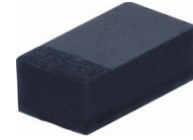


CPDQR2V5U-HF

RoHS Device
Halogen Free

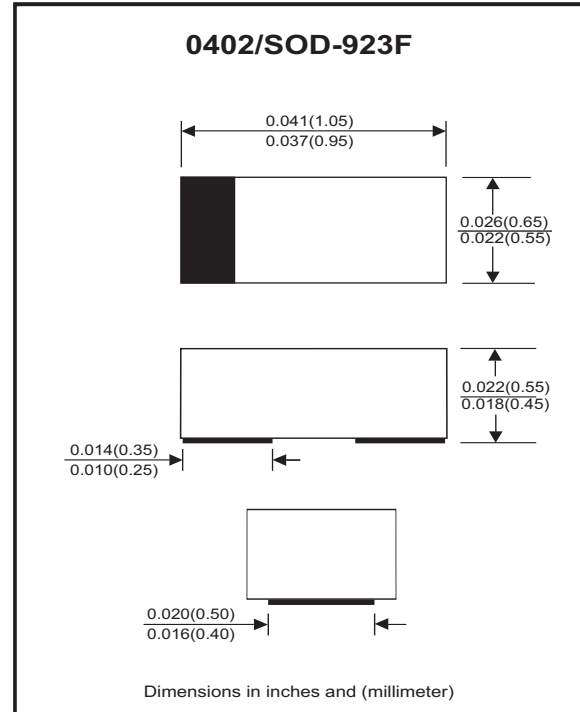


Features

- Uni-directional ESD protection.
- Surface mount package.
- Ultra small SMD package:0402.
- 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 & E2
- 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 | | | 0.9 | V |
| Diode breakdown voltage | I _R = 1.0mA | V _{BD} | 4.0 | | | V |
| Leakage current | V _R = 2.5V | I _L | | | 6.0 | uA |
| Junction capacitance | V _R = 0V, f = 1MHz | C _T | | 90 | | pF |
| ESD capability | IEC 61000-4-2(air) | ESD | | | ±30 | kV |
| | IEC 61000-4-2(contact) | ESD | | | ±30 | kV |
| Clamping voltage | I _{PP} = 1A, T _P =8/20us | V _C | | | 7 | V |
| | I _{PP} = 11A, T _P =8/20us | V _C | | | 15 | V |
| Peak pulse power | | P _{PP} | | | 165 | W |
| Operation temperature range | | T _J | -55 | | 150 | °C |
| Storage temperature range | | T _{STG} | -55 | | 150 | °C |

RATING AND CHARACTERISTIC CURVES (CPDQR2V5U-HF)

