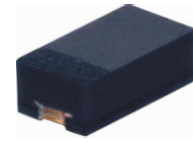


## CPDU3V3UP-HF

### RoHS Device

### Halogen Free



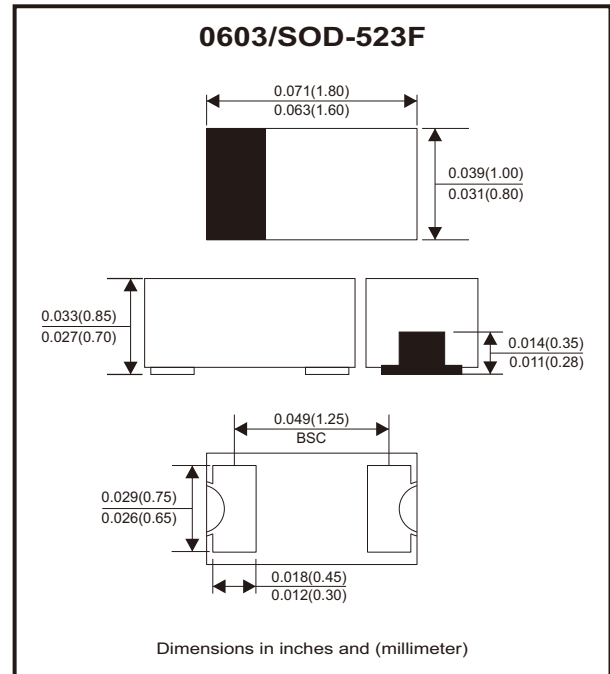
#### Features

- Working voltage: 3.3V
- Low leakage current.
- Low operating and clamping voltages.

#### Mechanical data

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

#### Circuit Diagram



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

| Parameter                                       | Symbol           | Value       | Unit |
|-------------------------------------------------|------------------|-------------|------|
| Peak pulse power ( $t_p = 8/20 \mu\text{s}$ )   | PPP              | 40          | W    |
| Peak pulse current ( $t_p = 8/20 \mu\text{s}$ ) | I <sub>PP</sub>  | 5           | A    |
| ESD per IEC 61000-4-2(Air)                      | V <sub>ESD</sub> | ±20         | kV   |
| ESD per IEC 61000-4-2(Contact)                  |                  | ±15         |      |
| Operating temperature range                     | T <sub>j</sub>   | -55 to +125 | °C   |
| Storage temperature range                       | T <sub>STG</sub> | -55 to +125 | °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 <sub>RWM</sub> |     |      | 3.3 | V    |
| Punch-through voltage     | I <sub>PT</sub> = 2μA                          | V <sub>PT</sub>  | 3.5 |      |     | V    |
| Snap-back voltage         | I <sub>SB</sub> = 50mA                         | V <sub>SB</sub>  | 2.8 |      |     | V    |
| Reverse leakage current   | V <sub>RWM</sub> = 3.3V                        | I <sub>R</sub>   |     | 0.05 | 0.5 | μA   |
| Clamping voltage          | I <sub>PP</sub> = 1 A, t <sub>p</sub> =8/20μs  | V <sub>C</sub>   |     |      | 5.5 | V    |
|                           | I <sub>PP</sub> = 5 A, t <sub>p</sub> =8/20μs  | V <sub>C</sub>   |     |      | 8.0 | V    |
| Reverse clamping voltage  | I <sub>PPR</sub> = 1 A, t <sub>p</sub> =8/20μs | V <sub>CR</sub>  |     |      | 2.4 | V    |
| Junction capacitance      | V <sub>R</sub> = 0 V, f = 1MHz                 | C <sub>j</sub>   |     | 12   | 16  | pF   |

Rating and Characteristic Curves (CPDU3V3UP-HF)

