

# CPDU5V0H-HF

RoHS Device  
Halogen Free

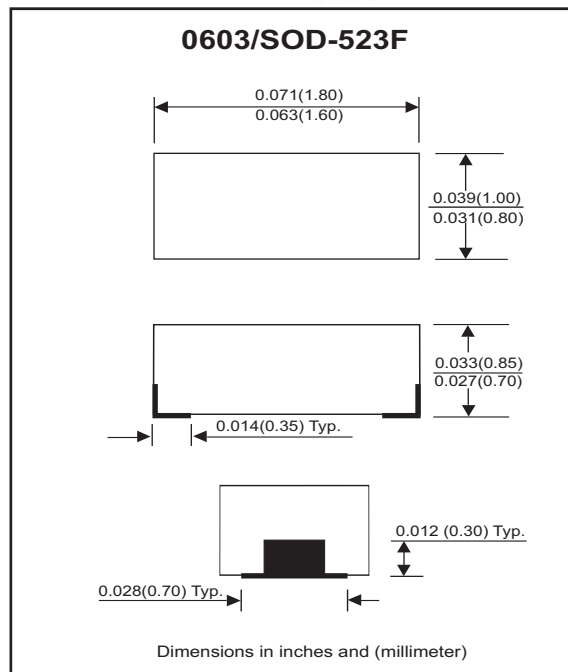


## Features

- Bi-directional ESD protection
- IEC 61000-4-5 (surge) ; IPP=7A
- IEC 61000-4-2 (ESD) ;  $\pm 30\text{KV}$ (contact)
- Low clamping voltage
- Low leakage current

## Mechanical data

- Case: 0603/SOD-523F Standard package , molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Marking Code: E05
- Mounting position: Any.
- Weight: 0.003 gram (approx.).



## Maximum Rating and Electrical Characteristics (at TA=25 °C unless otherwise noted)

| Parameter               | Conditions                                  | Symbol    | Min | Typ | Max | Unit               |
|-------------------------|---------------------------------------------|-----------|-----|-----|-----|--------------------|
| Diode breakdown voltage | $I_R = 1\text{mA}$                          | $V_{BD}$  | 5.5 | 7.0 |     | V                  |
| Leakage current         | $V_R = 5\text{V}$                           | $I_L$     |     |     | 1.0 | $\mu\text{A}$      |
| Junction capacitance    | $V_R = 0\text{V}, f = 1\text{MHz}$          | $C_T$     |     |     | 20  | pF                 |
| ESD capability          | IEC 61000-4-2(air)                          | ESD       |     |     | 30  | kV                 |
|                         | IEC 61000-4-2(contact)                      | ESD       |     |     | 30  | kV                 |
| Clamping Voltage        | $I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$ | $V_c$     |     |     | 11  | V                  |
|                         | $I_{PP} = 7\text{A}, t_p = 8/20\mu\text{s}$ | $V_c$     |     |     | 20  | V                  |
| Peak Pulse Power        | $T_P = 8/20\mu\text{s}$                     | $P_{PP}$  |     |     | 140 | W                  |
| Operation temperature   |                                             | $T_j$     |     |     | 125 | $^{\circ}\text{C}$ |
| Storage temperature     |                                             | $T_{STG}$ | -55 |     | 150 | $^{\circ}\text{C}$ |

RATING AND CHARACTERISTIC CURVES (CPDU5V0H-HF)

