



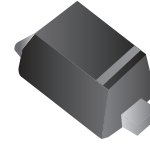
**THE DATASHEET OF
CPDQ5V0-HF**



CPDQ5V0-HF

RoHS Device

Halogen Free

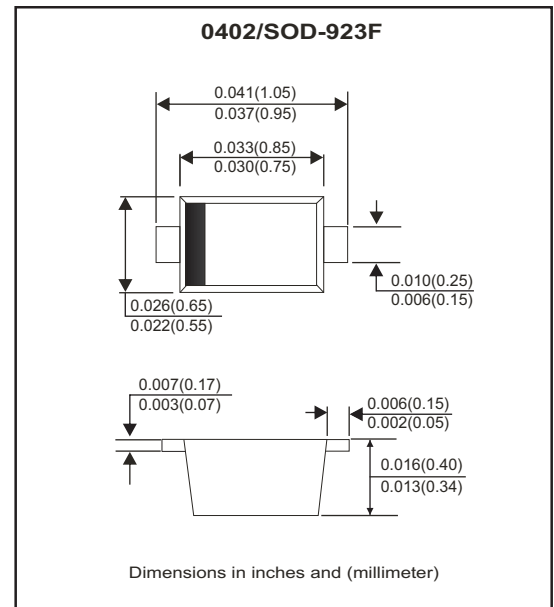


Features

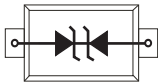
- IEC61000-4-2 Level 4 ESD protection.
- ESD Rating of Class 3 per Human Body Mode.
- Peak Power up to 150 Watts @ 8x20µs Pulse.
- Low Leakage current.
- Response Time is Typically <1ns
- Working Voltage: 5V

Mechanical data

- Case: 0402/SOD-923F small outline plastic package.
- Terminals: Matte tin plated, solderable per MIL-STD-750, method 2026.
- Mounting position: Any.
- High temperature soldering guaranteed: 260°C/10 second.
- 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 us | PPP | 174 | W |
| Peak pulse current | T _P = 8/20 us | I _{PP} | 9.4 | A |
| ESD capability | IEC 61000-4-2(Air) | ESD | ±15 | kV |
| | IEC 61000-4-2(Contact) | ESD | ±8 | kV |
| Junction temperature rang | | T _J | 150 | °C |
| Operating temperature rang | | T _{OP} | -40 to +125 | °C |
| Storage temperature rang | | T _{STG} | -55 to +150 | °C |

Electrical Characteristics

(Ratings at $T_A=25^\circ\text{C}$ ambient temperature unless otherwise specified. $V_f=0.9\text{V}$ at $I_f=10\text{mA}$)

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|---------------------------|---|------------|-----|-----|------|---------------|
| Reverse stand-off voltage | | V_{RWM} | | | 5 | V |
| Reverse leakage current | $V_R = 5\text{ V}$ | I_R | | | 1 | μA |
| Reverse breakdown voltage | $I_R = 1\text{ mA}$ | $V_{(BR)}$ | 5.6 | | | V |
| Clamping voltage | $I_{PP} = 5\text{ A}$, $t_p = 8/20\mu\text{s}$ | V_C | | | 11.6 | V |
| | $I_{PP} = 9.4\text{ A}$, $t_p = 8/20\mu\text{s}$ | V_C | | | 18.6 | V |
| Junction capacitance | $V_R = 0\text{V}$, $F = 1\text{MHz}$ | C_J | | 15 | | pF |

NOTES:

- Surge current waveform per Fig.1
- V_{BR} is measured with a pulse test current I_R at an ambient temperature of 25°C .

RATING AND CHARACTERISTIC CURVES (CPDQ5V0-HF)

