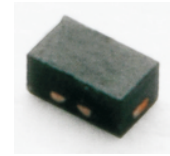


# CPDZ3V3U-HF

RoHS Device  
Halogen Free



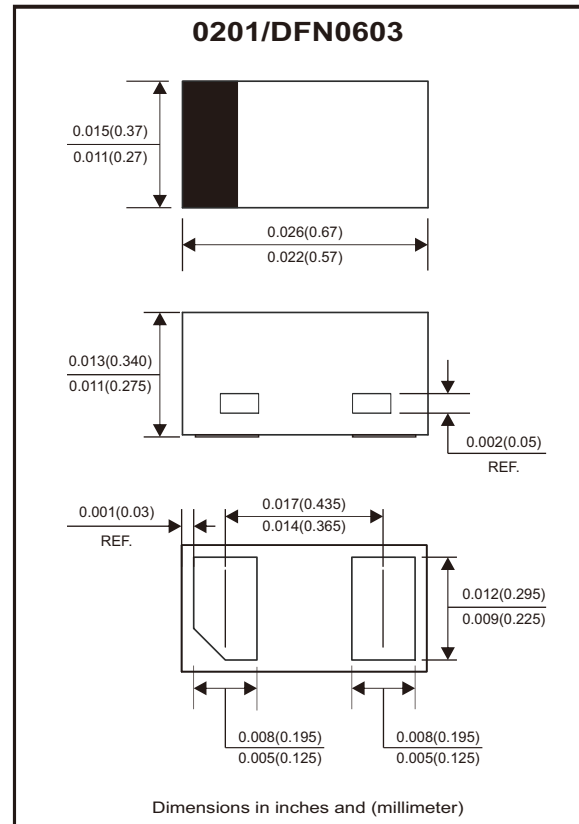
## Features

- Uni-directional ESD protection.
- Surface mount package.
- Ultra small SMD package.
- High component density.
- Low clamping voltage.
- Low leakage.

## Mechanical data

- Case: 0201/DFN0603 package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Polarity: Color band denotes cathode end.
- 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            | $T_P = 8/20\mu\text{s}$                      | $P_{PP}$  | 66              | W                  |
| Peak pulse current          | $T_P = 8/20\mu\text{s}$                      | $I_{PP}$  | 6               | A                  |
| ESD capability              | IEC 61000-4-2(air)<br>IEC 61000-4-2(contact) | ESD       | $\pm 30$        | kV                 |
| Operating temperature range |                                              | $T_j$     | $-40 \sim +125$ | $^{\circ}\text{C}$ |
| Storage temperature range   |                                              | $T_{STG}$ | $-55 \sim +150$ | $^{\circ}\text{C}$ |

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

| Parameter                    | Conditions                                                                                 | Symbol    | Min | Typ | Max     | Unit          |
|------------------------------|--------------------------------------------------------------------------------------------|-----------|-----|-----|---------|---------------|
| Working peak reverse voltage |                                                                                            | $V_{RWM}$ |     |     | 3.3     | V             |
| Forward voltage              | $I_F = 10\text{mA}$                                                                        | $V_F$     |     |     | 1.2     | V             |
| Breakdown voltage            | $I_T = 1\text{mA}$                                                                         | $V_{BR}$  | 5.7 | 6.2 | 6.7     | V             |
| Reverse leakage current      | $V_{RWM} = 3.3$                                                                            | $I_R$     |     |     | 0.1     | $\mu\text{A}$ |
| Clamping voltage             | $I_{PP} = 1\text{A}, T_P = 8/20\mu\text{s}$<br>$I_{PP} = 6\text{A}, T_P = 8/20\mu\text{s}$ | $V_C$     |     |     | 8<br>11 | V             |
| Junction capacitance         | $V_R = 0\text{V}, f = 1\text{MHz}$                                                         | $C_J$     |     | 35  |         | pF            |

Company reserves the right to improve product design, functions and reliability without notice.

REV:D

Rating and Characteristic Curves (CPDZ3V3U-HF)

