

# CPDZD5V0HE-E5-HF

RoHS Device  
Halogen Free



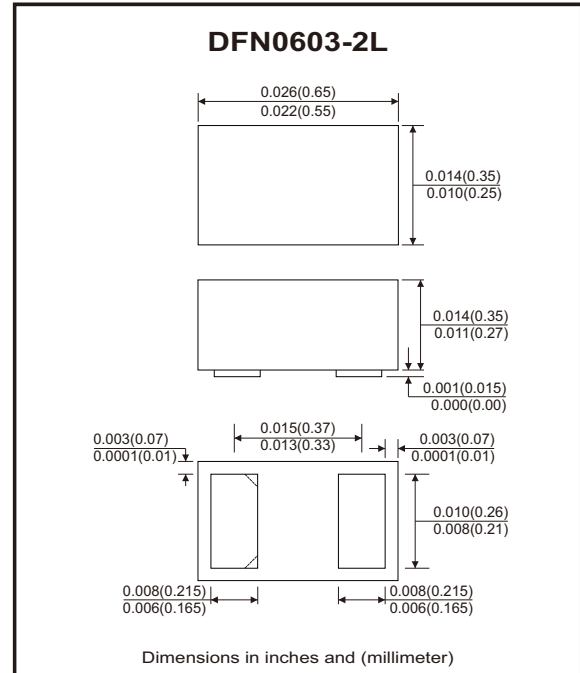
## Features

- IEC 61000-4-2 (ESD)  $\pm 30\text{kV}$  (air/contact).
- Protecting one Bi-directional lines.
- Low clamping voltage.
- Low leakage current.

## Mechanical data

- Case: DFN0603-2L package, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Mounting position: Any.

## Circuit Diagram



## Maximum Rating (at $T_A=25^\circ\text{C}$ unless otherwise noted)

| Parameter                 | Conditions                                   | Symbol    | Value       | Unit             |
|---------------------------|----------------------------------------------|-----------|-------------|------------------|
| Peak pulse power          | $T_P = 8/20\mu\text{s}$                      | $P_{PP}$  | 96          | W                |
| Peak pulse current        | $T_P = 8/20\mu\text{s}$                      | $I_{PP}$  | 8           | A                |
| ESD capability            | IEC 61000-4-2(air)<br>IEC 61000-4-2(contact) | ESD       | $\pm 30$    | kV               |
| Lead temperature          |                                              | $T_L$     | 260         | $^\circ\text{C}$ |
| Junction temperature      |                                              | $T_J$     | 150         | $^\circ\text{C}$ |
| Storage temperature range |                                              | $T_{STG}$ | -55 to +150 | $^\circ\text{C}$ |

## Electrical Characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)

| Parameter                 | Conditions                                     | Symbol    | Min | Typ | Max | Unit          |
|---------------------------|------------------------------------------------|-----------|-----|-----|-----|---------------|
| Reverse stand-off voltage |                                                | $V_{RWM}$ |     |     | 5   | V             |
| Breakdown voltage         | $I_T = 1\text{mA}$                             | $V_{BR}$  | 5.6 |     |     | V             |
| Reverse leakage current   | $V_{RWM} = 5\text{V}$                          | $I_R$     |     |     | 1   | $\mu\text{A}$ |
| Clamping voltage          | $I_{PP} = 1\text{A}, T_P = 8/20\mu\text{s}$    | $V_C$     |     | 6   | 10  | V             |
|                           | $I_{PP} = 8\text{A}, T_P = 8/20\mu\text{s}$    | $V_C$     |     | 8   | 12  | V             |
| Junction capacitance      | $V_R = 0\text{V}, f = 1\text{MHz}, I/O$ to GND | $C_J$     |     | 15  | 20  | pF            |

Typical Rating and Characteristic Curves (CPDZD5V0HE-E5-HF)