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

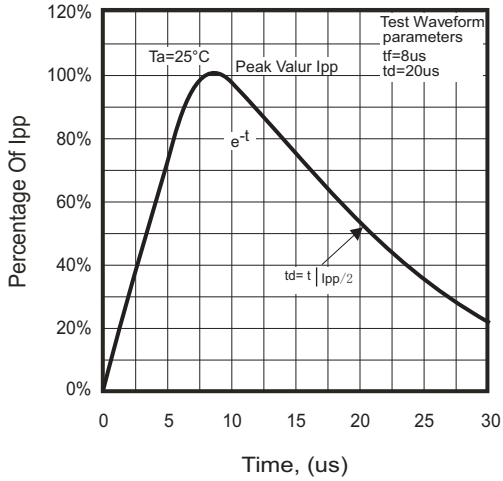


Fig.2 - Power Rating Derating Curve

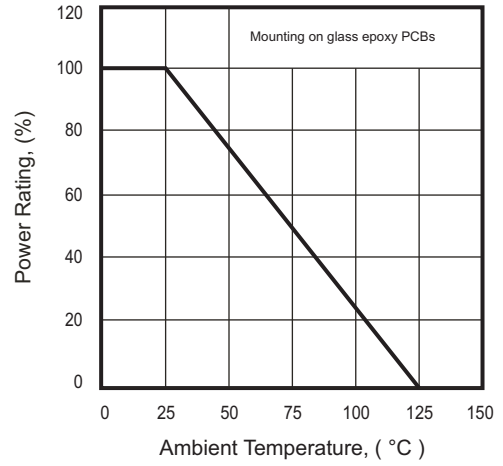


Fig.3 - Clamping Voltage Vs. Peak Pulse Current

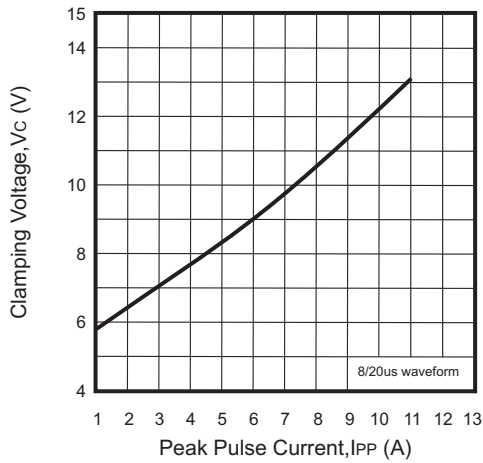
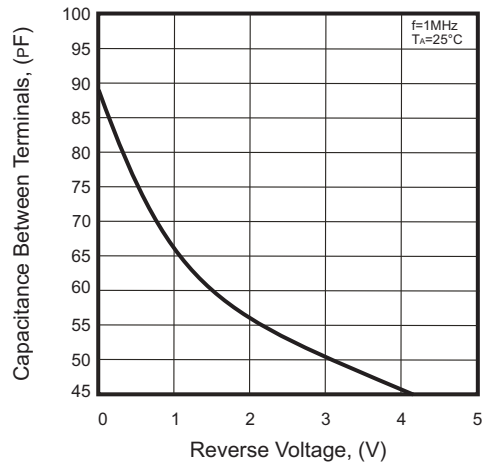
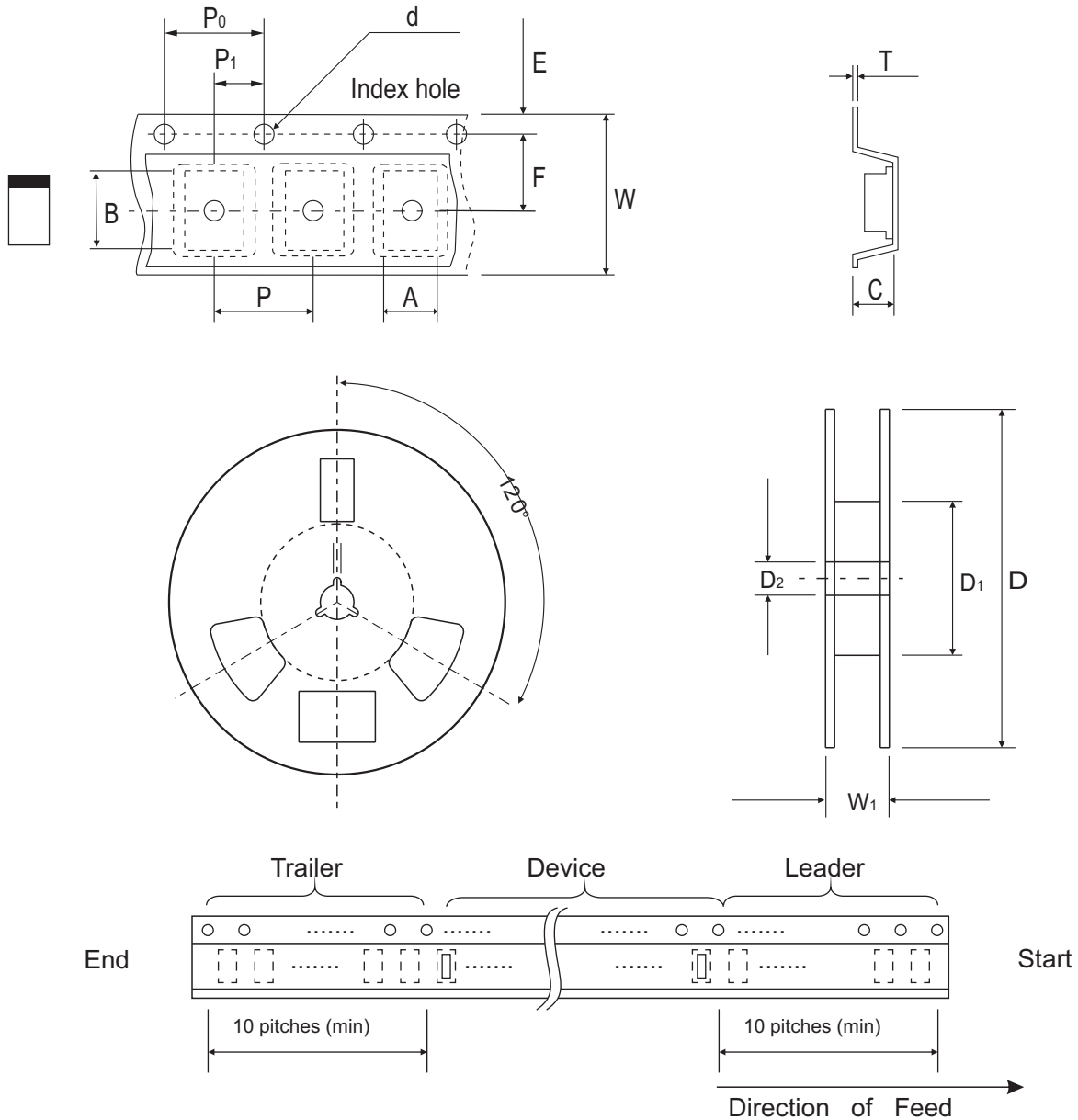


Fig.4 - Capacitance Between Terminals Characteristics



Reel Taping Specification



| 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. |

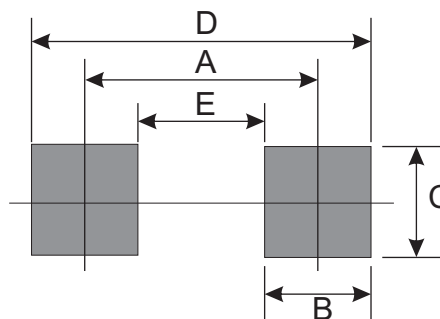
Marking Code

| Part Number | Marking Code |
|--------------|--------------|
| CPDQR2V5U-HF | E2 |



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