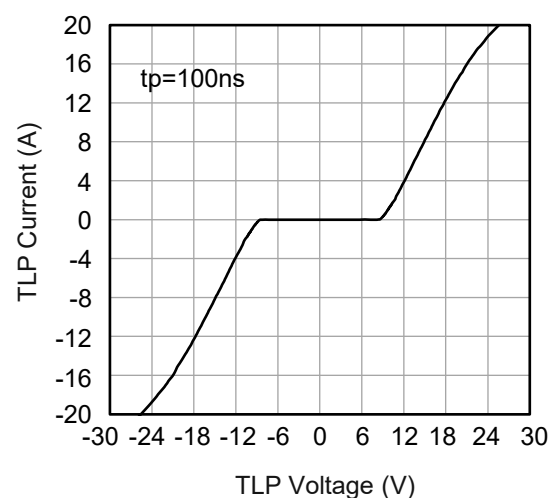
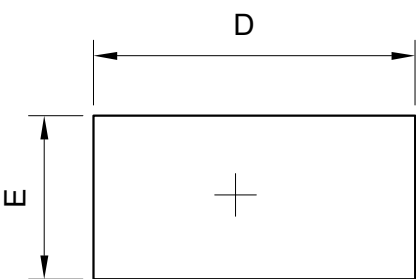


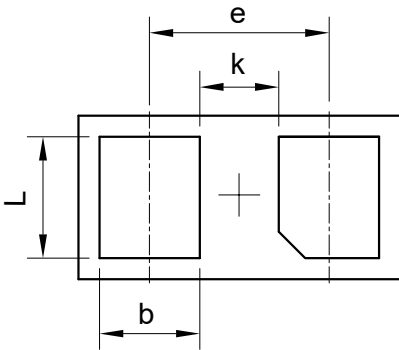
Fig 4. TLP Measurement



Package Outline Dimension



TOP VIEW



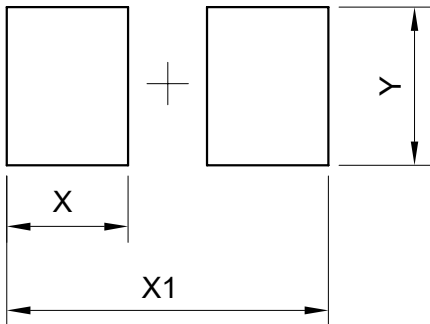
BOTTOM VIEW

| DFN0603-DL           |      |      |      |
|----------------------|------|------|------|
| Dim                  | Min  | Typ. | Max  |
| D                    | 0.58 | 0.61 | 0.64 |
| E                    | 0.28 | 0.31 | 0.34 |
| e                    | -    | 0.34 | -    |
| L                    | 0.20 | 0.23 | 0.26 |
| b                    | 0.16 | 0.19 | 0.22 |
| A                    | 0.25 | 0.28 | 0.31 |
| k                    | 0.12 | 0.15 | 0.18 |
| All Dimensions in mm |      |      |      |



SIDE VIEW

Suggested Pad layout



| DFN0603-DL |      |
|------------|------|
| DIM        | (mm) |
| X          | 0.23 |
| X1         | 0.61 |
| Y          | 0.30 |



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