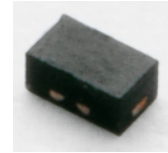


CPDQC5V0U-HF

RoHS Device

Halogen Free



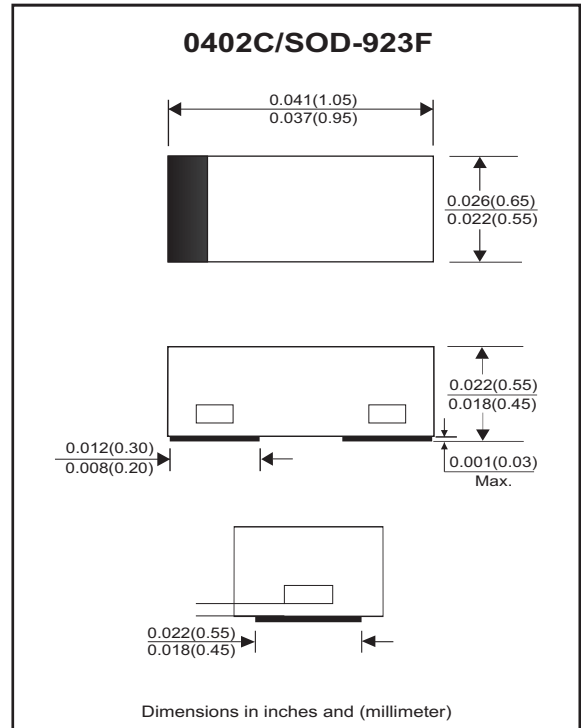
Features

- Uni-directional ESD protection.
- IEC61000-4-2 Level 4 ESD protection.
- Surface mount package.
- Ultra small SMD package:0402.
- High component density.

Mechanical data

- Case: 0402C/SOD-923F standard package, molded plastic.
- Terminals: Matte tin plated, solderable per MIL-STD-750, method 2026.
- Mounting position: Any.
- Weight: 0.001 gram(approx.).

Circuit diagram



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

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|-------------------------|---|------------------|-----|-----|-------------|------|
| Forward voltage | I _F = 10mA | V _F | | 0.8 | | V |
| Diode breakdown voltage | I _R = 1mA | V _{BD} | 6 | | | V |
| Leakage current | V _R = 5V | I _L | | 0.3 | 2.0 | uA |
| Junction capacitance | V _R = 0V, f = 1MHz | C _T | | 90 | 120 | pF |
| ESD capability | IEC 61000-4-2(air) IEC 61000-4-2(contact) | ESD | | | 20 15 | kV |
| Clamping voltage | I _{PP} = 5A, T _P =8/20us I _{PP} = 16A, T _P =8/20us | V _C | | | 9.8 12.5 | V |
| Peak pulse power | | P _{PP} | | | 200 | W |
| Operation temperature | | T _J | | | 125 | °C |
| Storage temperature | | T _{STG} | -55 | | 150 | °C |

RATING AND CHARACTERISTIC CURVES (CPDQC5V0U-HF)

