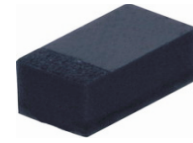


CPDQR5V0U-HF

RoHS Device
Halogen Free



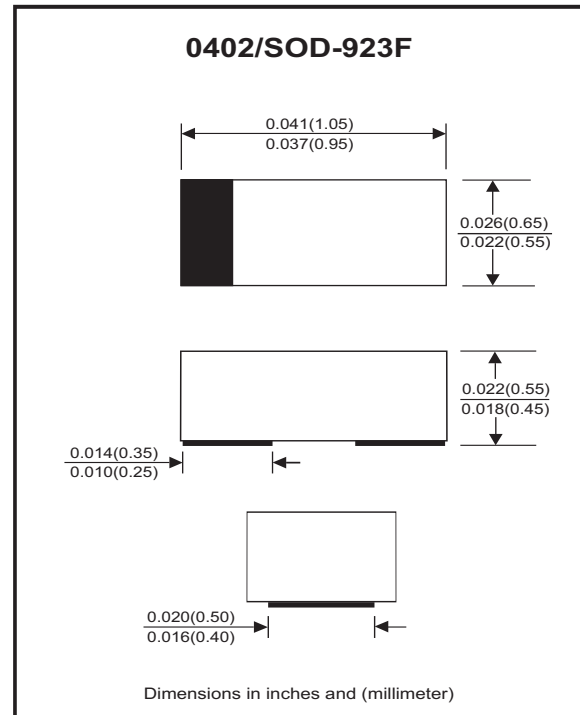
Features

- Uni-directional ESD protection.
- IEC 61000-4-2 (ESD) ; ±30KV(contact)
- Surface mount package.
- Ultra small SMD package:0402.
- High component density.

Mechanical data

- Case: 0402/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 = 8/20us | P _{PP} | 180 | W |
| Peak pulse current | T _P = 8/20us | I _{PP} | 15 | 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} | | | 5.0 | V |
| Forward voltage | I _F = 10mA | V _F | | 0.8 | 1.2 | V |
| Breakdown voltage | I _T = 1mA | V _{BR} | 6 | | | V |
| Reverse leakage current | V _{RWM} = 5V | I _R | | 0.2 | 2.0 | μA |
| Clamping voltage | I _{PP} = 1A, T _P = 8/20us | V _C | | 8 | 7.6 | V |
| | I _{PP} = 5A, T _P = 8/20us | | | 10 | 9.4 | |
| | I _{PP} = 15A, T _P = 8/20us | | | | 12 | |
| Junction capacitance | V _R = 0V, f = 1MHz | C _J | | 130 | | pF |

RATING AND CHARACTERISTIC CURVES (CPDQR5V0U-HF)