Fig. 1 - 8/20us Peak pulse current wave form acc. IEC 61000-4-5

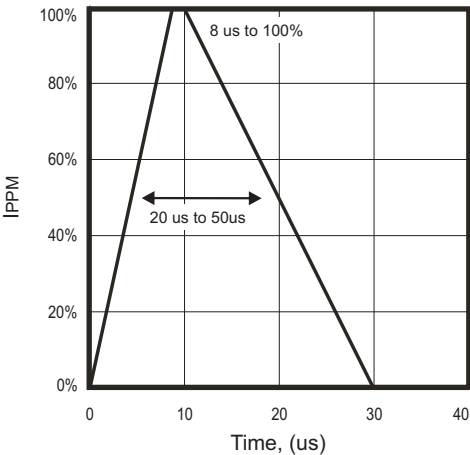


Fig. 2 - Capacitance between terminals characteristics

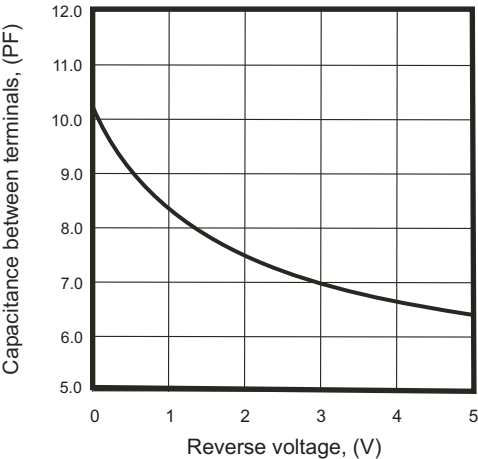


Fig.3 - Clamping voltage vs. peak pulse current

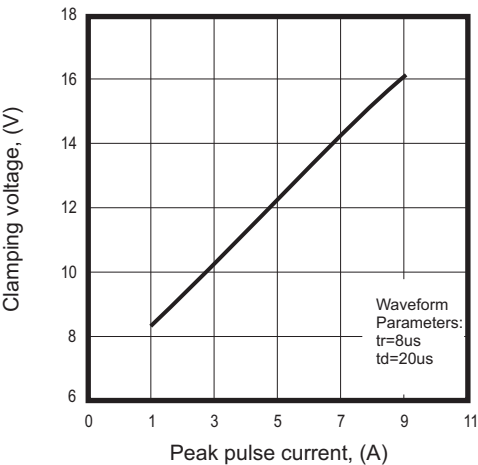
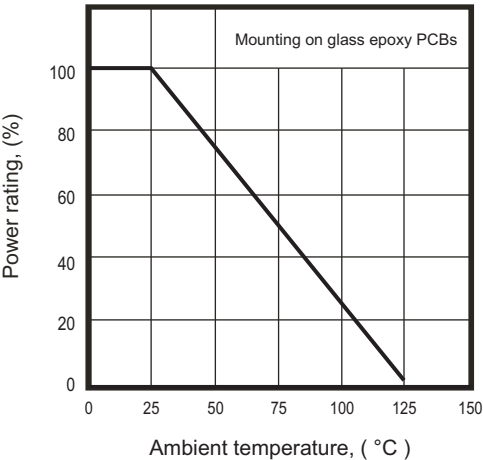
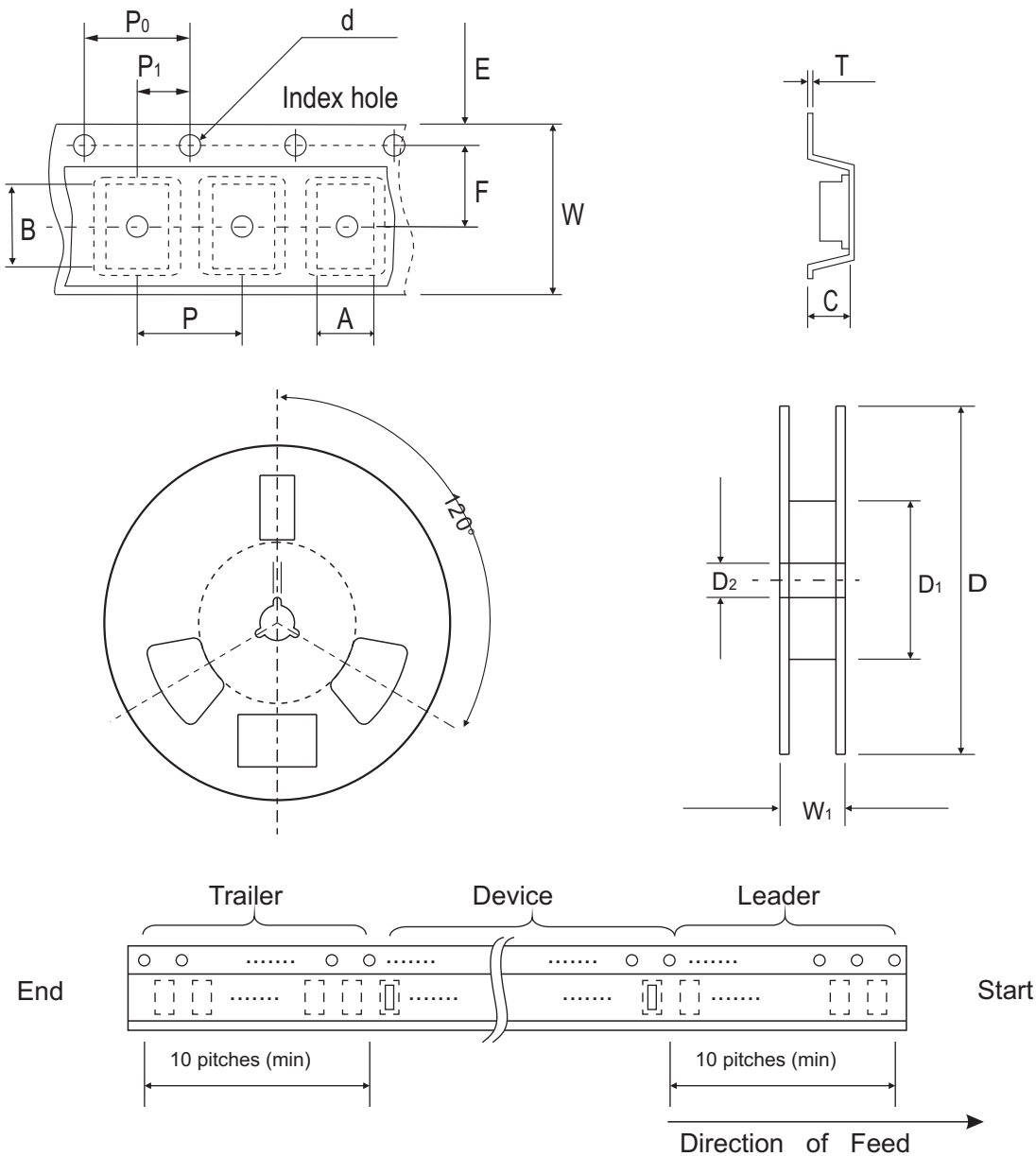


