



**THE DATASHEET OF
CPDQC24VEU-HF**



CPDQC24VEU-HF

RoHS Device
Halogen Free



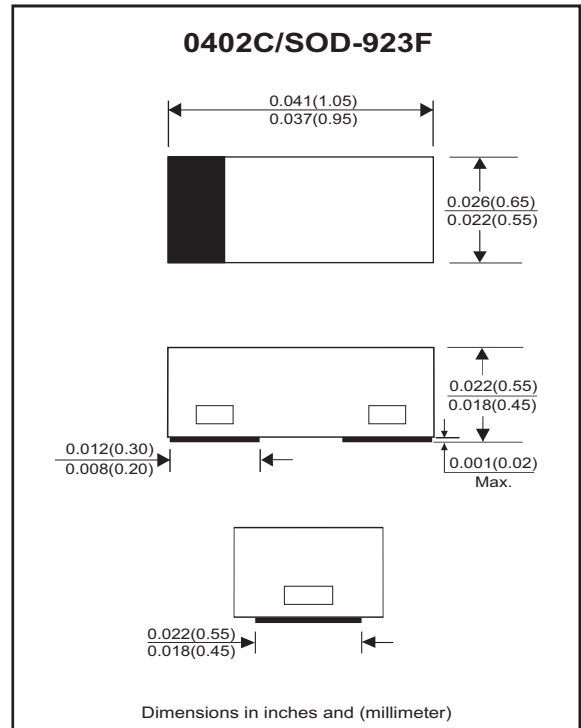
Features

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

Mechanical data

- Case: 0402C/SOD-923F small outline plastic package. molded plastic.
- Terminals: Matte tin plated, solderable per MIL-STD-202,method 208.
- Mounting position: Any.
- High temperature soldering guaranteed: 260°C/10 second.
- Weight: 0.001 grams(approx.).

Circuit diagram



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

| Parameter | Conditions | Symbol | Value | Unit |
|-----------------------------|--|-----------|----------|------|
| Peak pulse power | $T_P = 8/20\mu s$ | P_{PP} | 105 | W |
| Peak pulse current | $T_P = 8/20\mu s$ | I_{PP} | 2.5 | A |
| ESD capability | IEC 61000-4-2(air) IEC 61000-4-2(contact) | ESD | ±25 | kV |
| Operation temperature range | | T_j | -55~+125 | °C |
| Storage temperature range | | T_{STG} | -55~+150 | °C |

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

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|------------------------------|--|-----------|------|-----|----------|------|
| Working peak reverse voltage | | V_{RWM} | | | 24 | V |
| Forward voltage | $I_F = 10mA$ | V_F | | 0.8 | | V |
| Breakdown voltage | $I_T = 1mA$ | V_{BR} | 26.5 | | 32 | V |
| Reverse leakage current | $V_{RWM} = 24V$ | I_R | | | 100 | nA |
| Clamping voltage | $I_{PP} = 1A, T_P = 8/20\mu s$ $I_{PP} = 2.5A, T_P = 8/20\mu s$ | V_C | | | 34 42 | V |
| Junction capacitance | $V_R = 0V, f = 1MHz$ | C_J | | | 35 | pF |

RATING AND CHARACTERISTIC CURVES (CPDQC24VEU-HF)