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

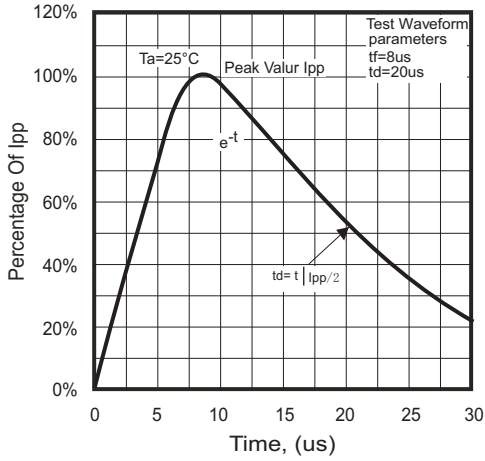


Fig.2 - Power Rating Derating Curve

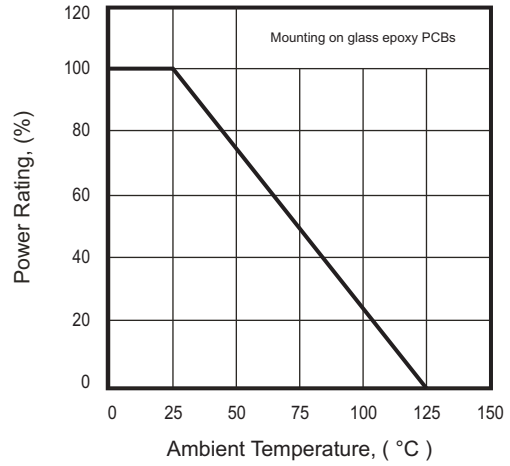


Fig.3 - Clamping Voltage Vs. Peak Pulse Current

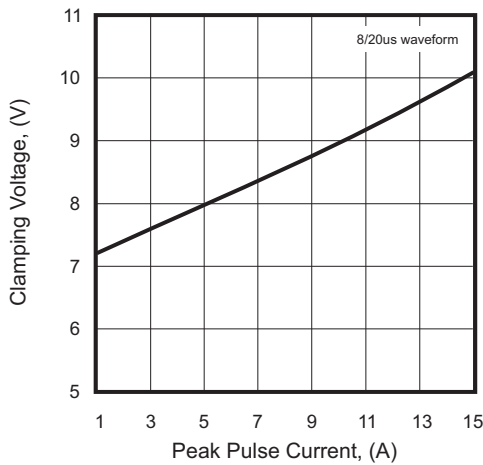


Fig.4 - Forward Characteristic

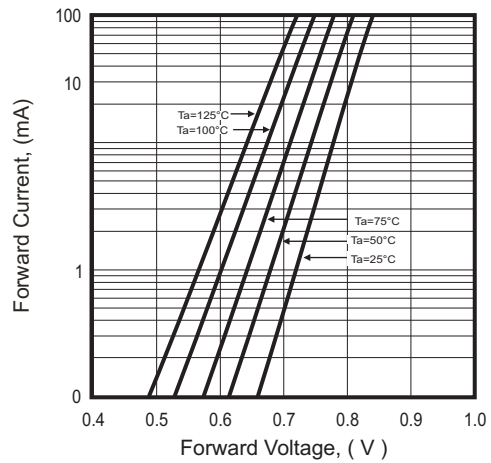
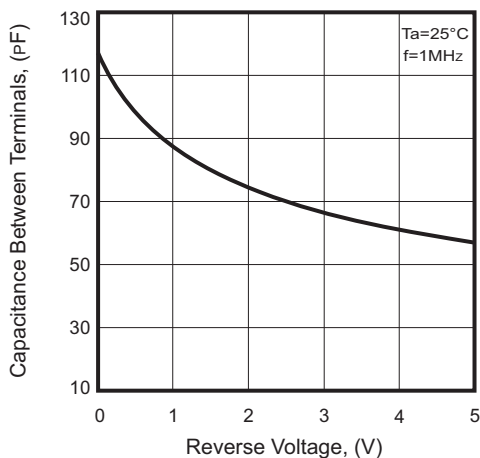
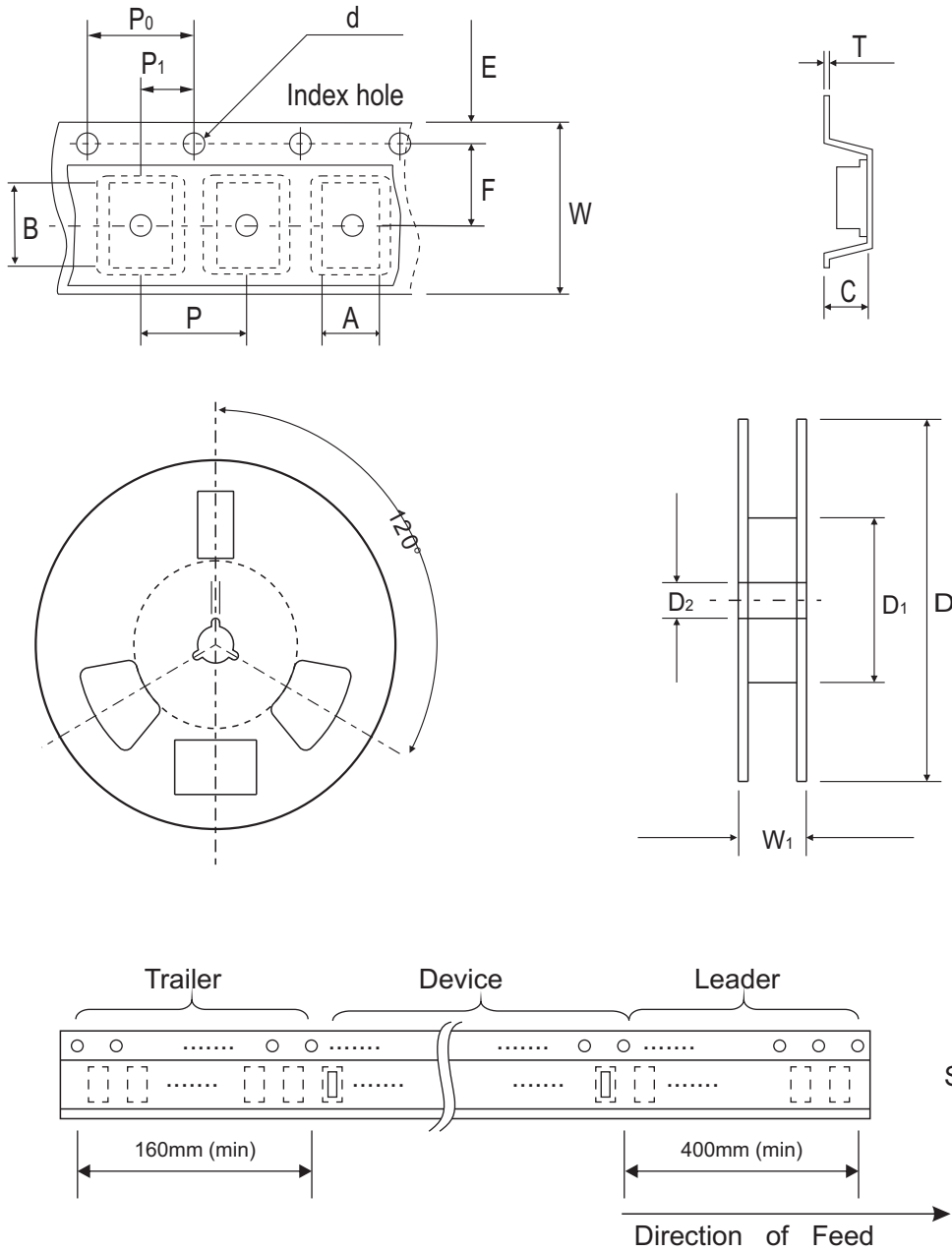


