

## CPDQC5V0USP-IPHF

**RoHS Device**  
**Halogen Free**



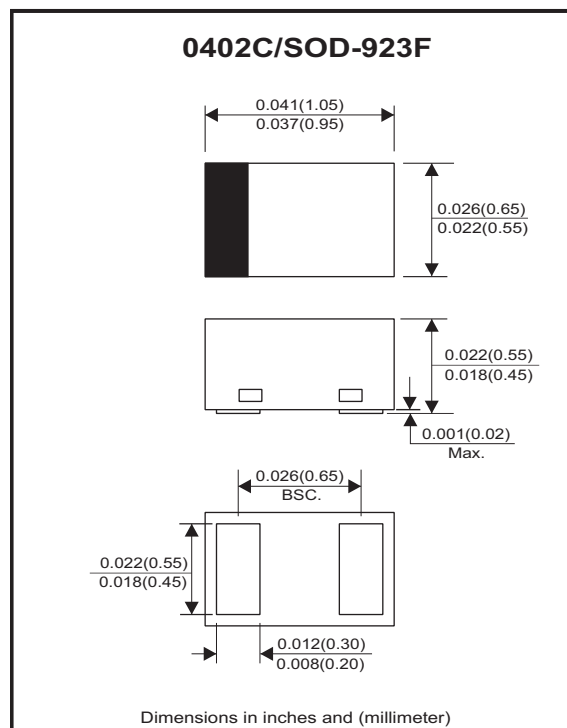
### Features

- IEC61000-4-2 (ESD)  $\pm 10\text{kV}$
- Working Voltage: 5V
- Typical capacitance: 0.3pF

### Mechanical data

- Case: 0402C/SOD-923F small outline plastic package. molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Mounting position: Any.
- High temperature soldering guaranteed: 260°C/10 second.
- Weight: 0.001 grams(approx.).

### Circuit diagram



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

| Parameter                                                    | Symbol           | Value       | Unit             |
|--------------------------------------------------------------|------------------|-------------|------------------|
| Peak pulse power ( $t_p = 8/20\mu\text{s}$ waveform)         | PPP              | 30          | W                |
| ESD per IEC 61000-4-2(Air)<br>ESD per IEC 61000-4-2(Contact) | $V_{\text{ESD}}$ | $\pm 10$    | kV               |
| Operating temperature rang                                   | $T_J$            | -55 to +150 | $^\circ\text{C}$ |
| Storage temperature rang                                     | $T_{\text{STG}}$ | -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 |                                         | $V_{\text{RWM}}$ |     |     | 5   | V    |
| Reverse leakage current   | $V_R = 5\text{ V}$                      | $I_R$            |     |     | 100 | nA   |
| Reverse breakdown voltage | $I_R = 1\text{ mA}$                     | $V(\text{BR})$   | 6   |     | 9   | V    |
| Clamping voltage          | $I_{\text{PP}} = 1\text{ A}$            | $V_C$            |     |     | 12  | V    |
|                           | $I_{\text{PP}} = 2\text{ A}$            | $V_C$            |     |     | 15  | V    |
| Junction capacitance      | $V_R = 0\text{ V}$ , $f = 1\text{ MHz}$ | $C_J$            |     | 0.3 | 0.5 | pF   |

