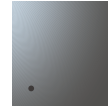


## CPDA3-12VU-HF

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



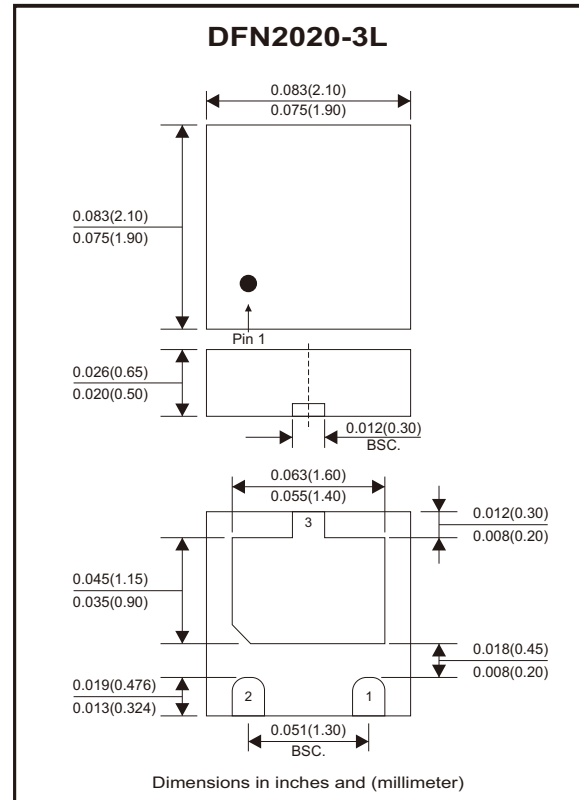
### Features

- Uni-directional ESD protection of one line.
- Low reverse stand-off voltage: 12V.
- Low reverse clamping voltage.
- Low leakage current.
- Excellent package: 2.0mm x 2.0mm x 0.6mm.
- Fast response time.
- JESD22-A114-B ESD rating of class 3B per human body model.
- IEC 61000-4-2 Level 4 ESD protection.

### Mechanical data

- Case: DFN2020-3L package, molded plastic.

### Circuit Diagram



### Maximum Rating (at T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
IEC 61000-4-2 ESD voltage air model	V <sub>ESD</sub> (Note 1)	±30	kV
IEC 61000-4-2 ESD voltage contact model			
JESD22-A114-B ESD voltage per human body model			
ESD voltage machine model		±0.4	
Peak pulse power (Note 2)	P <sub>PP</sub>	5700	W
Peak pulse current (Note 2)	I <sub>PP</sub>	190	A
Lead solder temperature - maximum (10 second duration)	T <sub>L</sub>	260	°C
Operation junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

Notes: 1. Device stressed with ten non-repetitive ESD pulses.

2. Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC 61000-4-5.

## Electrical Characteristics (at $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse stand off voltage (Note 1)		$V_{RWM}$			12	V
Reverse leakage current	$V_{RWM} = 12\text{V}$	$I_R$			1	$\mu\text{A}$
Breakdown voltage	$I_T = 1\text{mA}$	$V_{(BR)}$	13.3		16.5	V
Clamping voltage (Note 2)	$I_{PP} = 190\text{A}$	$V_C$			30	V
Junction capacitance	$V_R = 0\text{V}$ , $f = 1\text{MHz}$	$C_J$		1200		pF

Notes: 1. Other voltages available upon request.