Fig.1 - 8/20μs Peak Pulse Current  
Waveform Acc. IEC 6100-4-5

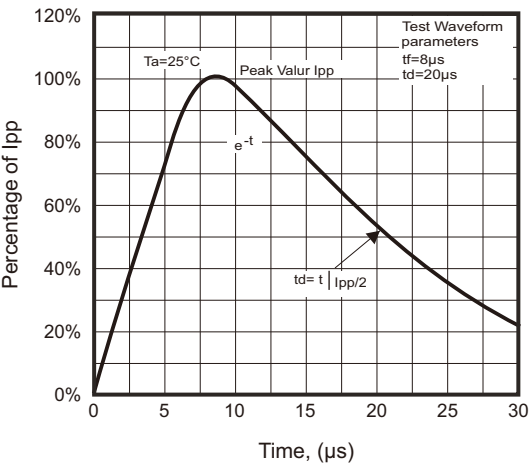


Fig.2 - Power Rating Derating Curve

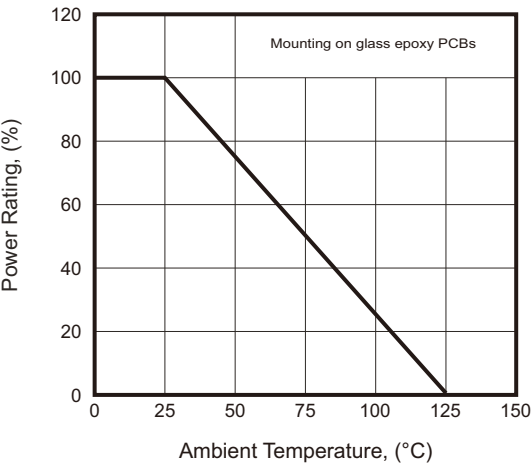


Fig.3 - Clamping Voltage Vs.  
Peak Pulse Current

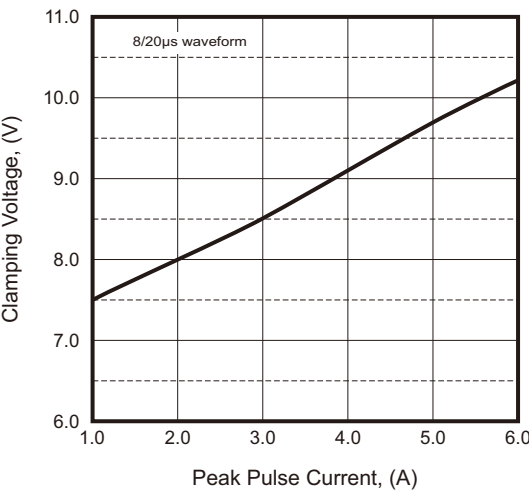
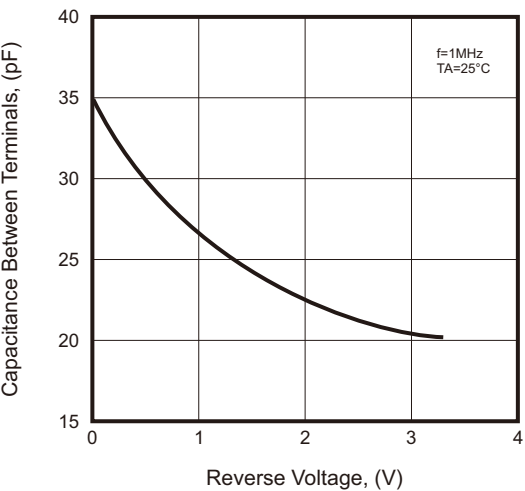
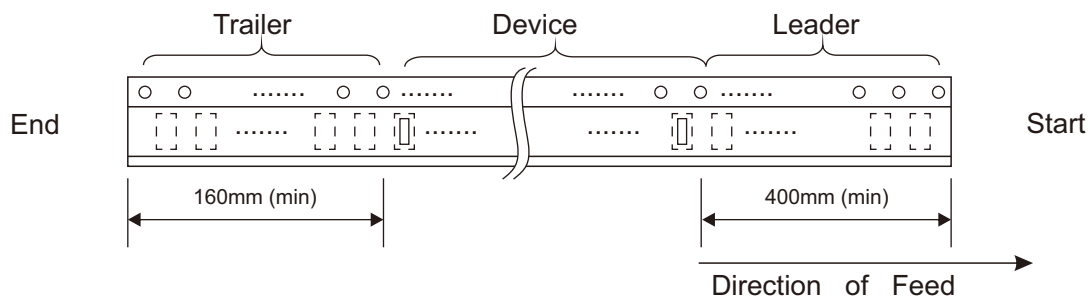
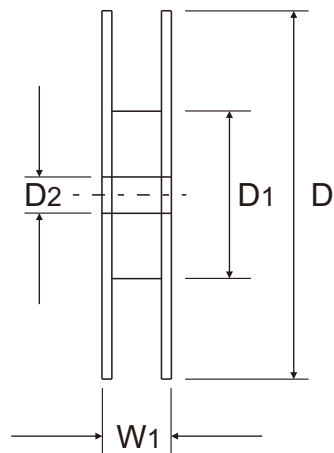
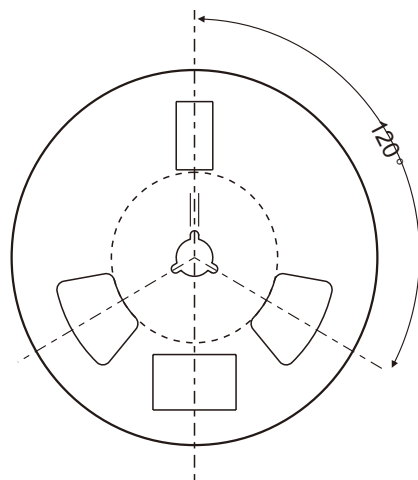
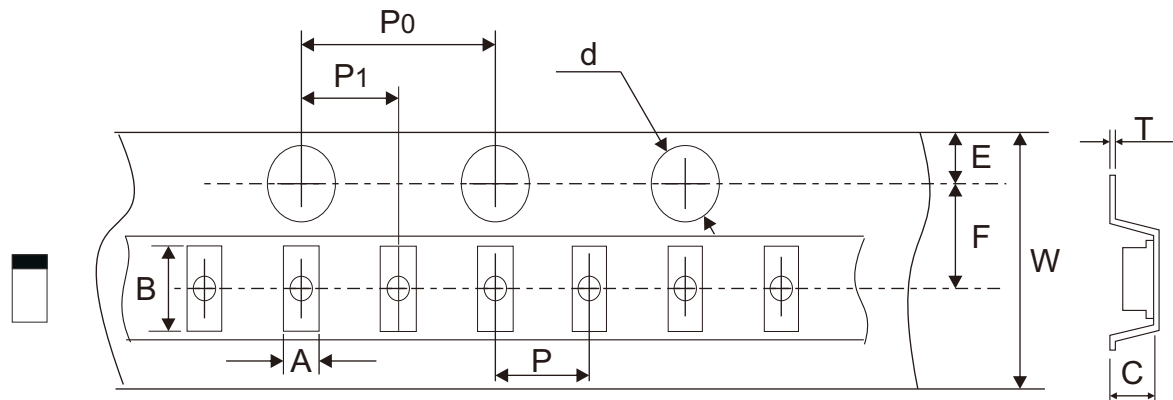


