

CPDQC3V3T-HF

RoHS Device
Halogen Free

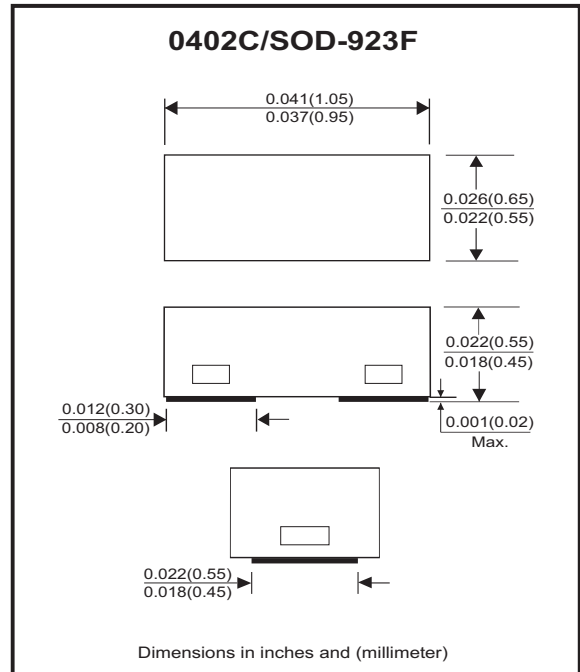


Features

- Bi-directional ESD protection.
- IEC 61000-4-2 ±30kV(Contact).
- ESD Rating of Class 3 per Human Body Model.
- ESD Rating of Class 4 per Machine Model.
- Surface mount package.
- Ultra small SMD package:0402
- High component density.

Mechanical data

- Case: 0402C/SOD-923F Standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750,method 2026.
- Mounting position: Any.
- 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} | 180 | W |
| Peak pulse current | $T_P = 8/20\mu s$ | I_{PP} | 17 | A |
| ESD capability | IEC 61000-4-2(air) | ESD | ±30 | kV |
| | IEC 61000-4-2(contact) | ESD | ±30 | |
| Operation temperature range | | T_J | -40~+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} | | | 3.3 | V |
| Breakdown voltage | $I_T = 1mA$ | V_{BR} | 3.6 | 4.1 | 4.6 | V |
| Reverse leakage current | $V_{RWM} = 3.3V$ | I_R | | <0.02 | 0.5 | uA |
| Clamping voltage | $I_{PP} = 1A, T_P = 8/20\mu s$ | V_C | | 4.2 | 4.7 | V |
| | $I_{PP} = 17A, T_P = 8/20\mu s$ | | | 8.6 | 10.6 | |
| Clamping voltage | $I_{PP} = 8A, T_P = 100ns$ | V_{CL} | | 5 | | V |
| | $I_{PP} = 16A, T_P = 100ns$ | | | 6.2 | | |
| Dynamic resistance | | R_{DYN} | | 0.15 | | Ω |
| Junction capacitance | $V_R = 0V, f = 1MHz$ | C_J | | 20 | 25 | pF |

RATING AND CHARACTERISTIC CURVES (CPDQC3V3T-HF)

