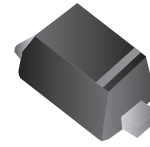


## CPDQ12V0U-HF

**RoHS Device**  
**Halogen Free**

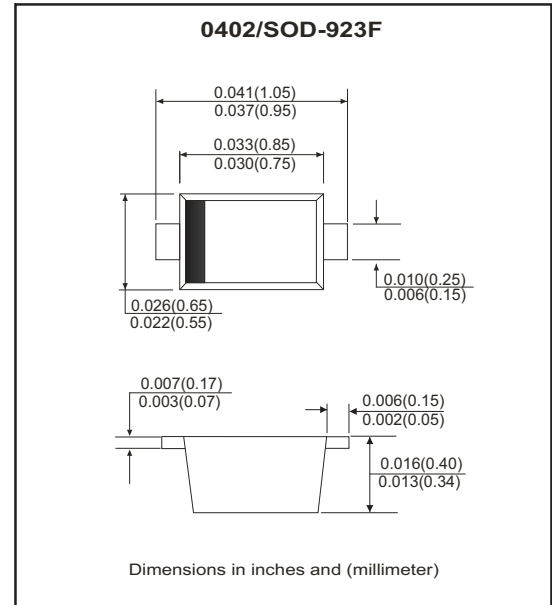


### Features

- 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. VR=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 <sub>PP</sub> = 5.9 A, t <sub>p</sub> =8/20us	V <sub>c</sub>			23.7	V
Peak Pulse Power	T <sub>p</sub> =8/20us	P <sub>PP</sub>		140		W
Junction temperature		T <sub>j</sub>	-55		150	°C
Storage temperature		T <sub>STG</sub>	-55		150	°C

NOTES:

- FR-5=1.0\*0.75\*0.62 in.
- V<sub>BR</sub> is measured with a pulse test current I<sub>T</sub> 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

