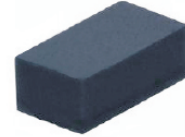


CPDQR5V0HE-HF

RoHS Device
Halogen Free

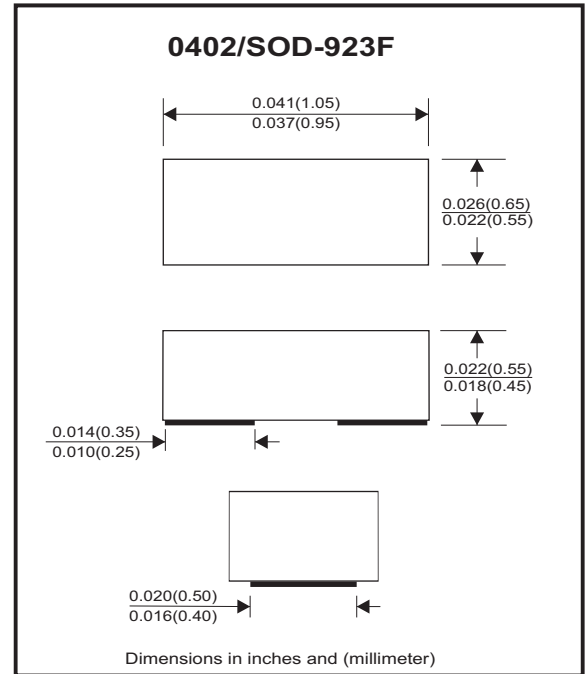


Features

- Bi-directional ESD protection
- IEC 61000-4-5 (surge) ; IPP=8A
- IEC 61000-4-2 (ESD) ; ±30KV(contact)
- Low clamping voltage
- Low leakage current
- High surge current

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

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|-----------------------------|------------------------|--------|-----|-----|------|------|
| Reverse stand-Off voltage | | VRWM | | | 5 | V |
| Diode breakdown voltage | IR = 1mA | VBD | 5.5 | 7.0 | | V |
| Leakage current | VR = 5V | IL | | 0.1 | 1.0 | uA |
| Junction capacitance | VR = 0V, f = 1MHz | CT | | 15 | 20 | pF |
| ESD capability | IEC 61000-4-2(air) | ESD | | | 30 | kV |
| | IEC 61000-4-2(contact) | ESD | | | 30 | kV |
| Clamping Voltage | IPP = 1 A, tp=8/20us | Vc | | | 11 | V |
| | IPP = 8 A, tp=8/20us | Vc | | | 16 | V |
| Peak pulse power | TP=8/20us | PPP | | | 128 | W |
| Operating temperature range | | Tj | -40 | | +125 | °C |
| Storage temperature range | | TSTG | -55 | | +150 | °C |

RATING AND CHARACTERISTIC CURVES (CPDQR5V0HE-HF)