Fig.1 - 8/20us Peak Pulse Current Waveform acc. IEC 61000-4-5

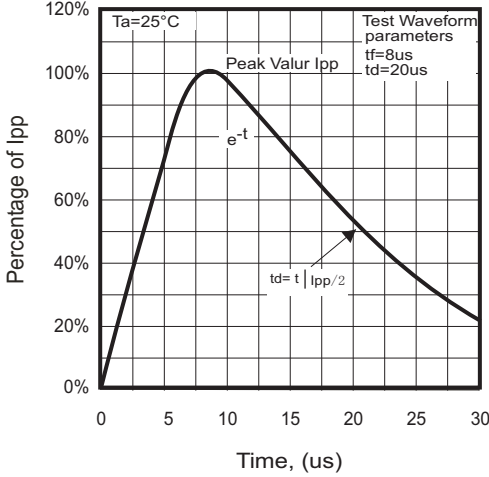


Fig.2 - Power Rating Derating Curve

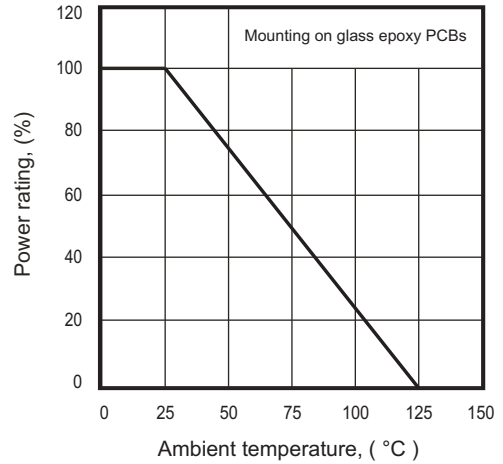


Fig.3 - Clamping Voltage vs. Peak Pulse Current

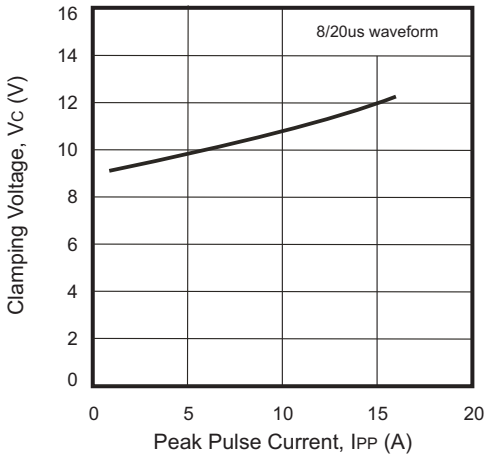


Fig. 4 - Forward Voltage vs. Forward Current

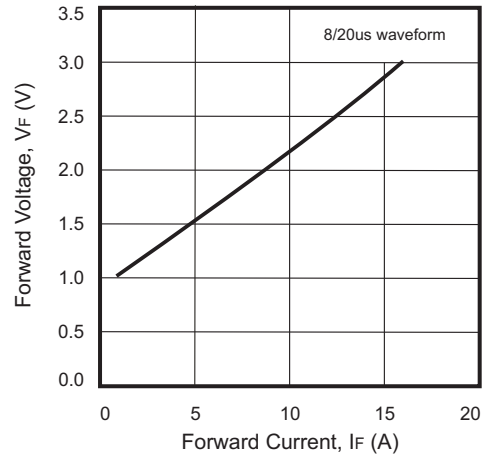
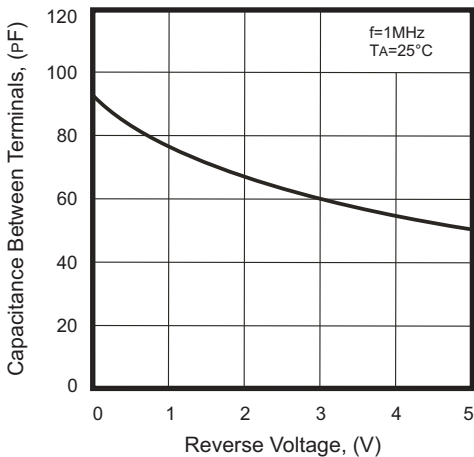
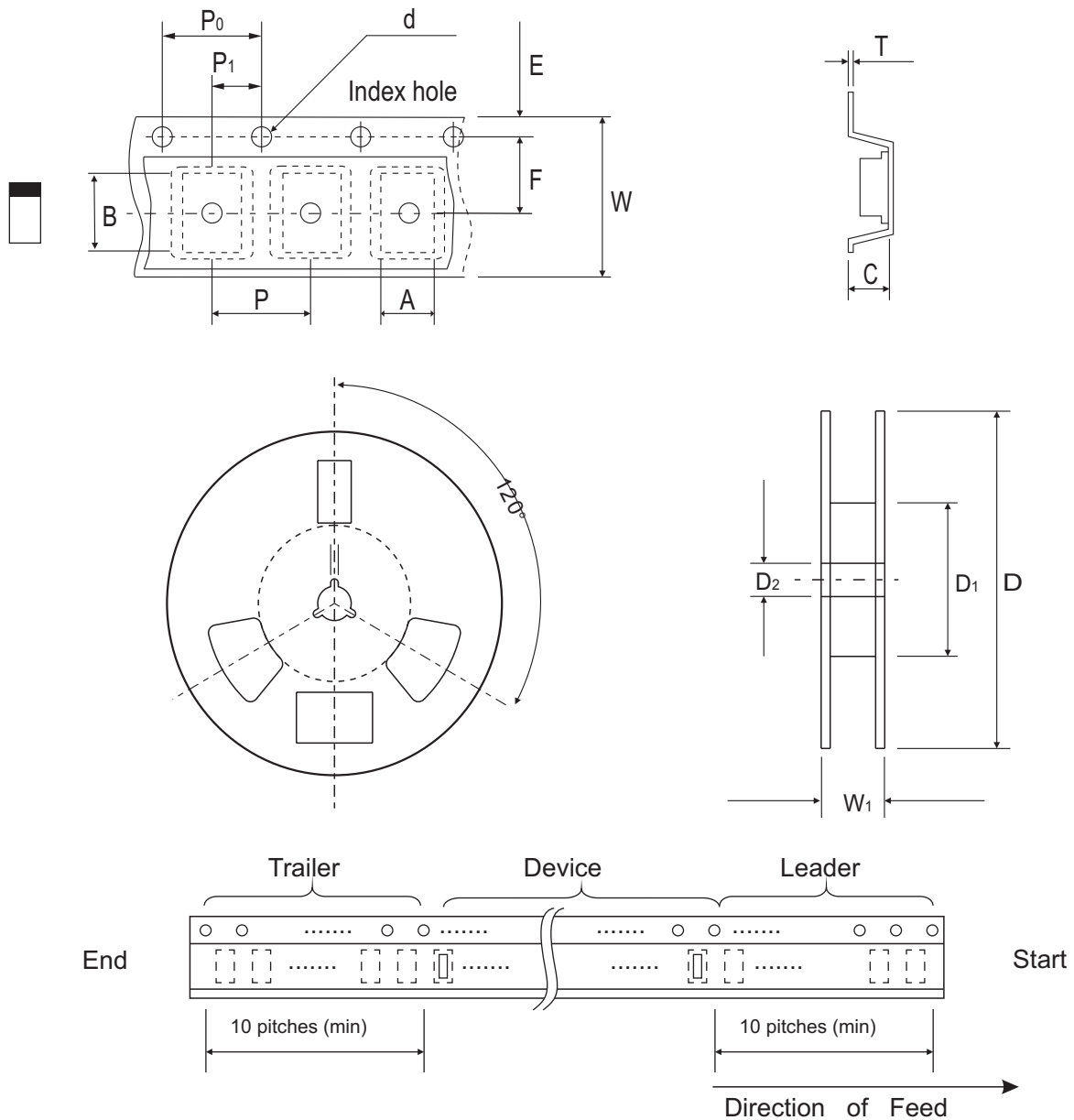