Fig.1 - Definitions of Electrical Characteristics

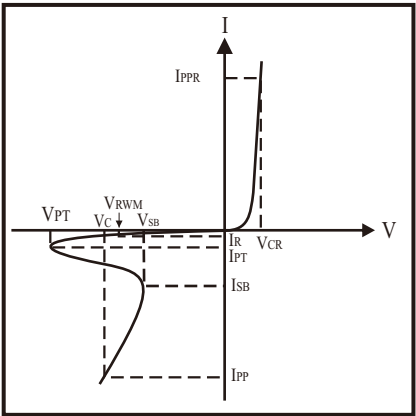


Fig.2 - Non-Repetitive Max. Peak Pulse Power vs. Pulse Time

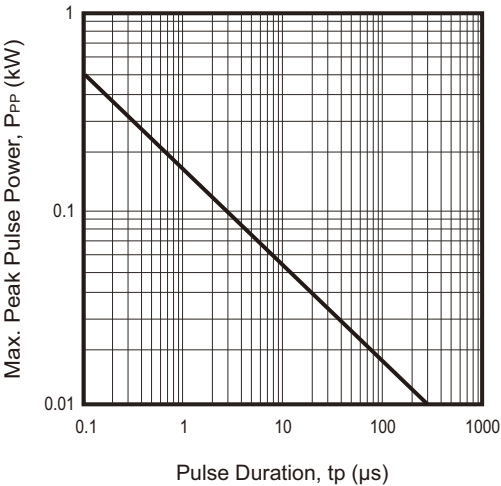


Fig.3 - Power Rating Derating Curve

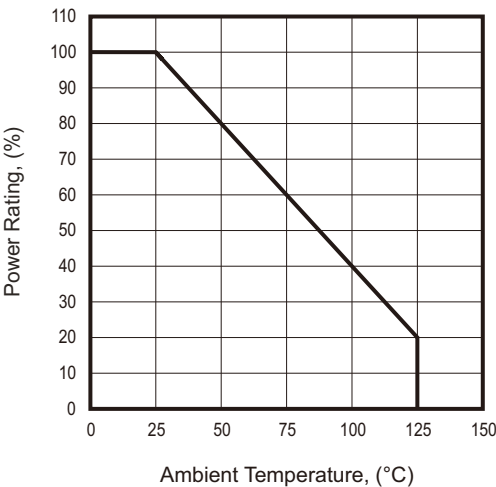


Fig.4 - Clamping Voltage Vs. Peak Pulse Current

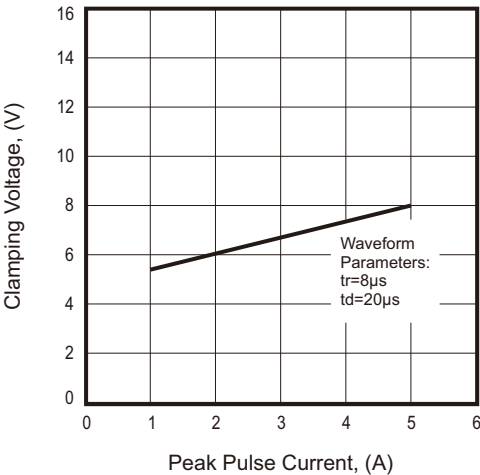


Fig.5 - Forward Voltage Vs. Forward Current

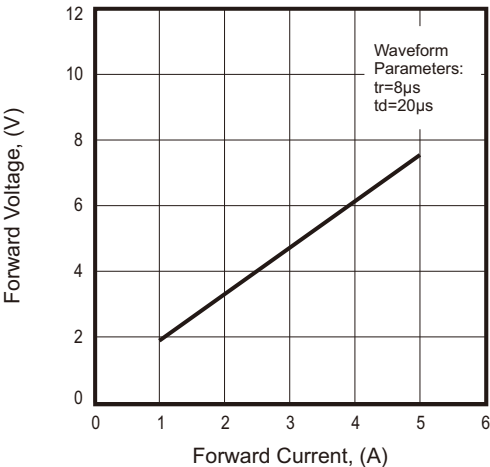
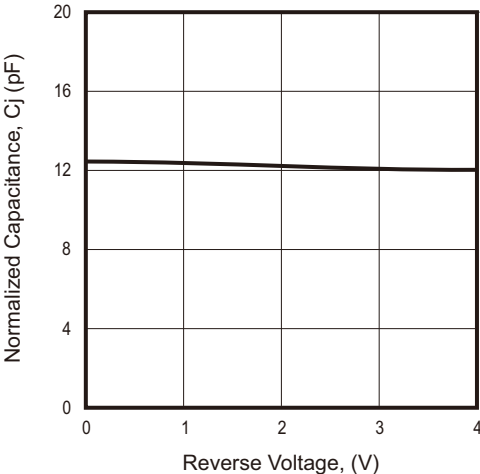
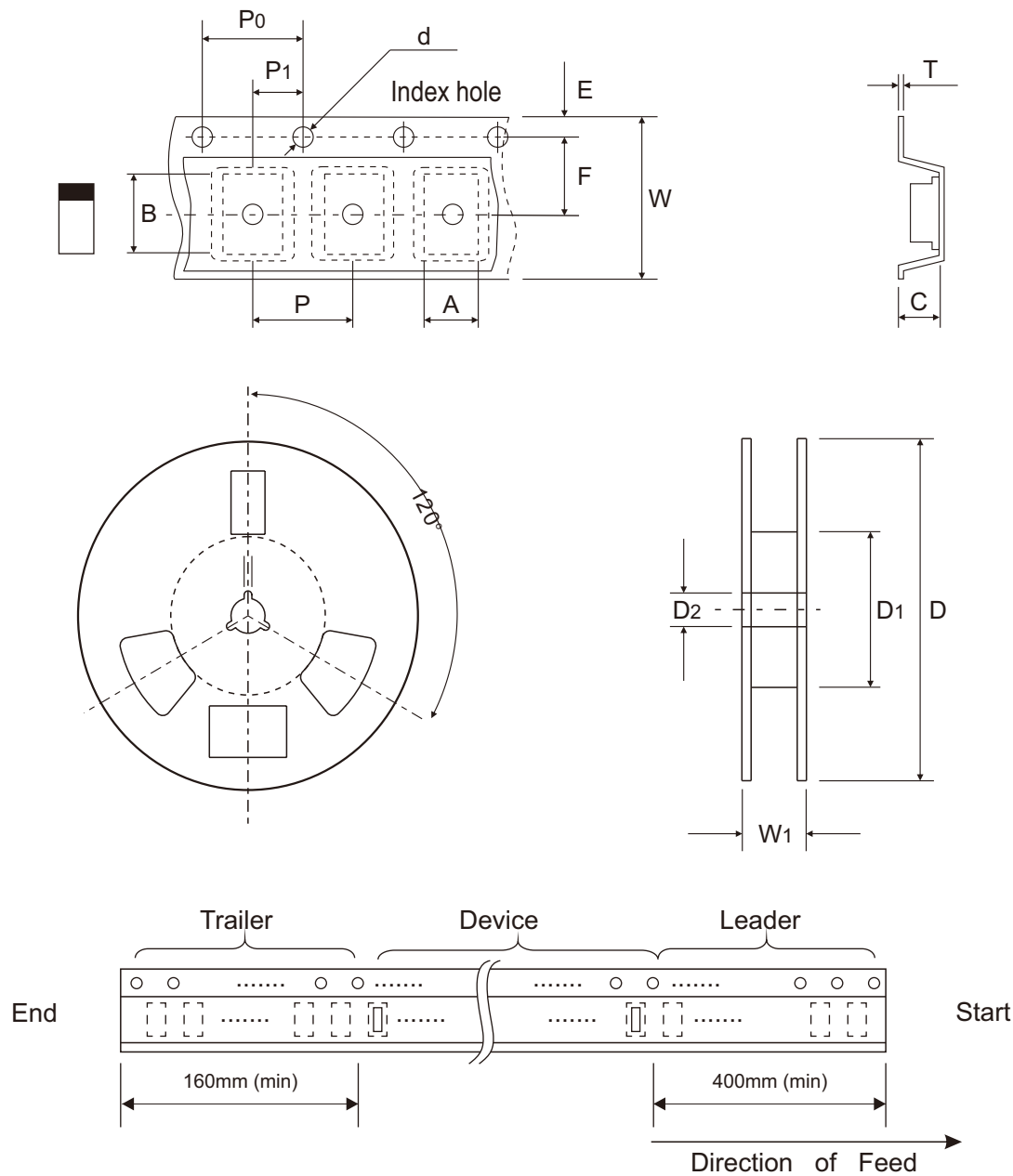