Fig.4 - Capacitance Between  
Terminals Characteristics



Reel Taping Specification



| 0201<br>(DFN0603) | SYMBOL | A                            | B                 | C                 | d                 | D                 | D1                | D2                |
|-------------------|--------|------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                   | (mm)   | $0.39 \pm 0.03$<br>- 0.02    | $0.72 \pm 0.03$   | $0.36 \pm 0.03$   | $1.50 \pm 0.10$   | $178 \pm 1.00$    | $54.4 \pm 0.40$   | $13.0 \pm 0.20$   |
|                   | (inch) | $0.015 \pm 0.001$<br>- 0.001 | $0.028 \pm 0.001$ | $0.014 \pm 0.001$ | $0.059 \pm 0.004$ | $7.008 \pm 0.039$ | $2.142 \pm 0.016$ | $0.512 \pm 0.008$ |

| 0201<br>(DFN0603) | SYMBOL | E                 | F                 | P                 | P0                | P1                | T                 | W                 | W1                |
|-------------------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                   | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.05$   | $2.00 \pm 0.05$   | $4.00 \pm 0.05$   | $2.00 \pm 0.05$   | $0.23 \pm 0.05$   | $8.00 \pm 0.10$   | $12.30 \pm 0.10$  |
|                   | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.002$ | $0.079 \pm 0.002$ | $0.157 \pm 0.002$ | $0.079 \pm 0.002$ | $0.009 \pm 0.002$ | $0.315 \pm 0.004$ | $0.484 \pm 0.004$ |

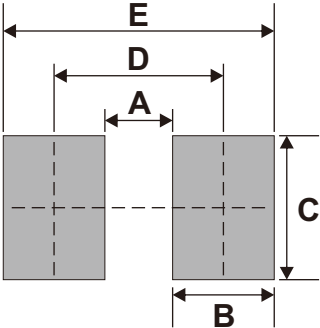
Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| CPDZ3V3U-HF | C            |



Suggested PAD Layout

| SIZE | 0201(DFN0603) |        |
|------|---------------|--------|
|      | (mm)          | (inch) |
| A    | 0.16          | 0.006  |
| B    | 0.24          | 0.009  |
| C    | 0.34          | 0.013  |
| D    | 0.40          | 0.016  |
| E    | 0.64          | 0.025  |



Standard Packaging

| Case Type      | REEL PACK  |                  |
|----------------|------------|------------------|
|                | REEL (pcs) | Reel Size (inch) |
| 0201 (DFN0603) | 10,000     | 7                |