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

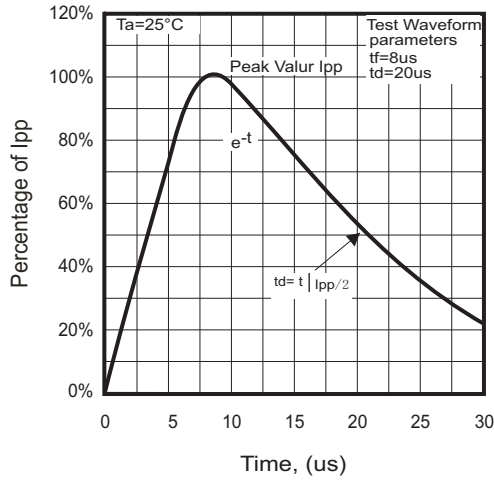


Fig.2 - Capacitance Between Terminals Characteristics

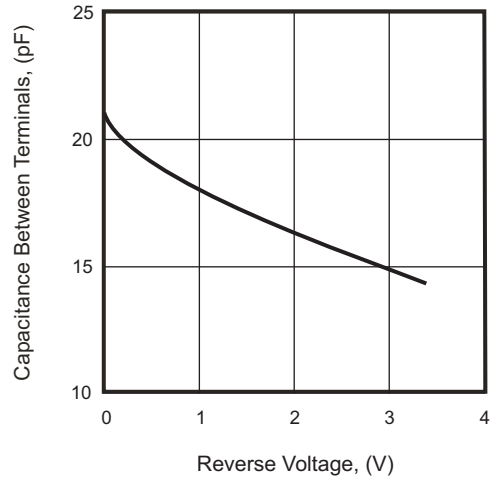


Fig.3 - Clamping Voltage Vs. Peak Pulse Current

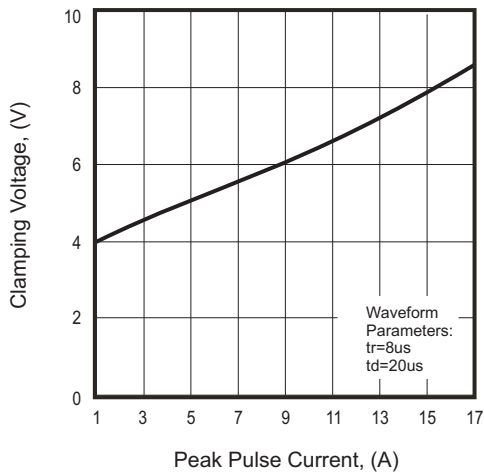


Fig.4 - Power Rating Derating Curve

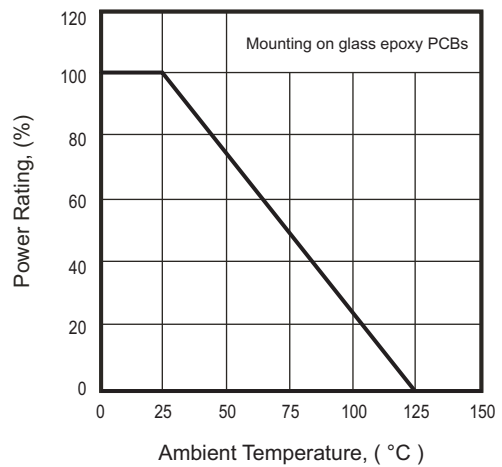
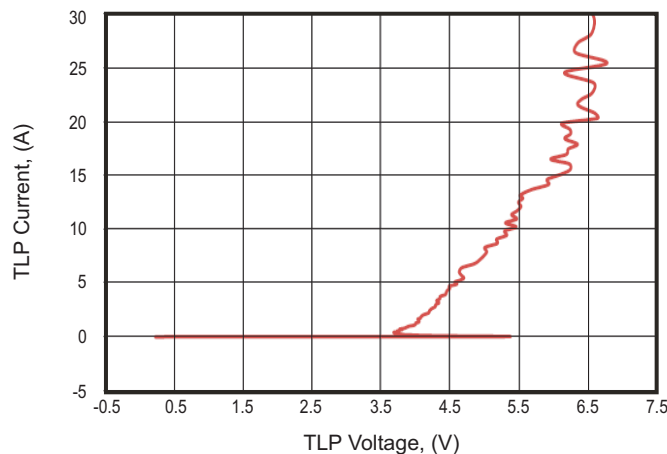
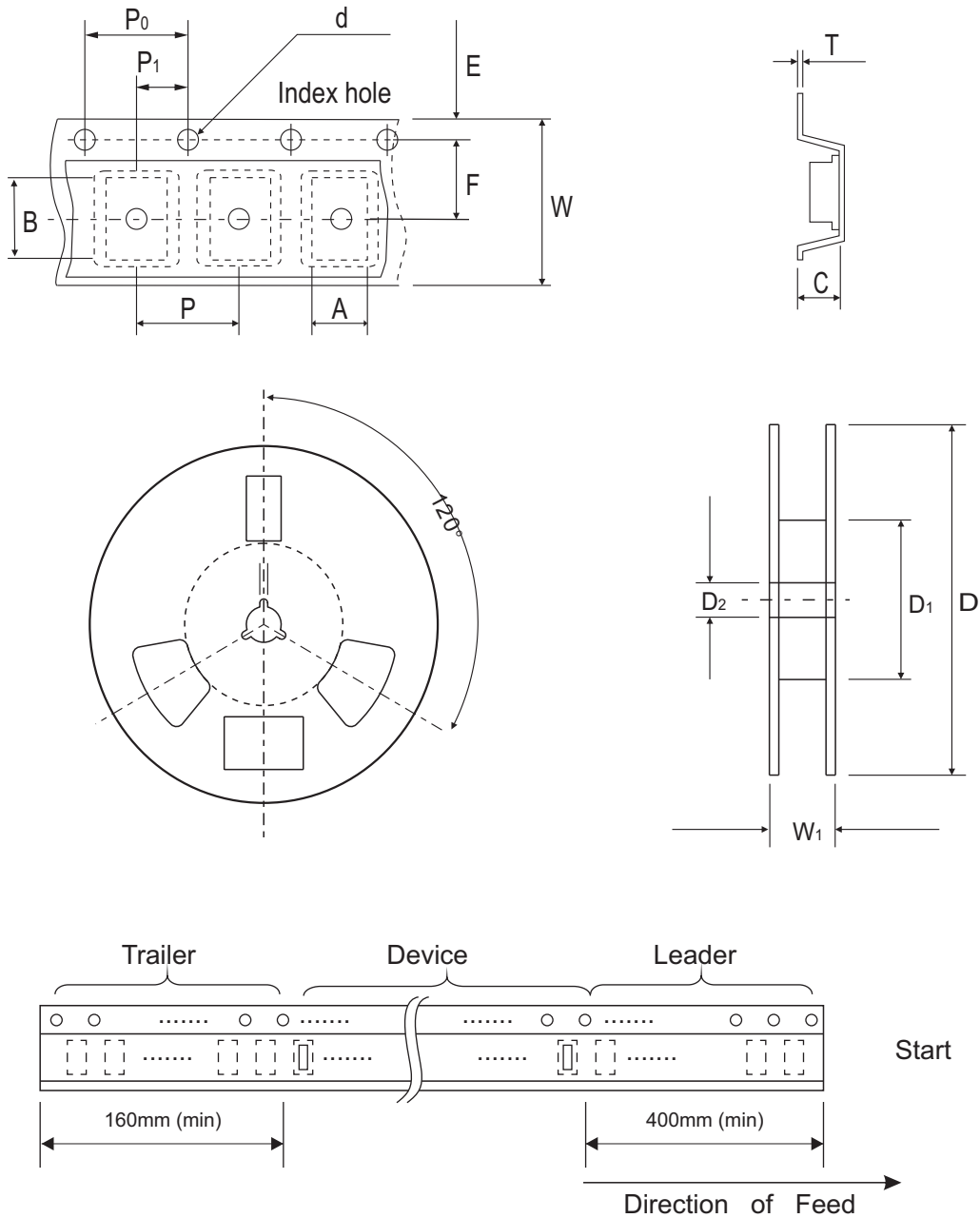


