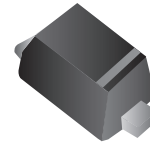


CPDQ12V0U-HF

RoHS Device
Halogen Free

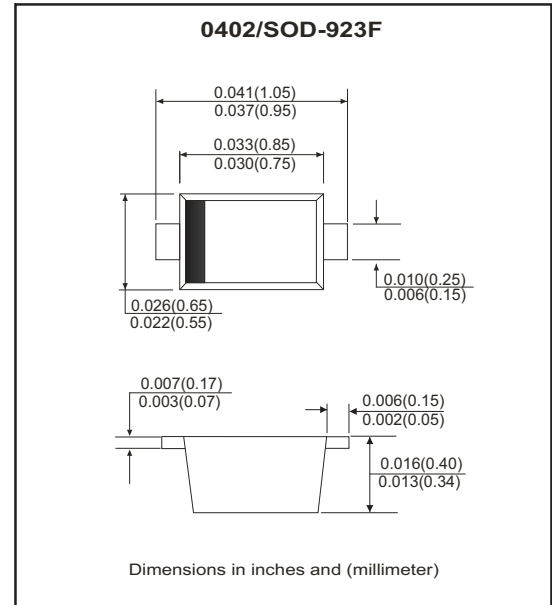


Features

- IEC61000-4-2 Level 4 ESD protection.
- ESD Rating of Class 3(>16kV) per Human Body Mode.
- Low body height: 0.017"(0.43mm)
- Low Leakage

Mechanical data

- Epoxy: Meets UL 94V-0
- Case: 0402/SOD-923F small outline plastic package. molded plastic.
- Terminals: Matte tin plated, solderable per MIL-STD-202,method 208.
- Mounting position: Any.
- High temperature soldering guaranteed:
260°C/10 second.
- Weight: 0.001mgram(approx.).



Circuit Diagram



Maximum Rating and Electrical Characteristics

(at TA=25 °C unless otherwise specified. VF=0.9V Max. @ IF=10mA for all types)

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|---------------------------------|---|------------------|------|-----|------|------|
| Working Peak Reverse Voltage | | VRWM | | | 12 | V |
| Breakdown voltage | IR = 1mA | VBR | 13.5 | | | V |
| Maximum reverse leakage current | VR = 12V | IR | | | 1.0 | µA |
| Junction capacitance | VR = 0V, f = 1MHz | CT | | 30 | | pF |
| ESD capability | IEC 61000-4-2(air) | ESD | | | 15 | kV |
| | IEC 61000-4-2(Contact) | ESD | | | 8 | kV |
| Clamping Voltage | I _{PP} = 5.9 A, t _p =8/20us | V _c | | | 23.7 | V |
| Peak Pulse Power | T _p =8/20us | P _{PP} | | 140 | | W |
| Junction temperature | | T _j | -55 | | 150 | °C |
| Storage temperature | | T _{STG} | -55 | | 150 | °C |

NOTES:

- FR-5=1.0*0.75*0.62 in.
- V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C.
- Surge current waveform per Figure3.

RATING AND CHARACTERISTIC CURVES (CPDQ12V0U-HF)