Fig.1 - 8/20us Peak Pulse Current Wave
Form Acc. IEC 61000-4-5

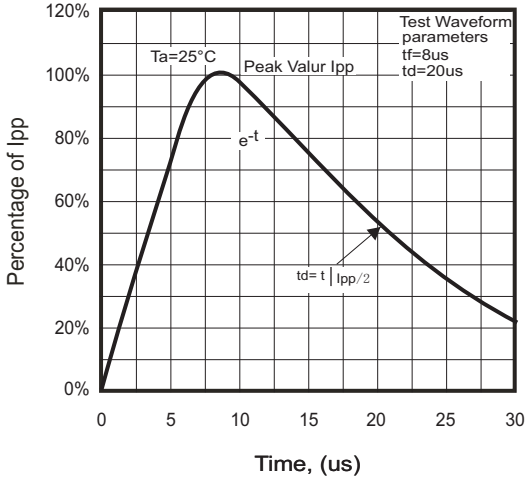


Fig.2 - Power rating derating curve

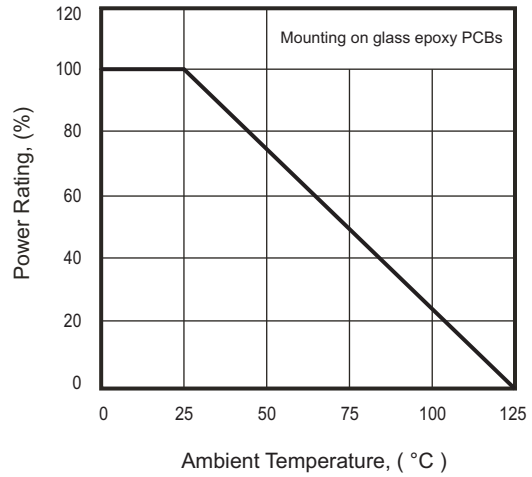


Fig.3 - Clamping Voltage Vs. Peak Pulse Current

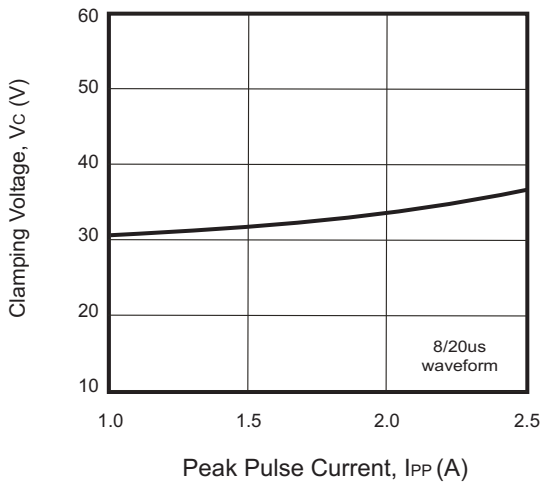
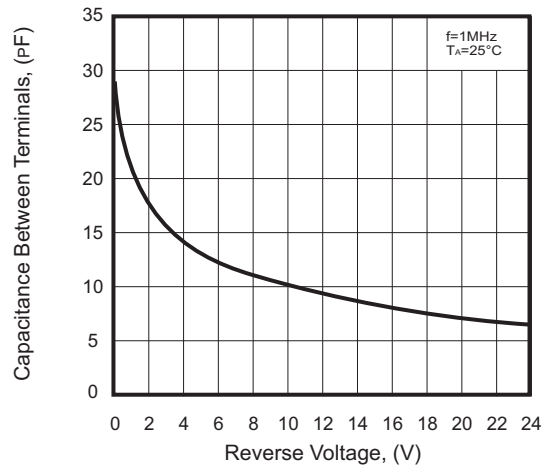
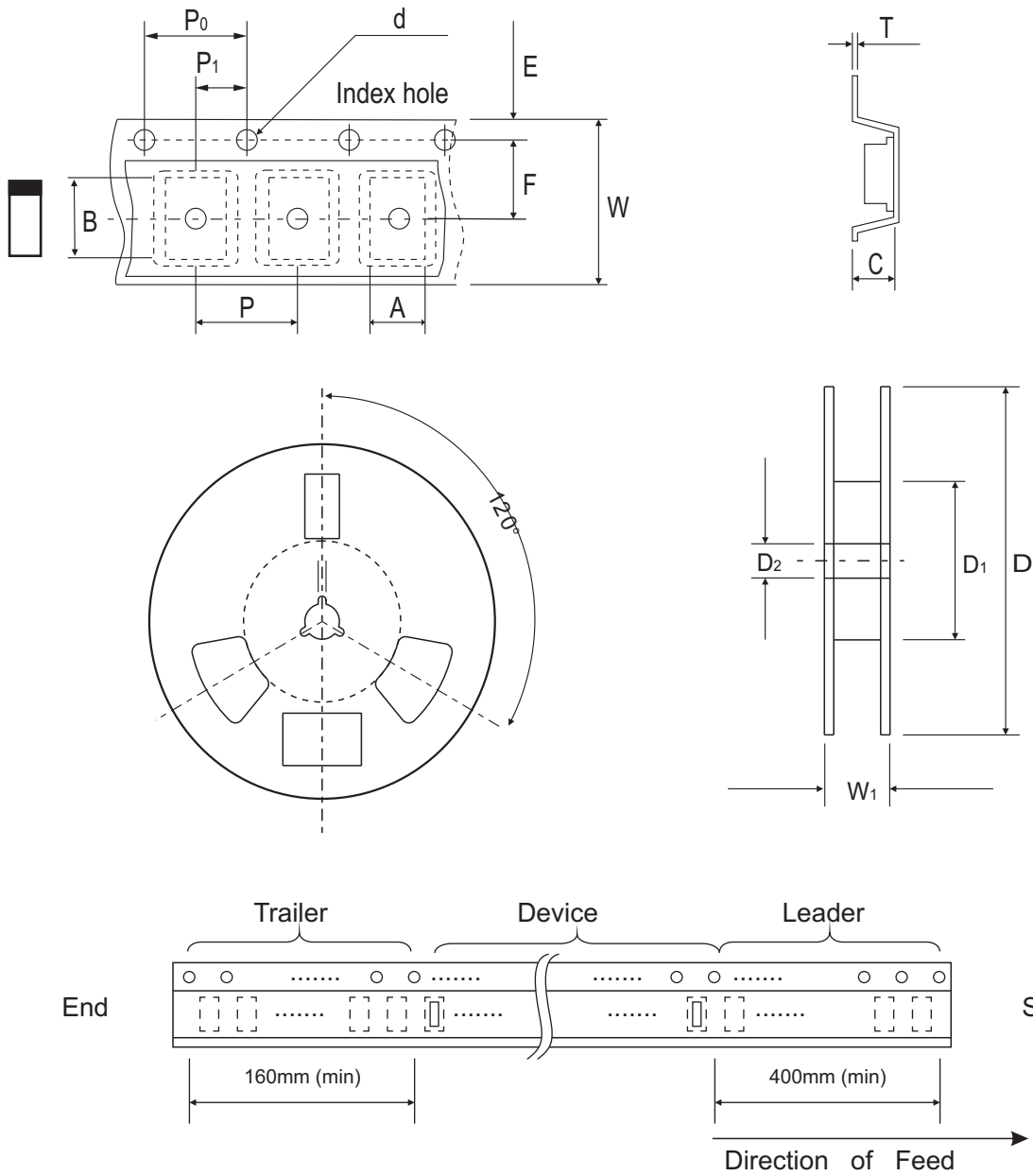


Fig.4 - Capacitance Between Terminals Characteristics



Reel Taping Specification



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

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

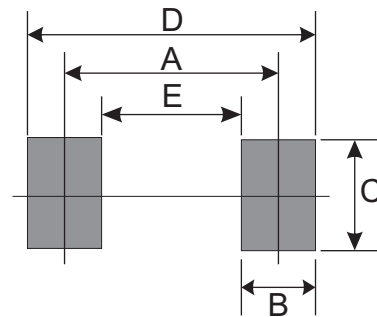
Marking Code

| Part Number | Marking Code |
|---------------|--------------|
| CPDQC24VEU-HF | E4 |



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 |

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