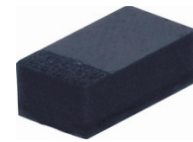


CPDQR5V0USP-HF

RoHS Device
Halogen Free

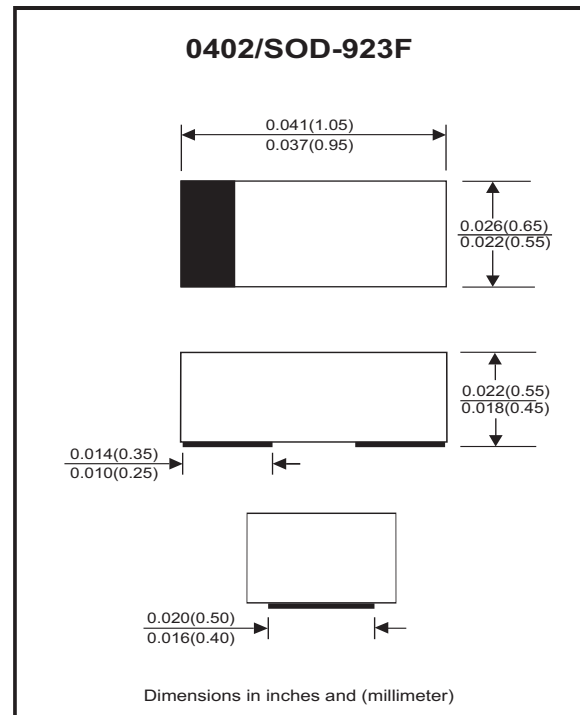


Features

- Uni-directional ESD protection.
- Surface mount package.
- Low capacitance.
- Low Leakage current.
- High component density.

Mechanical data

- Case: 0402/SOD-923 standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750,method 2026.
- Marking Code: Cathode band & 5S
- Mounting position: Any.
- Weight: 0.001 grams(approx.).



Circuit Diagram



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

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|-----------------------------|--|--------|-----|-----|----------|------|
| Reverse stand-off voltage | | VRWM | | | 5.0 | V |
| Forward voltage | IF = 10mA | VF | | | 1.5 | V |
| Breakdown voltage | IR = 1mA | VBR | 5.4 | | | V |
| Reverse leakage current | VR = 5V | IR | | | 1.0 | µA |
| Junction capacitance | VR = 0V, f = 1MHz | CJ | | 0.6 | 0.9 | pF |
| ESD capability | IEC 61000-4-2(air) IEC 61000-4-2(contact) | ESD | | | 15 8 | kV |
| Clamping voltage | I _{PP} = 1A, T _P =8/20us I _{PP} = 2.5A, T _P =8/20us | Vc | | | 13 20 | V |
| Peak pulse power | | PPP | | | 50 | W |
| Operation temperature range | | TJ | -55 | | 150 | °C |
| Storage temperature range | | TSTG | -55 | | 150 | °C |

RATING AND CHARACTERISTIC CURVES (CPDQR5V0USP-HF)