2. Non-repetitive current pulse 8/20 $\mu\text{s}$  exponential decay waveform according to IEC 61000-4-5.

## Rating and Characteristic Curves (CPDA3-12VU-HF)

Fig.1 - 8/20 $\mu$ s Peak Pulse Current Waveform Acc. IEC 61000-4-5

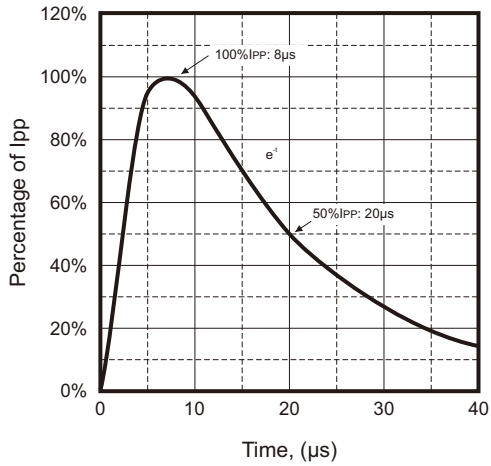


Fig.2 - Forward Characteristics

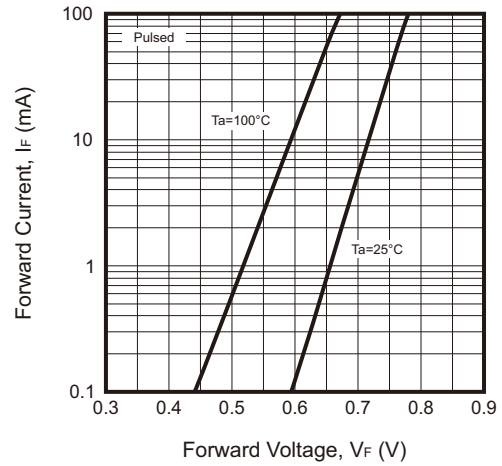


Fig.3 - Reverse Characteristics

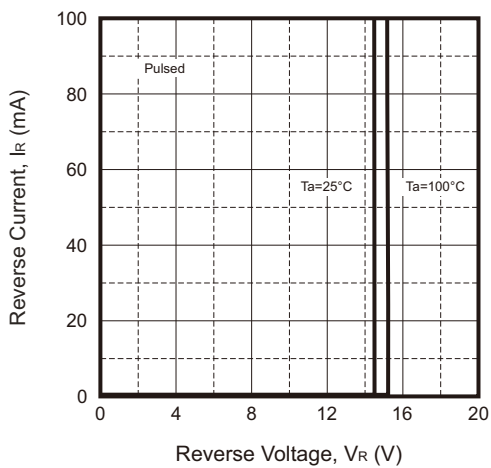


Fig.4 -  $V_C$  —  $I_{PP}$

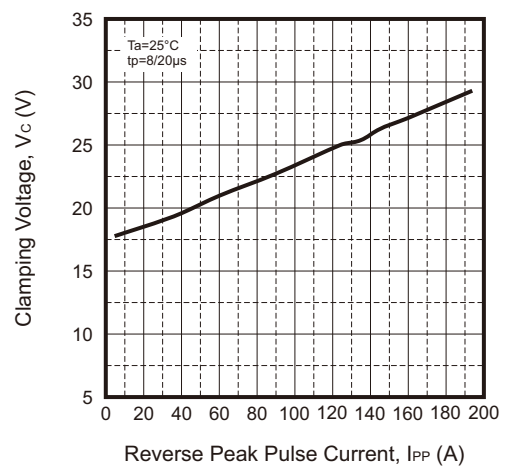
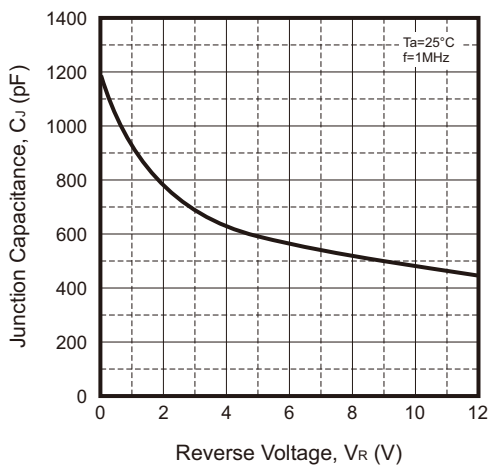
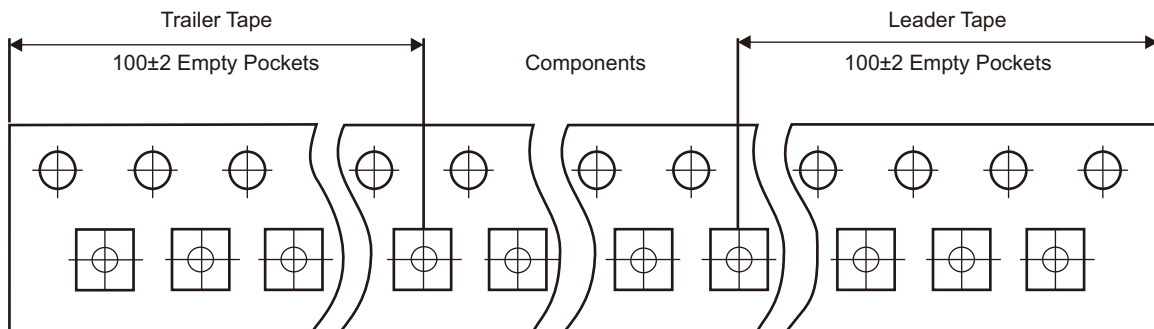
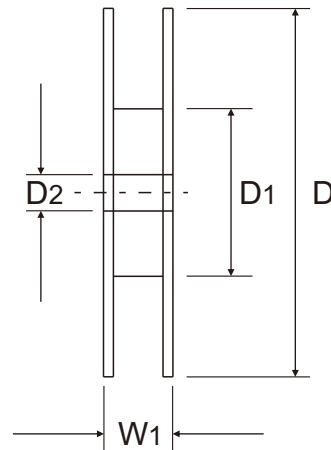
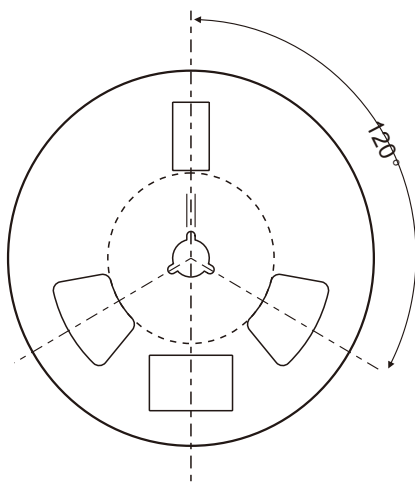
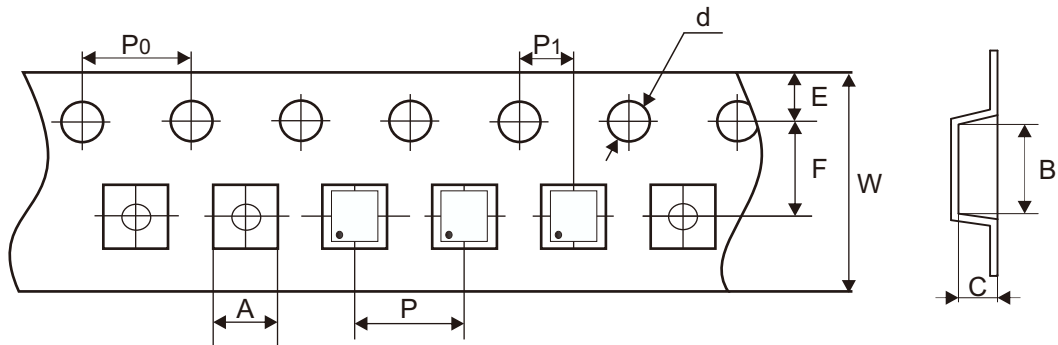