Fig.1 - 8/20 $\mu$ s Peak Pulse Current  
Waveform Acc. IEC 61000-4-5

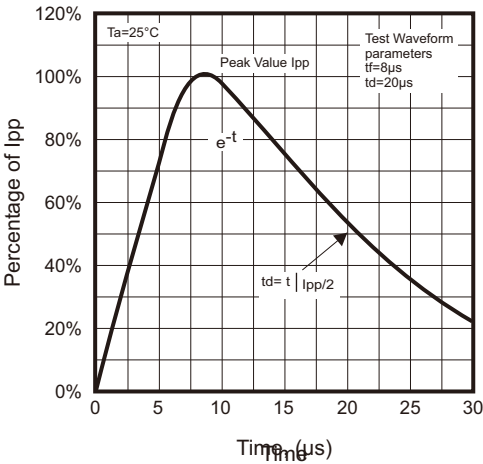


Fig.2 - Power Rating Derating Curve

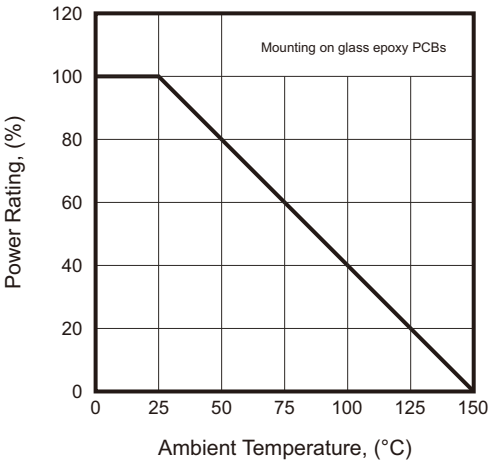


Fig.3 - Typical Clamping Voltage vs.  
Peak Pulse Current

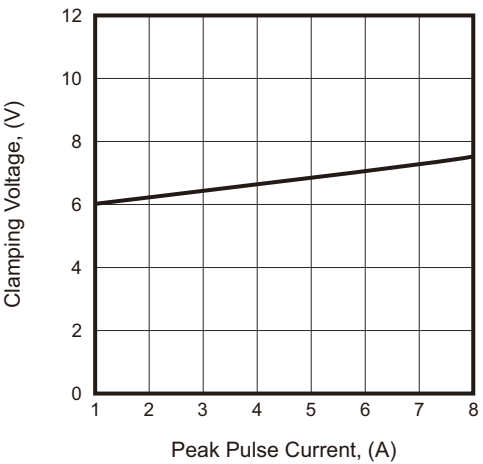
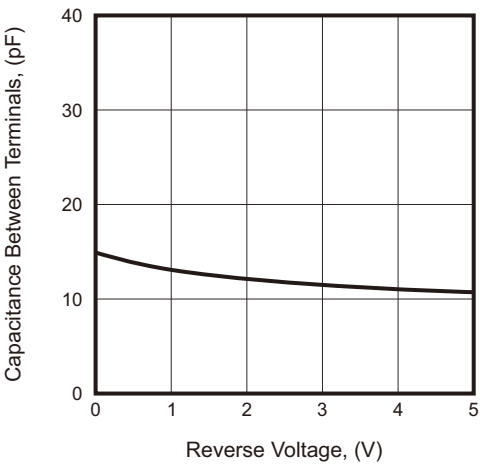
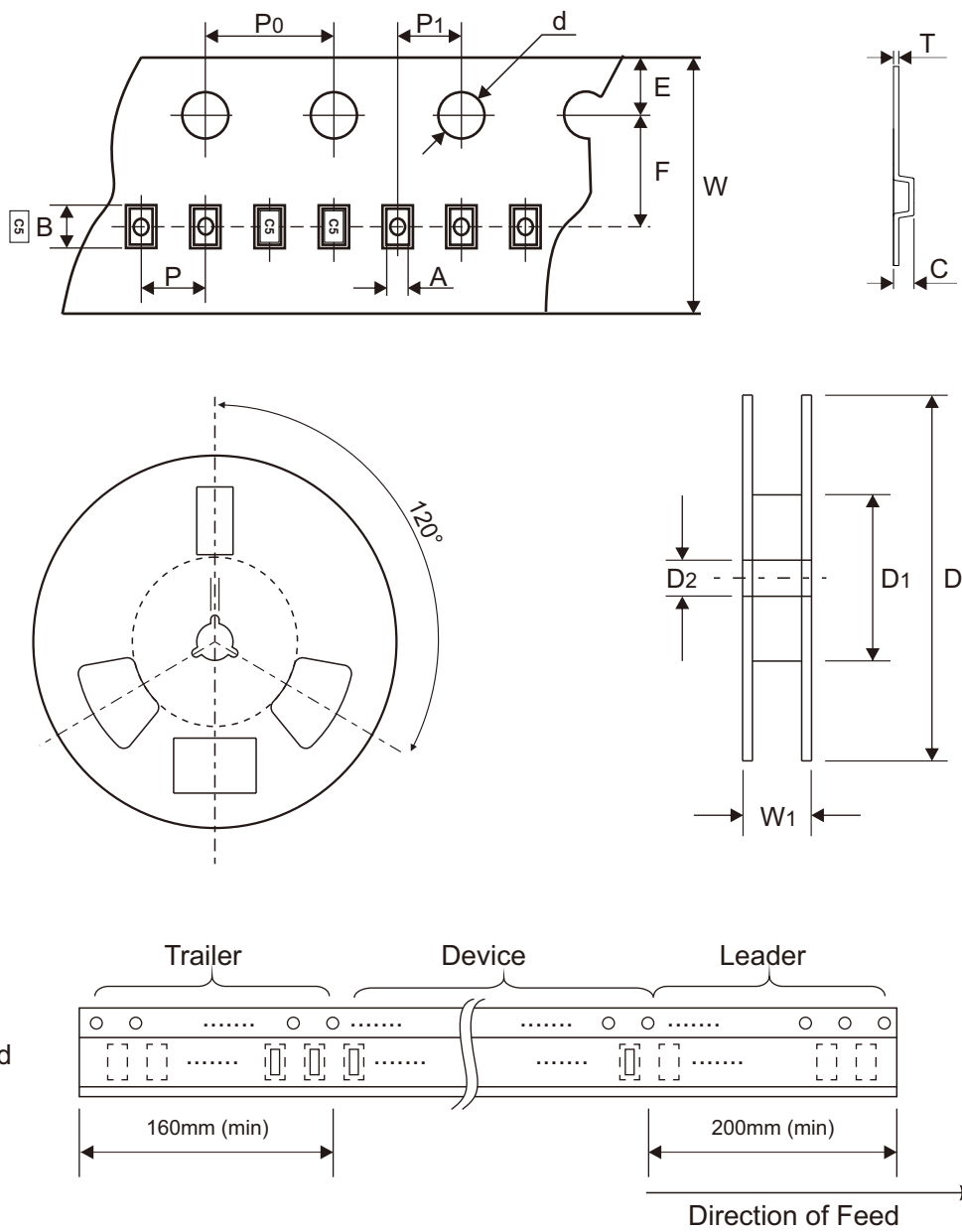