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

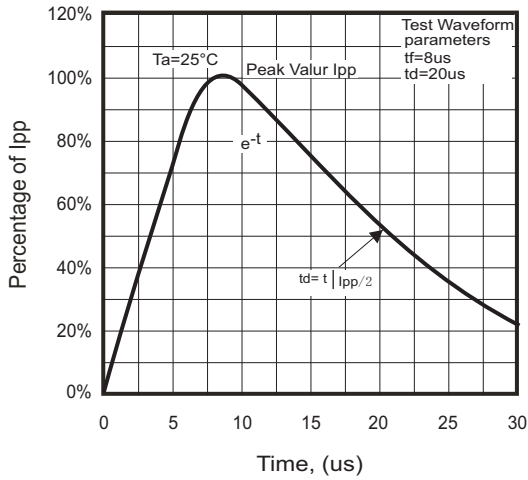


Fig.2 - Power Rating Derating Curve

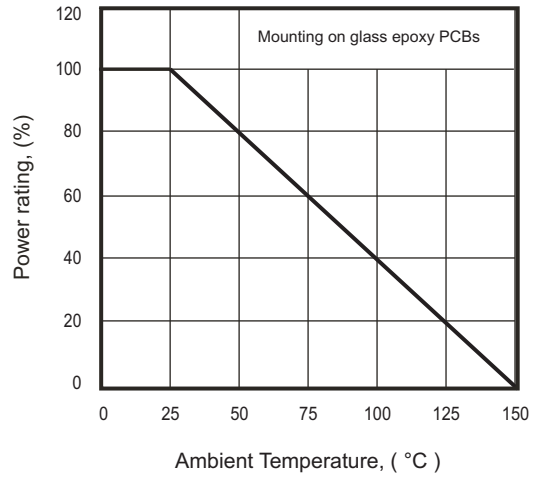


Fig.3 - Clamping Voltage Vs. Peak Pulse Current

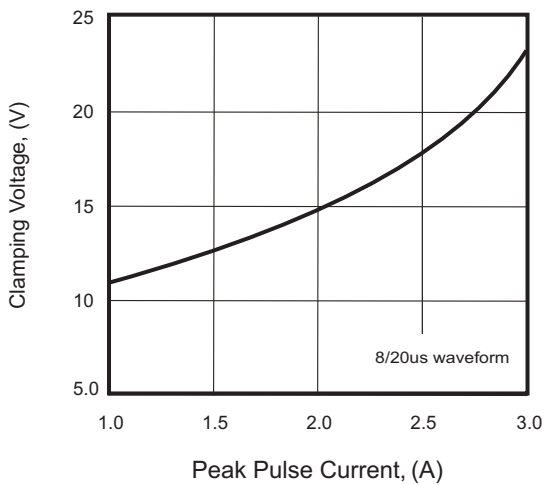


Fig.4 - Forward Voltage Vs. Forward Current

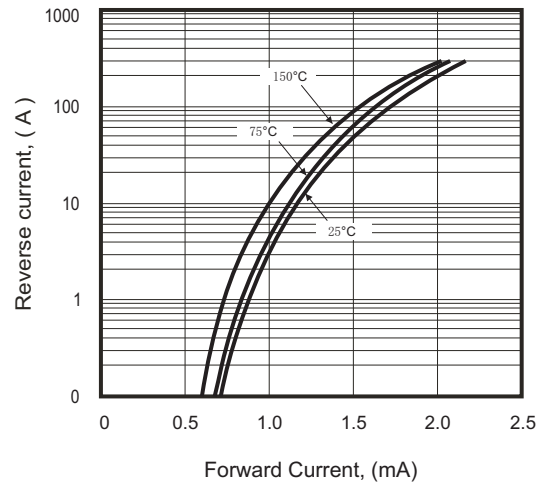
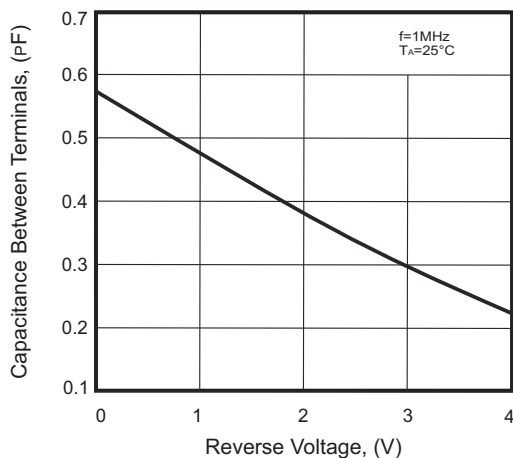
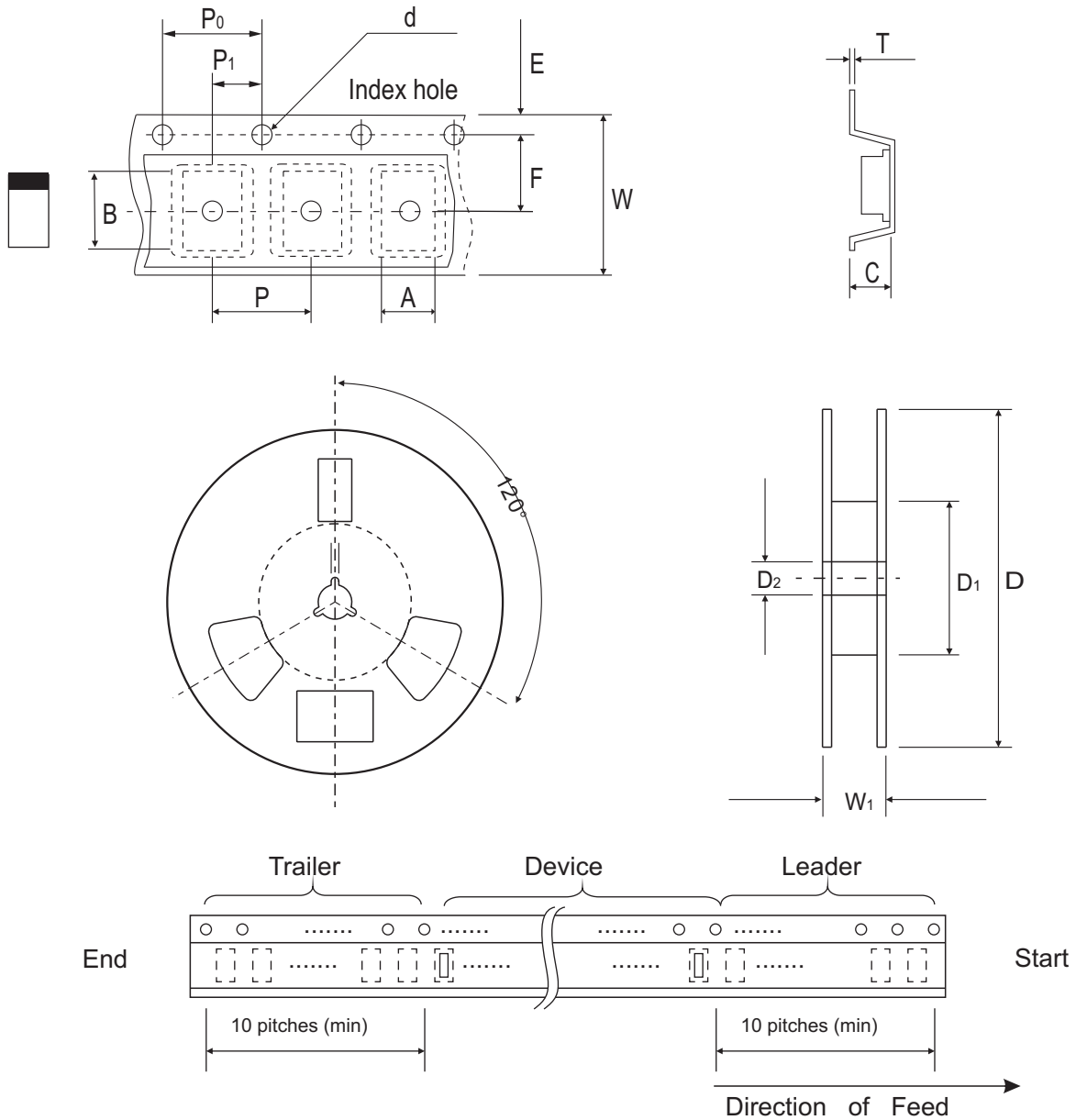