Fig. 5 - Positive TLP IV Curve



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

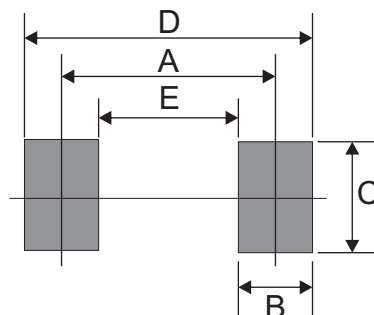
| Part Number | Marking Code |
|--------------|--------------|
| CPDQC3V3T-HF | E3 |



xx = Product type marking code

Suggested PAD Layout

| SIZE | 0402C/SOD-923F | |
|------|----------------|--------|
| | (mm) | (inch) |
| A | 0.70 | 0.028 |
| B | 0.40 | 0.016 |
| C | 0.60 | 0.024 |
| 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 |

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [ESD Suppressors / TVS Diodes](#) category:

Click to view products by [Comchip](#) manufacturer:

Other Similar products are found below :

[60KS200C](#) [D12V0H1U2WS-7](#) [D18V0L1B2LP-7B](#) [82356050220](#) [D5V0M5U6V-7](#) [NTE4902](#) [P4KE27CA](#) [P6KE11CA](#) [P6KE39CA-TP](#)
[P6KE8.2A](#) [SA110CA](#) [SA60CA](#) [SA64CA](#) [SMBJ12CATR](#) [SMBJ8.0A](#) [SMLJ30CA-TP](#) [ESD101-B1-02ELS E6327](#) [ESD112-B1-02EL E6327](#)
[ESD119B1W01005E6327XTSA1](#) [ESD5V0L1B02VH6327XTSA1](#) [ESD7451N2T5G](#) [19180-510](#) [CPDT-5V0USP-HF](#) [3.0SMCJ33CA-F](#)
[3.0SMCJ36A-F](#) [HSPC16701B02TP](#) [D3V3Q1B2DLP3-7](#) [D55V0M1B2WS-7](#) [DESD5V0U1BL-7B](#) [DRTR5V0U4SL-7](#) [SCM1293A-04SO](#)
[ESD200-B1-CSP0201 E6327](#) [ESD203-B1-02EL E6327](#) [SM12-7](#) [SMF8.0A-TP](#) [SMLJ45CA-TP](#) [CEN955 W/DATA](#) [82350120560](#)
[82356240030](#) [VESD12A1A-HD1-GS08](#) [CPDUR5V0R-HF](#) [CPDUR24V-HF](#) [CPDQC5V0U-HF](#) [CPDQC5V0USP-HF](#) [CPDQC5V0-HF](#)
[D1213A-01LP4-7B](#) [D1213A-02WL-7](#) [ESDLIN1524BJ-HQ](#) [5KP100A](#) [5KP15A](#)