Fig. 4 - Power rating derating curve



Reel Taping Specification



|                    |        |               |               |               |               |              |                |                |
|--------------------|--------|---------------|---------------|---------------|---------------|--------------|----------------|----------------|
| 0603<br>(SOD-523F) | SYMBOL | A             | B             | C             | d             | D            | D <sub>1</sub> | D <sub>2</sub> |
|                    | (mm)   | 1.00 ± 0.10   | 1.85 ± 0.10   | 1.00 ± 0.10   | 1.55 ± 0.05   | 178 ± 1      | 60.0 MIN.      | 13.0 ± 0.20    |
|                    | (inch) | 0.039 ± 0.004 | 0.073 ± 0.004 | 0.039 ± 0.004 | 0.061 ± 0.002 | 7.008 ± 0.04 | 2.362 MIN.     | 0.512 ± 0.008  |

|                    |        |               |               |               |               |               |               |               |                |
|--------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| 0603<br>(SOD-523F) | SYMBOL | E             | F             | P             | P             | P             | T             | W             | W <sub>1</sub> |
|                    | (mm)   | 1.75 ± 0.10   | 3.50 ± 0.05   | 4.00 ± 0.10   | 4.00 ± 0.10   | 2.00 ± 0.05   | 0.23 ± 0.05   | 8.00 ± 0.20   | 13.5 MAX.      |
|                    | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.009 ± 0.002 | 0.315 ± 0.008 | 0.531 MAX.     |

## Marking Code

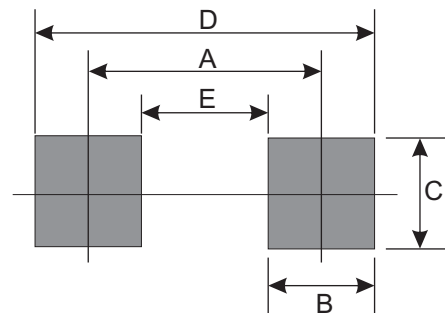
| Part Number | Marking Code |
|-------------|--------------|
| CPDU5V0H-HF | E05          |

**E05**

xxx = Product type marking code

## Suggested PAD Layout

| SIZE | 0603/SOD-523F |        |
|------|---------------|--------|
|      | (mm)          | (inch) |
| A    | 1.70          | 0.067  |
| B    | 0.60          | 0.024  |
| C    | 0.80          | 0.031  |
| D    | 2.30          | 0.091  |
| E    | 1.10          | 0.043  |



## Standard Packaging

| Case Type     | REEL PACK       |                     |
|---------------|-----------------|---------------------|
|               | REEL<br>( pcs ) | Reel Size<br>(inch) |
| 0603/SOD-523F | 4,000           | 7                   |