Fig.1- 8/20us Peak Pulse Current Wave Form Acc. IEC61000-4-5

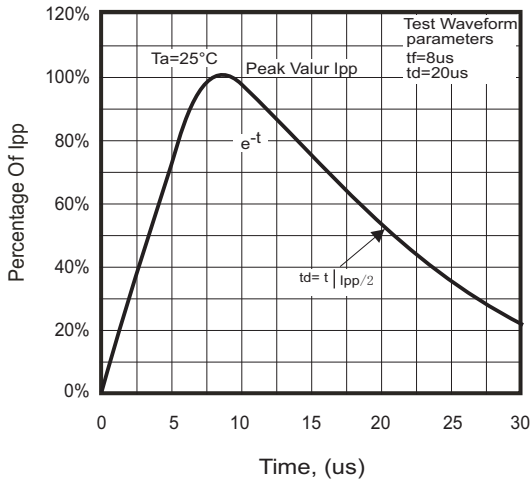


Fig.2 - Typical Capacitance Between Terminals Characteristics

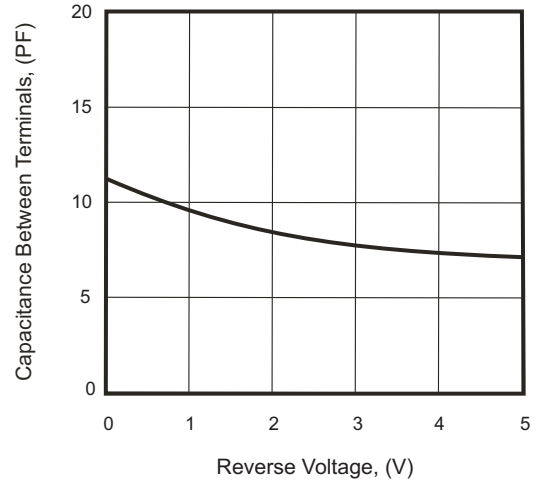


Fig.3 - Clamping Voltage Vs. Peak Pulse Current

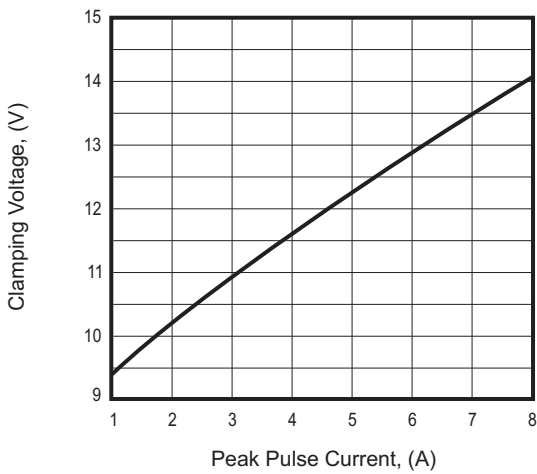
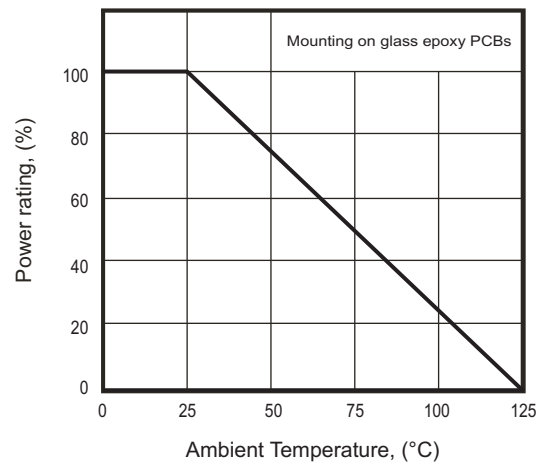
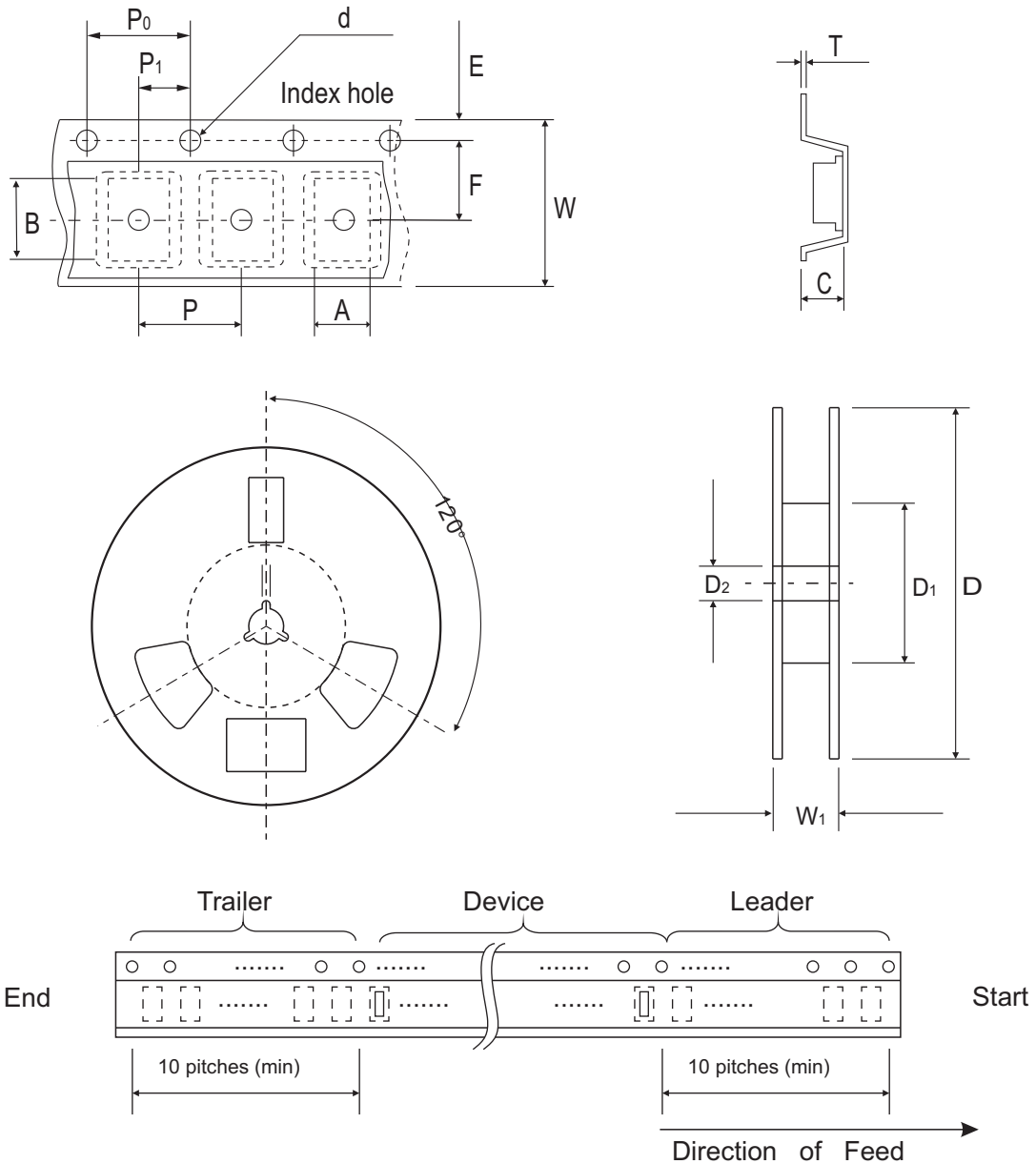


Fig. 4 - Power Rating Derating Curve



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) | 0.026 ± 0.004 | 0.045 ± 0.004 | 0.024 ± 0.004 | 0.061 ± 0.004 | 7.008 ± 0.04 | 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. |

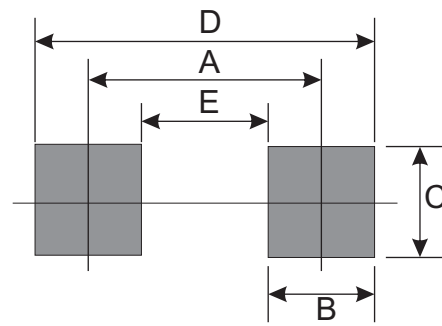
Marking Code

| Part Number | Marking Code |
|---------------|--------------|
| CPDQR5V0HE-HF | E5 |



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 |