Fig.1 - Pulse Waveform

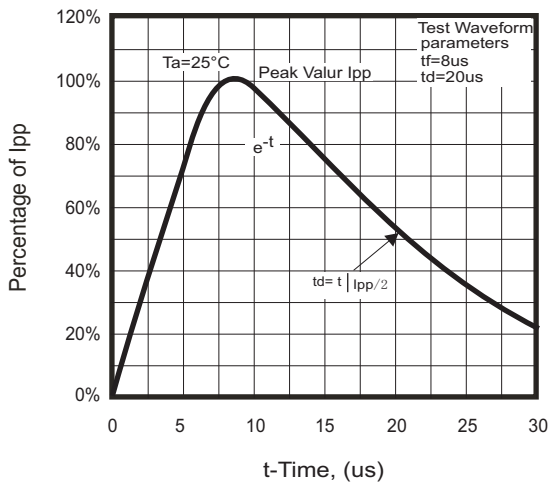
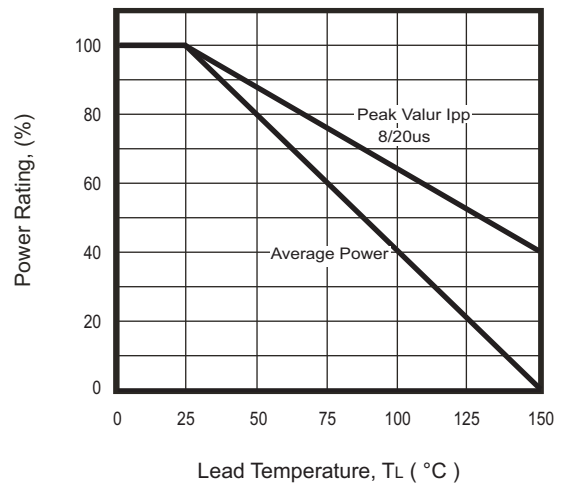
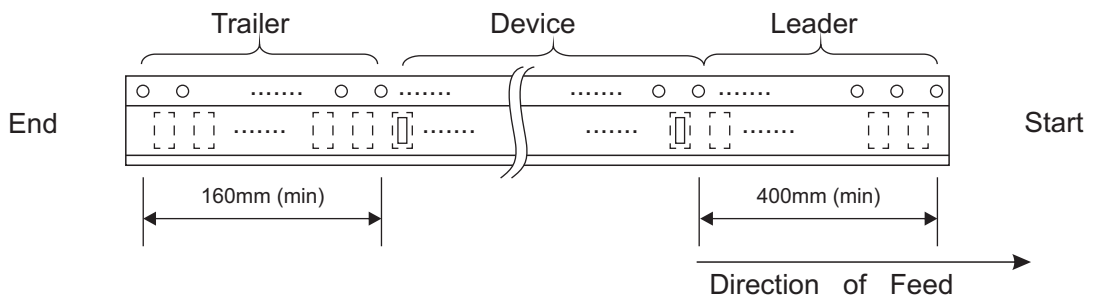
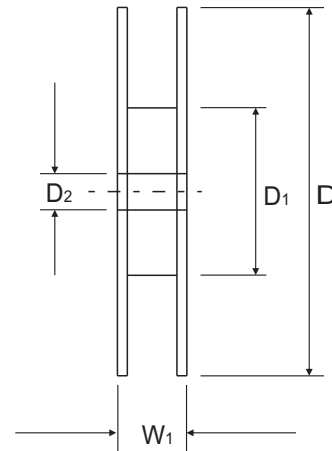
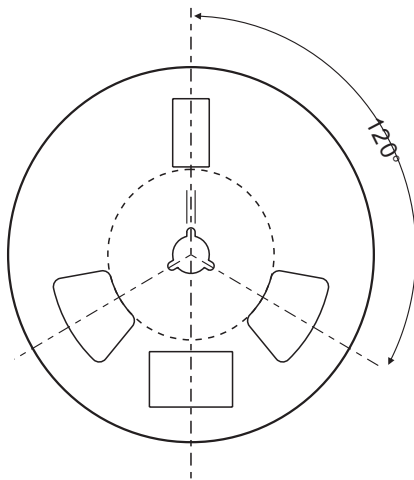
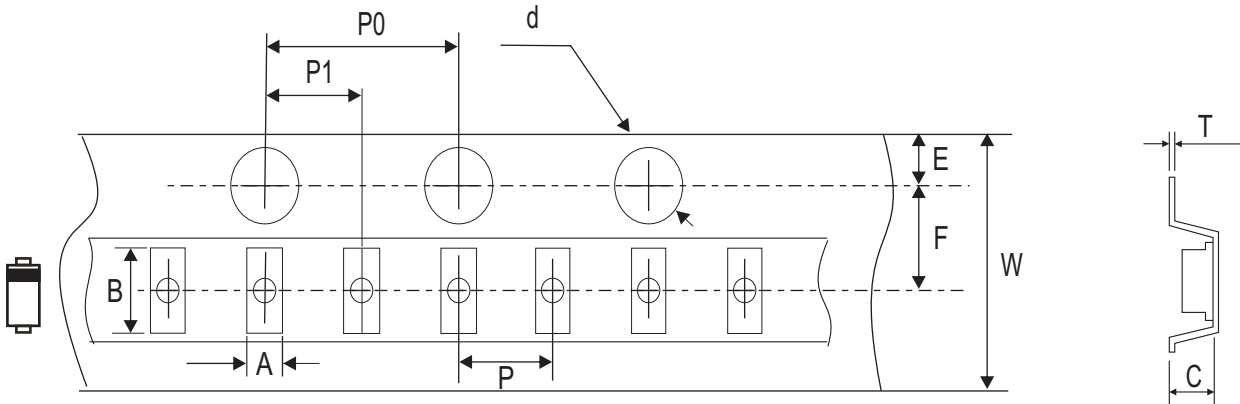