Fig. 1 - Typical breakdown voltage versus temperature

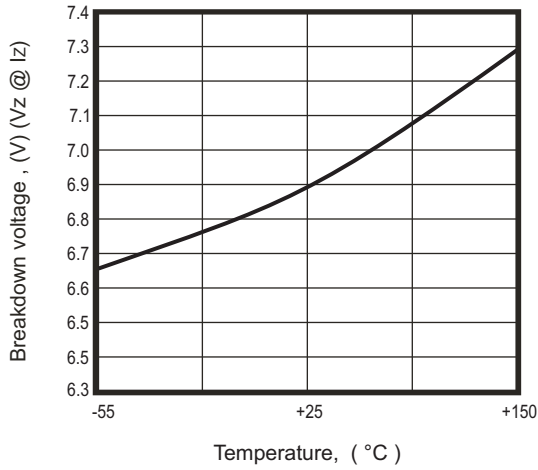


Fig. 2 - Typical leakage current versus temperature

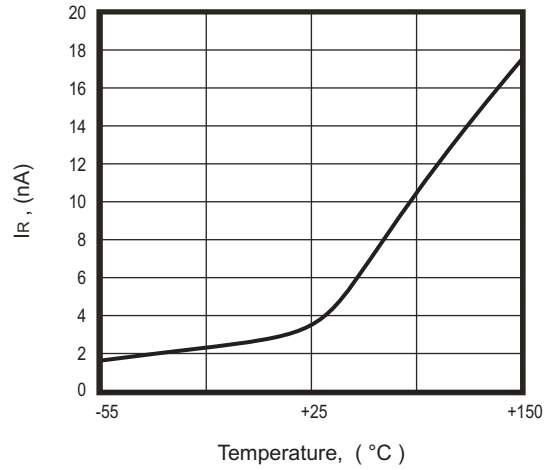
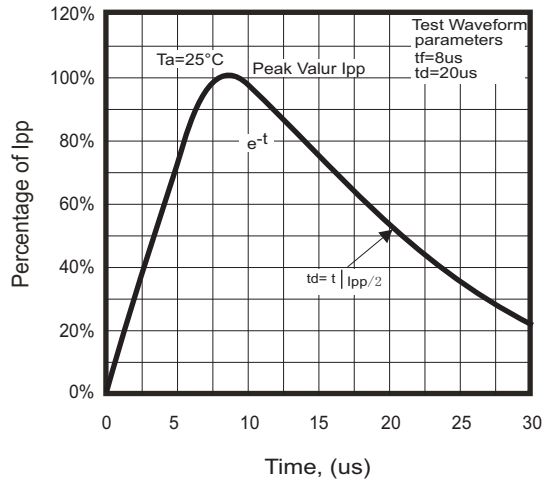
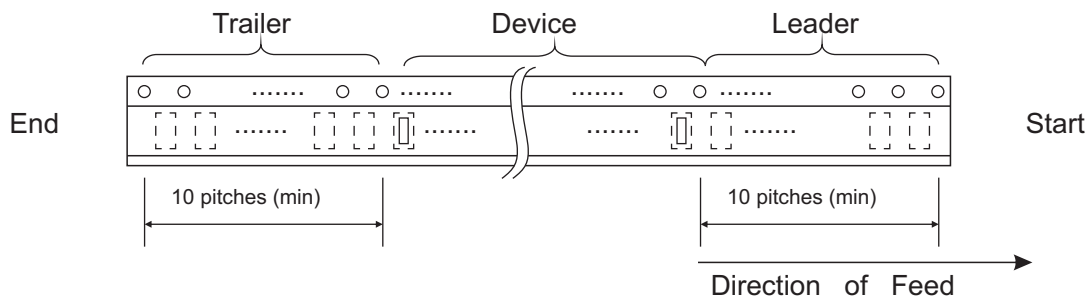
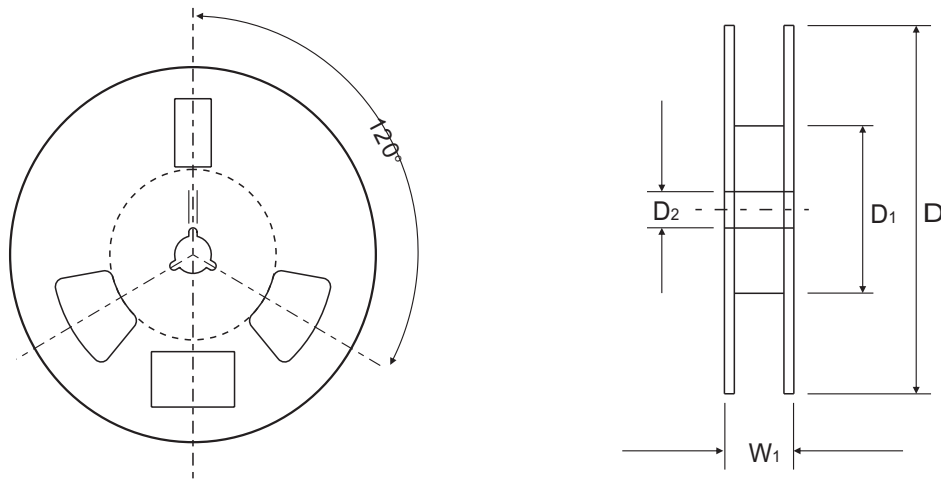
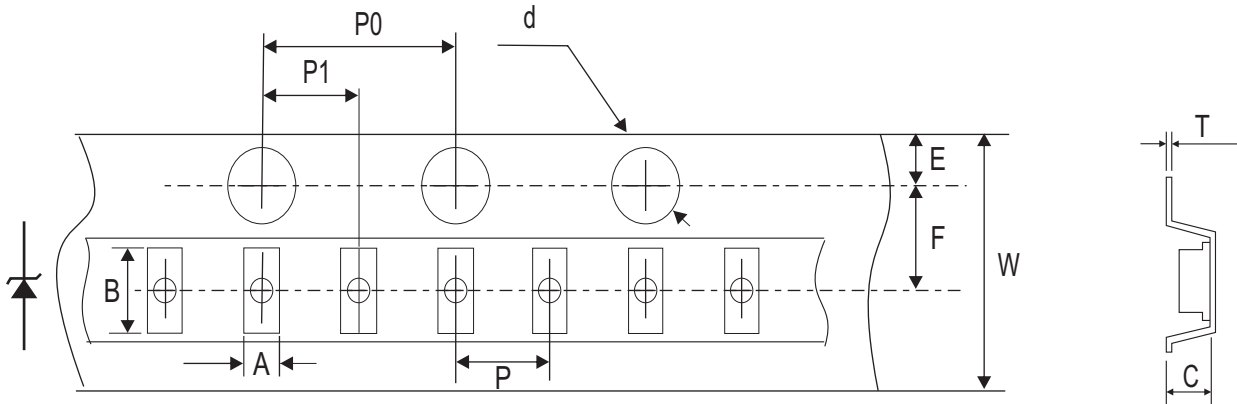