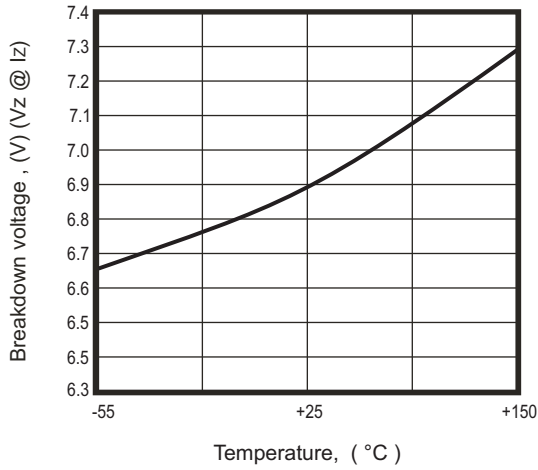


Fig. 2 - Typical leakage current versus temperature

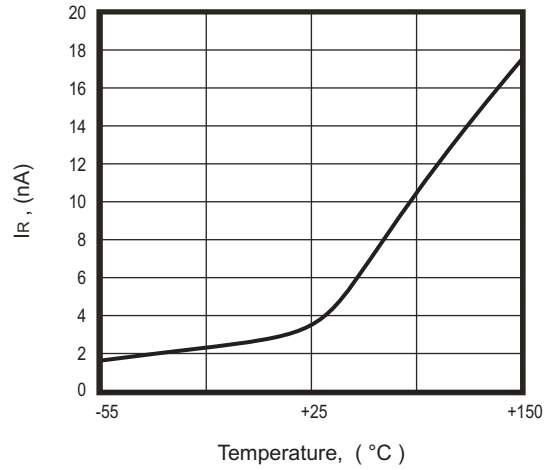
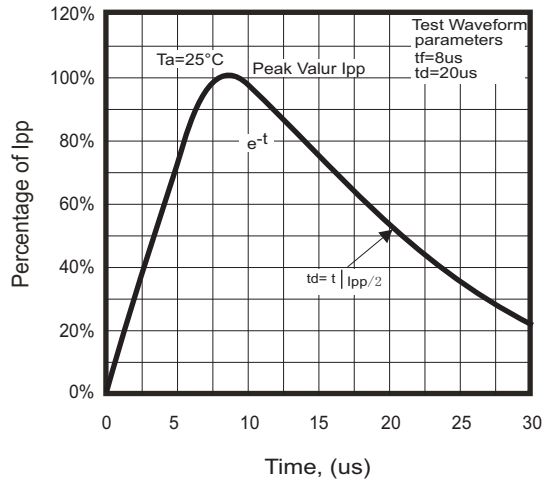
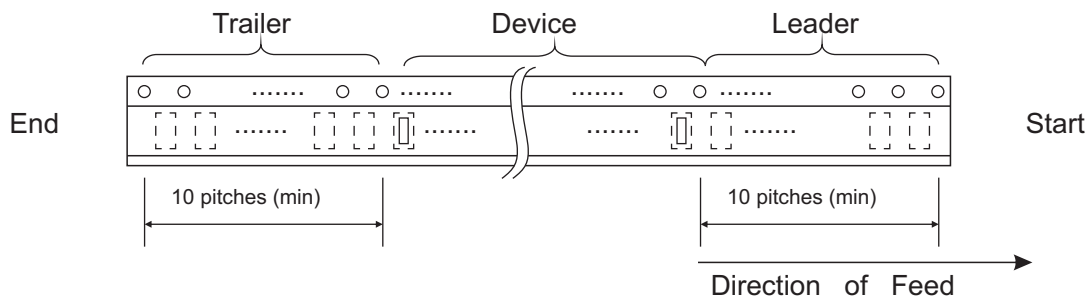
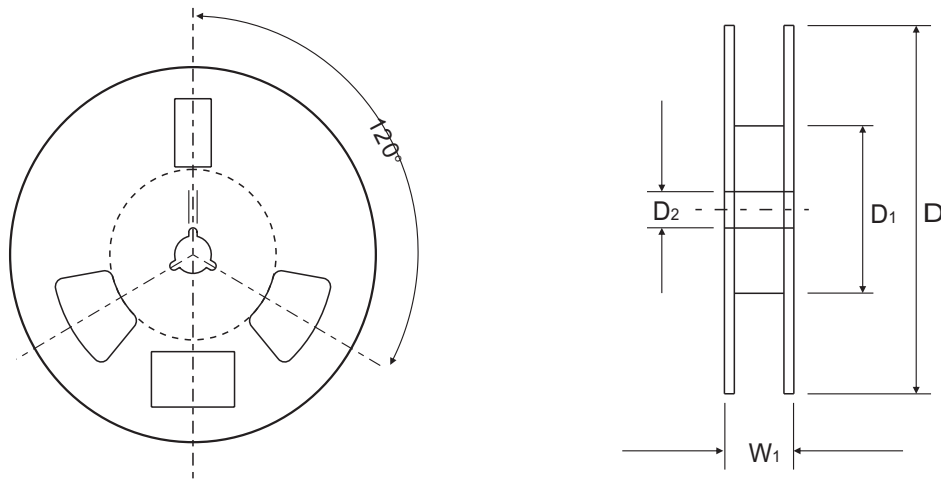
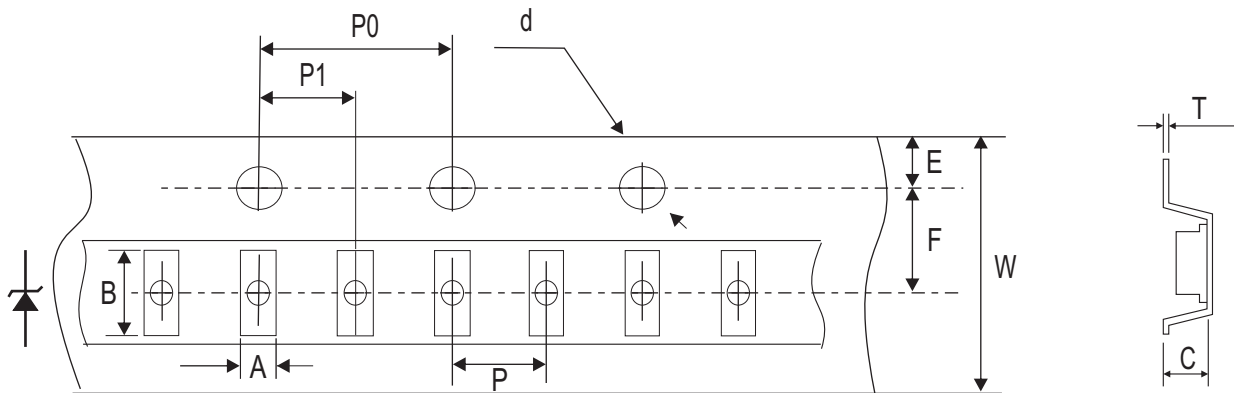


Fig. 3 - 8/20us Peak pulse current waveform acc. IEC 61000-4-5



## Reel Taping Specification



0402 (SOD-923F)	SYMBOL	A	B	C	d	D	D <sub>1</sub>	D <sub>2</sub>
	(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 <sub>0</sub>	P <sub>1</sub>	T	W	W <sub>1</sub>
	(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

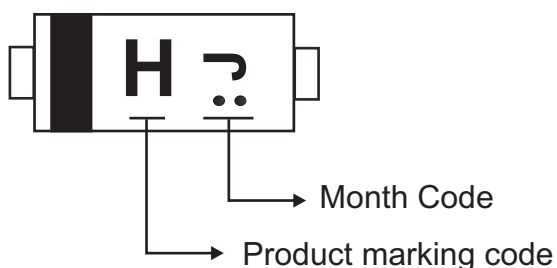
⌘: Month Code

## 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

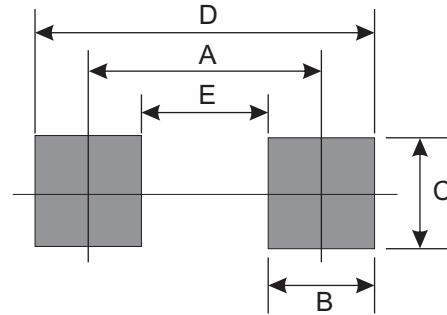
For example as follows:

- 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	8,000	7