Fig.5 - Capacitance Between Terminals Characteristics



Reel Taping Specification



| 0402 (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 |

| 0402 (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 |

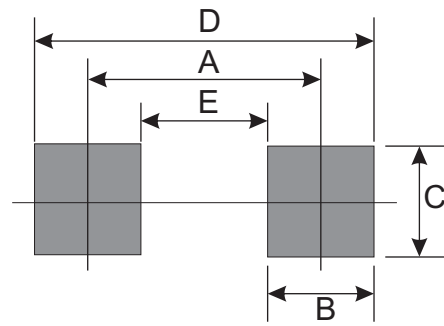
Marking Code

| Part Number | Marking Code |
|--------------|--------------|
| CPDQR5V0U-HF | E5 |



Suggested PAD Layout

| SIZE | 0402/SOD-923F | |
|------|---------------|--------|
| | (mm) | (inch) |
| A | 0.75 | 0.030 |
| B | 0.50 | 0.020 |
| C | 0.70 | 0.028 |
| D | 1.25 | 0.049 |
| E | 0.25 | 0.010 |



Standard Packaging

| Case Type | Qty Per Reel | Reel Size |
|---------------|--------------|-----------|
| | (Pcs) | (inch) |
| 0402/SOD-923F | 5,000 | 7 |

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Comchip Technology:](#)

[CPDQR5V0U-HF](#) [CPDQR5V0U](#)