Fig. 3 - 8/20us Peak pulse current waveform acc. IEC 61000-4-5



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 | 2.40 mm | 1.50 + 0.10 | 178 MAX. | 50.0 MIN. | 13.0 ± 0.50 |
| | (inch) | 0.028 ± 0.002 | 0.044 ± 0.002 | 0.094 mm | 0.059 + 0.004 | 7.008 MAX. | 1.969 MIN. | 0.512 ± 0.020 |

| 0402 (SOD-923F) | SYMBOL | E | F | P | P ₀ | P ₁ | T | W | W ₁ |
|--------------------|--------|---------------|---------------|---------------|----------------|----------------|---------------|-------------------------|----------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.05 | 2.00 ± 0.05 | 4.00 ± 0.10 | 2.00 ± 0.05 | 0.229 ± 0.020 | 8.00 + 0.30 / - 0.10 | 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 | 0.314 + 0.012 / - 0.004 | 0.43 MAX. |

Marking Code

| Part Number | Marking Code |
|--------------|--------------|
| CPDQ12V0U-HF | H |



H: Product marking code

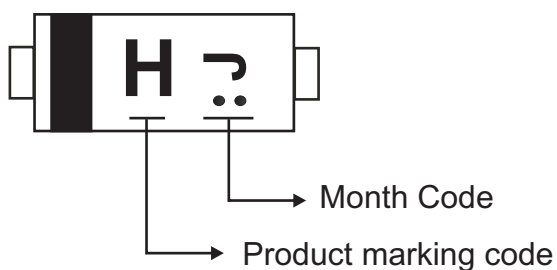
⌘: Month Code

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 |

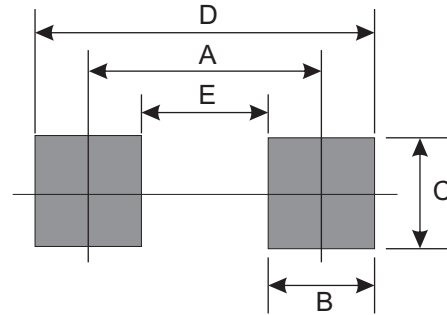
For example as follows:

- Product marking code: H
- 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 | 0.900 | 0.035 |
| B | 0.300 | 0.012 |
| C | 0.400 | 0.016 |
| D | 1.200 | 0.047 |
| E | 0.600 | 0.024 |



Standard Packaging

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