Fig.4 - Typical Capacitance Between  
Terminals Characteristics



Reel Taping Specification



|                |        |               |               |               |               |               |               |               |
|----------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| DFN0603<br>-2L | SYMBOL | A             | B             | C             | d             | D             | D1            | D2            |
|                | (mm)   | 0.38 ± 0.03   | 0.68 ± 0.03   | 0.32 ± 0.05   | 1.55 ± 0.05   | 179.50 ± 0.25 | 54.70 ± 0.20  | 13.30 ± 0.15  |
|                | (inch) | 0.015 ± 0.001 | 0.027 ± 0.001 | 0.013 ± 0.002 | 0.061 ± 0.002 | 7.067 ± 0.010 | 2.154 ± 0.008 | 0.524 ± 0.006 |

|                |        |               |               |               |               |               |               |               |               |
|----------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| DFN0603<br>-2L | SYMBOL | E             | F             | P             | P0            | P1            | T             | W             | W1            |
|                | (mm)   | 1.75 ± 0.10   | 3.50 ± 0.05   | 2.00 ± 0.10   | 4.00 ± 0.10   | 2.00 ± 0.05   | 0.18 ± 0.03   | 8.00 ± 0.10   | 11.50 ± 0.20  |
|                | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.079 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.007 ± 0.001 | 0.315 ± 0.004 | 0.453 ± 0.008 |

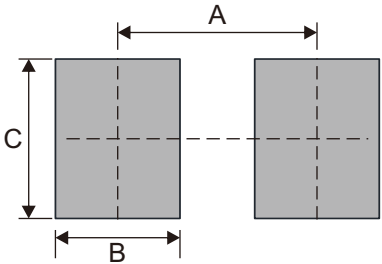
Marking Code

| Part Number      | Marking Code |
|------------------|--------------|
| CPDZD5V0HE-E5-HF | C5           |



Suggested P.C.B. PAD Layout

| SIZE | DFN0603-2L |        |
|------|------------|--------|
|      | (mm)       | (inch) |
| A    | 0.40       | 0.016  |
| B    | 0.25       | 0.010  |
| C    | 0.32       | 0.013  |



Standard Packaging

| Case Type  | REEL PACK       |                     |
|------------|-----------------|---------------------|
|            | REEL<br>( pcs ) | Reel Size<br>(inch) |
| DFN0603-2L | 10,000          | 7                   |