## RATING AND CHARACTERISTIC CURVES (CPDQC5V0USP-IPHF)

Fig.1 - 8/20us Peak Pulse Current  
Waveform Acc. IEC61000-4-5

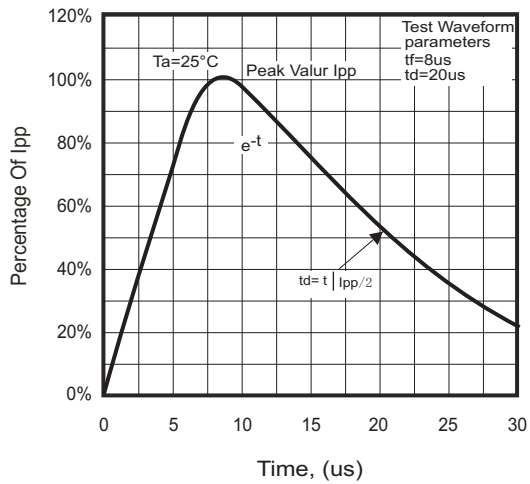


Fig.2 - Power Rating Derating Curve

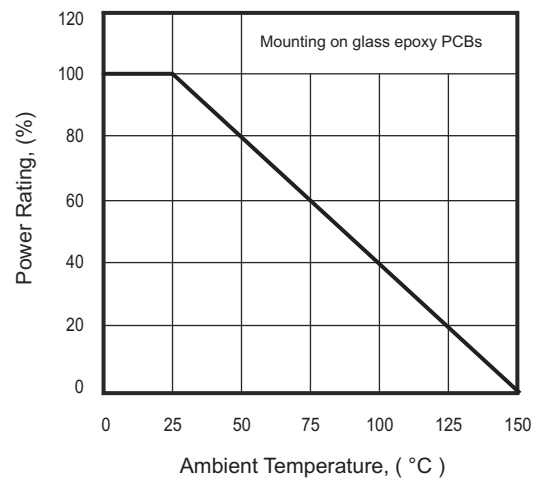


Fig.3 - Clamping Voltage Vs.  
Peak Pulse Current

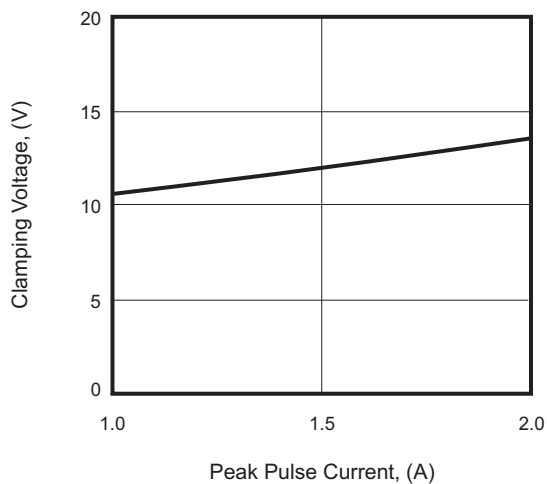
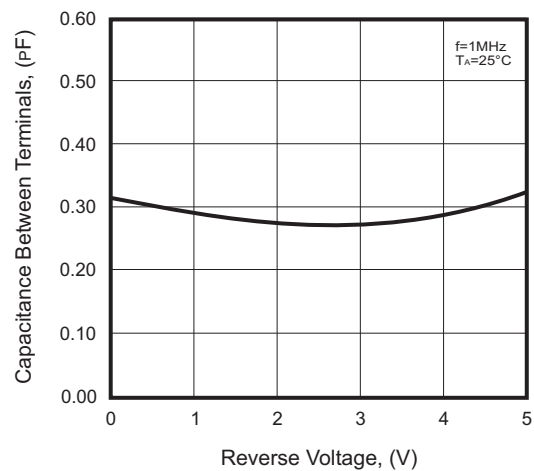
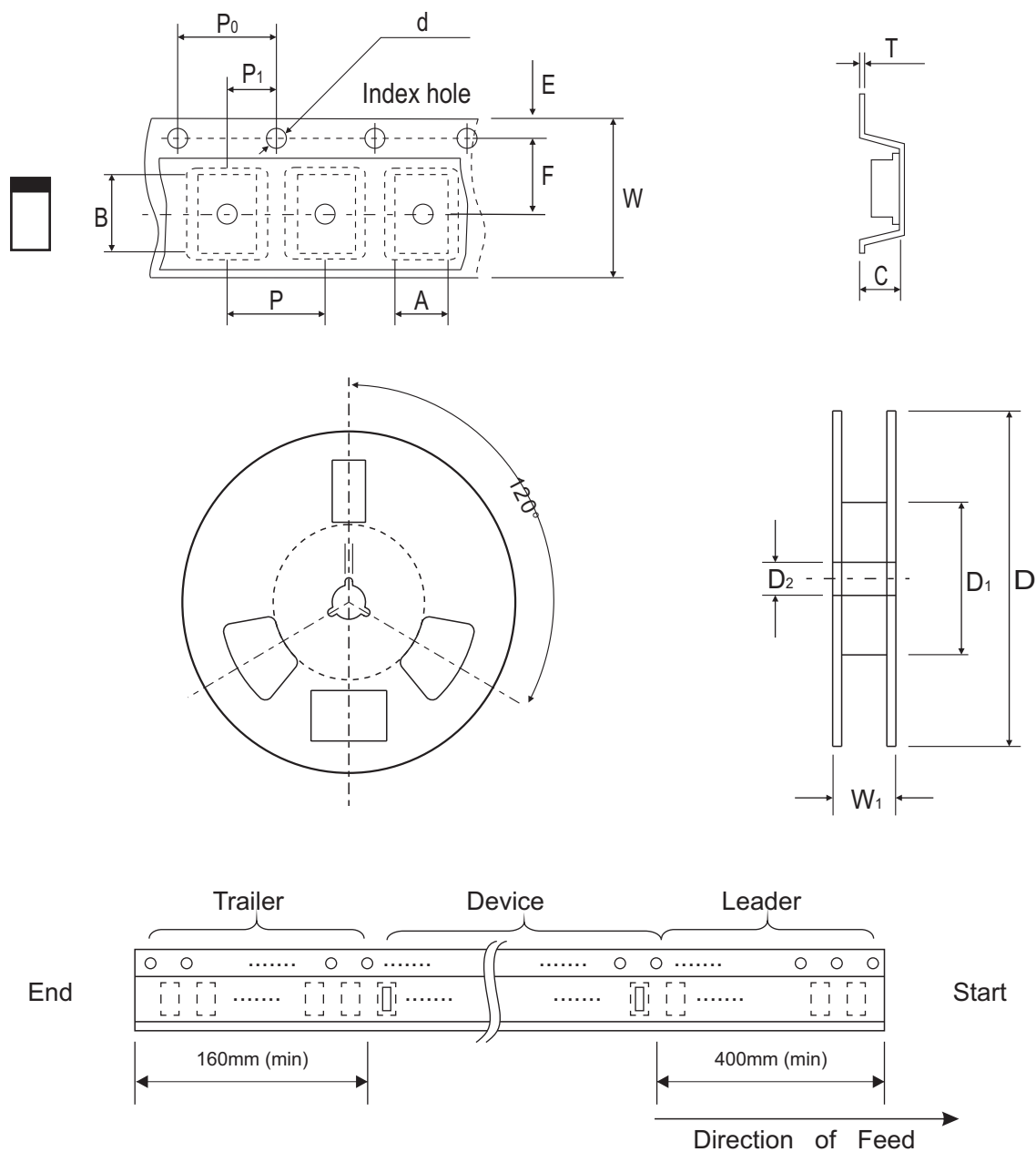