Fig.5 - Capacitance Between Terminals Characteristics



Reel Taping Specification



| 0402 (SOD-923F) | SYMBOL | A | B | C | d | D | D ₁ | D ₂ |
|--------------------|--------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
| | (mm) | 0.75 ± 0.10 | 1.15 ± 0.10 | 0.60 ± 0.10 | 1.55 ± 0.10 | 178 ± 1 | 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 ± 0.040 | 2.362 MIN. | 0.512 ± 0.008 |

| 0402 (SOD-923F) | SYMBOL | E | F | P | P ₀ | P ₁ | T | W | W ₁ |
|--------------------|--------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.05 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 0.22 ± 0.05 | 8.00 ± 0.20 | 13.5 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. |

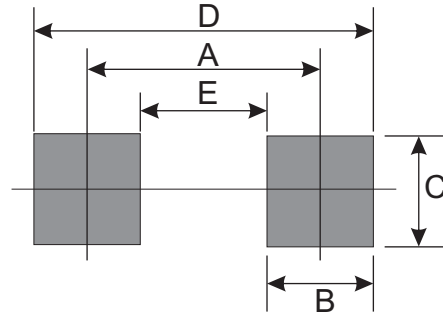
Marking Code

| Part Number | Marking Code |
|----------------|--------------|
| CPDQR5V0USP-HF | 5S |



Suggested PAD Layout

| SIZE | 0402/SOD-923F | |
|------|---------------|--------|
| | (mm) | (inch) |
| A | 0.750 | 0.030 |
| B | 0.500 | 0.020 |
| C | 0.700 | 0.028 |
| D | 1.250 | 0.049 |
| E | 0.250 | 0.010 |



Standard Packaging

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

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