Fig.5 - Capacitance Characteristics



## Reel Taping Specification



DFN2020-3L	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.30 Typ	2.30 Typ	1.10 Typ	1.50 Typ	180 Typ	60.00 Typ	13.00 Typ
	(inch)	0.091 Typ	0.091 Typ	0.043 Typ	0.059 Typ	7.087 Typ	2.362 Typ	0.512 Typ

DFN2020-3L	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 Typ	3.50 Typ	4.00 Typ	4.00 Typ	2.00 Typ	8.00 Typ	13.10 Typ
	(inch)	0.069 Typ	0.138 Typ	0.157 Typ	0.157 Typ	0.079 Typ	0.315 Typ	0.516 Typ

Company reserves the right to improve product design, functions and reliability without notice.

REV:A

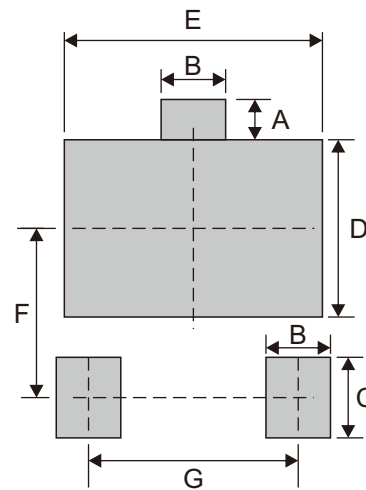
## Marking Code

Part Number	Marking Code
CPDA3-12VU-HF	12H



## Suggested P.C.B. PAD Layout

SIZE	DFN2020-3L	
	(mm)	(inch)
A	0.25	0.010
B	0.40	0.016
C	0.50	0.020
D	1.10	0.043
E	1.60	0.063
F	1.05	0.041
G	1.30	0.051



Notes: 1.The pad layout is for reference purposes only.

## Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DFN2020-3L	3,000	7