Fig.4 - Capacitance Between  
Terminals Characteristics



## Reel Taping Specification



| 0402C<br>(SOD-923F) | SYMBOL | A                 | B                 | C                 | d                   | D                 | D <sub>1</sub>    | D <sub>2</sub>    |
|---------------------|--------|-------------------|-------------------|-------------------|---------------------|-------------------|-------------------|-------------------|
|                     | (mm)   | $0.75 \pm 0.05$   | $1.17 \pm 0.05$   | $0.65 \pm 0.05$   | $1.50 + 0.10 - 0$   | $178.00 \pm 1.00$ | $60.00 \pm 0.50$  | $13.50 \pm 0.20$  |
|                     | (inch) | $0.030 \pm 0.002$ | $0.046 \pm 0.002$ | $0.026 \pm 0.002$ | $0.059 + 0.004 - 0$ | $7.008 \pm 0.039$ | $2.362 \pm 0.020$ | $0.531 \pm 0.008$ |

| 0402C<br>(SOD-923F) | SYMBOL | E                 | F                 | P                 | P <sub>0</sub>    | P <sub>1</sub>    | T                       | W                 | W <sub>1</sub>      |
|---------------------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------------|-------------------|---------------------|
|                     | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.10$   | $4.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.10$   | $0.20 + 0.02 - 0.05$    | $8.00 \pm 0.20$   | $12.00 + 0.50 - 0$  |
|                     | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.004$ | $0.157 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.004$ | $0.008 + 0.001 - 0.002$ | $0.315 \pm 0.008$ | $0.472 + 0.020 - 0$ |

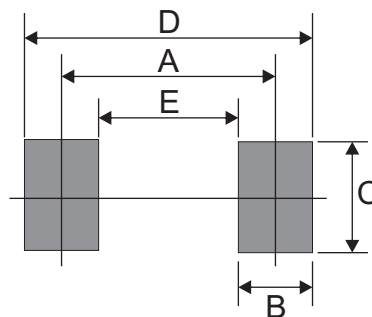
## Marking Code

| Part Number      | Marking Code |
|------------------|--------------|
| CPDQC5V0USP-IPHF | 5S           |



## Suggested PAD Layout

| SIZE | 0402C/SOD-923F |        |
|------|----------------|--------|
|      | (mm)           | (inch) |
| A    | 0.70           | 0.028  |
| B    | 0.40           | 0.016  |
| C    | 0.60           | 0.028  |
| D    | 1.10           | 0.043  |
| E    | 0.30           | 0.012  |



## Standard Packaging

| Case Type      | REEL PACK       |                     |
|----------------|-----------------|---------------------|
|                | REEL<br>( pcs ) | Reel Size<br>(inch) |
| 0402C/SOD-923F | 5,000           | 7                   |