Fig. 2 - Power Derating Curve



Reel Taping Specification



| 0402 (SOD-923F) | SYMBOL | A | B | C | d | D | D ₁ | D ₂ |
|--------------------|--------|---------------|---------------|---------------|----------------------|-------------|----------------|----------------|
| | (mm) | 0.70 ± 0.05 | 1.12 ± 0.05 | 0.48 ± 0.05 | 1.50 + 0.10 - 0 | 178.00 Max. | 50.00 Min. | 13.00 ± 0.50 |
| | (inch) | 0.028 ± 0.002 | 0.044 ± 0.002 | 0.019 ± 0.002 | 0.059 + 0.004 - 0 | 7.008 Max. | 1.969 Min | 0.512 ± 0.020 |

| 0402 (SOD-923F) | SYMBOL | E | F | P | P ₀ | P ₁ | T | W | W |
|--------------------|--------|---------------|---------------|---------------|----------------|----------------|---------------|------------|------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.05 | 2.00 ± 0.05 | 4.00 ± 0.10 | 2.00 ± 0.05 | 0.229 ± 0.02 | 8.30 Max. | 10.90 Max. |
| | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.079 ± 0.002 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.009 + 0.001 | 0.327 Max. | 0.429 Max. |

Marking Code

| Part Number | Marking Code | |
|-------------|--------------|-----|
| CPDQ5V0-HF | C | C ⌘ |



Month Code:

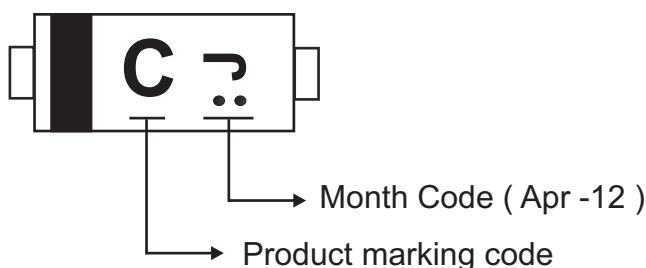
| Month | Odd Year (per A. D.) | Even Year (per A. D.) |
|-------|--------------------------|---------------------------|
| Jan | 1 | E |
| Feb | 2 | F |
| Wer | 3 | H |
| Apr | 4 | J |
| May | 5 | K |
| Jun | 6 | L |
| Jul | 7 | N |
| Aug | 8 | P |
| Sep | 9 | U |
| Oct | T | X |
| Nov | V | Y |
| Dec | C | Z |

C: Product marking code

⌘: Month Code

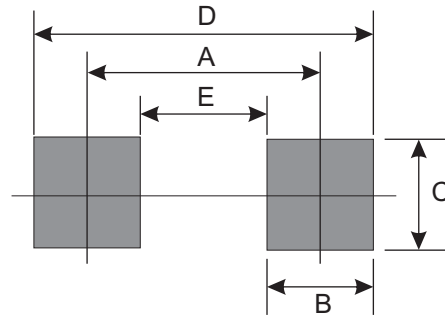
For example as follows:

- Product marking code: C
- Manufacture date_ Year: 2012 (Even year) / Month: Apr
 Month code: J (Month code rotated 90° and two dots below the month code.)



Suggested PAD Layout

| SIZE | 0402/SOD-923F | |
|----------|---------------|--------|
| | (mm) | (inch) |
| A | 0.90 | 0.035 |
| B | 0.30 | 0.012 |
| C | 0.40 | 0.016 |
| D | 1.20 | 0.047 |
| E | 0.60 | 0.024 |



Standard Packaging

| Case Type | Qty Per Reel | Reel Size |
|---------------|--------------|-----------|
| | (Pcs) | (inch) |
| 0402/SOD-923F | 8,000 | 7 |

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- [View CPDQ5V0-HF on WIN SOURCE](#)
- [Comchip Technology Information](#)

Optimize Your Supply Chain with WIN SOURCE Solutions

- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management