Fig.6 - Junction Capacitance Vs. Reverse Voltage



Reel Taping Specification



|                    |        |               |               |               |                          |               |               |               |
|--------------------|--------|---------------|---------------|---------------|--------------------------|---------------|---------------|---------------|
| 0603<br>(SOD-523F) | SYMBOL | A             | B             | C             | d                        | D             | D1            | D2            |
|                    | (mm)   | 1.16 ± 0.10   | 1.90 ± 0.10   | 0.95 ± 0.10   | 1.50 + 0.10<br>- 0.00    | 178.00 ± 1.00 | 60.00 ± 0.50  | 13.50 ± 0.20  |
|                    | (inch) | 0.046 ± 0.004 | 0.075 ± 0.004 | 0.037 ± 0.004 | 0.059 + 0.004<br>- 0.000 | 7.008 ± 0.039 | 2.362 ± 0.020 | 0.531 ± 0.008 |

|                    |        |               |               |               |               |               |               |               |                          |
|--------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------------|
| 0603<br>(SOD-523F) | SYMBOL | E             | F             | P             | P0            | P1            | T             | W             | W1                       |
|                    | (mm)   | 1.75 ± 0.10   | 3.50 ± 0.05   | 4.00 ± 0.10   | 4.00 ± 0.10   | 2.00 ± 0.05   | 0.22 ± 0.03   | 8.00 ± 0.20   | 12.00 + 0.50<br>- 0.00   |
|                    | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.009 ± 0.001 | 0.315 ± 0.008 | 0.472 + 0.020<br>- 0.000 |

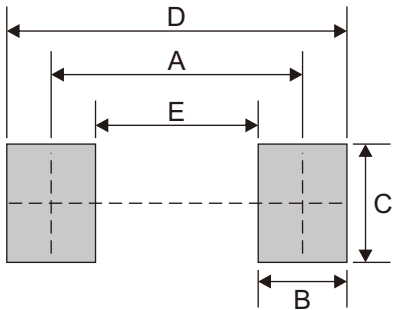
Marking Code

| Part Number  | Marking Code |
|--------------|--------------|
| CPDU3V3UP-HF | E3V3         |



Suggested P.C.B. 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                   |