Fig. 5 - Capacitance Between Terminals Characteristics



Reel Taping Specification



| 0402C/ SOD-923F | SYMBOL | A | B | C | d | D | D ₁ | D ₂ |
|--------------------|--------|---------------|---------------|---------------|---------------|--------------|----------------|----------------|
| | (mm) | 0.75 ± 0.10 | 1.15 ± 0.10 | 0.60 ± 0.10 | 1.55 ± 0.10 | 178 ± 1.00 | 60.0 MIN. | 13.0 ± 0.20 |
| | (inch) | 0.030 ± 0.004 | 0.045 ± 0.004 | 0.024 ± 0.004 | 0.061 ± 0.004 | 7.008 ± 0.04 | 2.362 MIN. | 0.512 ± 0.008 |

| 0402C/ SOD-923F | SYMBOL | E | F | P | P ₀ | P ₁ | T | W | W ₁ |
|--------------------|--------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.05 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 0.22 ± 0.05 | 8.00 ± 0.20 | 13.50 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. |

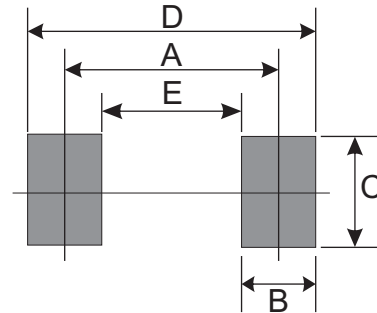
Marking Code

| Part Number | Marking Code |
|--------------|--------------|
| CPDQC5V0U-HF | E5 |



Suggested PAD Layout

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



Standard Packaging

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