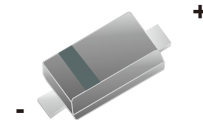


## CPDH5V0UC-HF

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

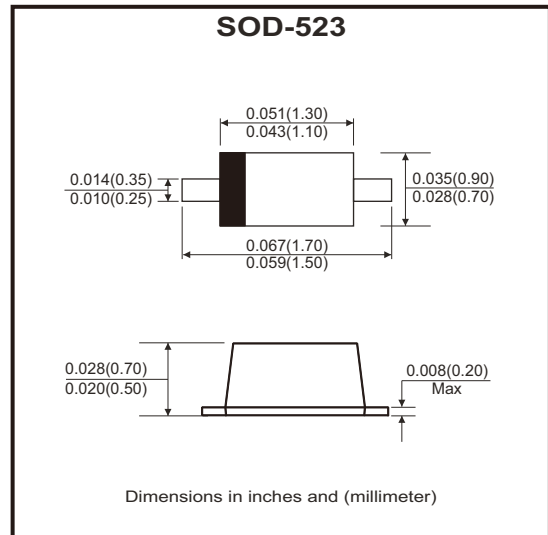


### Features

- Transient protection for high-speed data lines  
IEC61000-4-2 (ESD)  $\pm 15\text{kV}$  (air),  $\pm 8\text{kV}$  (contact)  
IEC61000-4-4 (EFT) 40A (5/50ns)  
Cable discharge event (CDE)
- Package optimized for high-speed lines.
- Ultra-small package (1.6mm x 0.8mm x 0.6mm).
- Protects one data, control line.
- Low capacitance: 0.4pF (typical).
- Low leakage current.
- Low clamping voltage.

### Mechanical data

- Case: SOD-523 package.
- Flammability rating: UL 94V-0.
- High temperature soldering guaranteed:  
260°C/10s



### Circuit Diagram



### Maximum Rating (at Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (air)	V <sub>ESD</sub>	$\pm 20$	kV
ESD per IEC 61000-4-2 (contact)		$\pm 20$	
Peak pulse power (8/20 $\mu$ s)	P <sub>PP</sub>	60	W
Operating temperature range	T <sub>OPT</sub>	-55 to +125	°C
Storage temperature range	T <sub>STG</sub>	-55 to +150	°C

### Electrical Characteristics (at Ta=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse working voltage		V <sub>RWM</sub>			5.0	V
Reverse breakdown voltage	I <sub>T</sub> = 1mA	V <sub>BR</sub>	6.0			V
Reverse leakage current	V <sub>RWM</sub> = 5V	I <sub>R</sub>			100	nA
Clamping voltage	I <sub>PP</sub> = 1A, T <sub>P</sub> = 8/20 $\mu$ s	V <sub>C</sub>			10	V
	I <sub>PP</sub> = 4A, T <sub>P</sub> = 8/20 $\mu$ s				15	
Junction capacitance	V <sub>R</sub> = 0V, f = 1MHz	C <sub>J</sub>		0.4	0.7	pF

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

REV:A

## Rating and Characteristic Curves (CPDH5V0UC-HF)

Fig.1 - Power Derating Curve

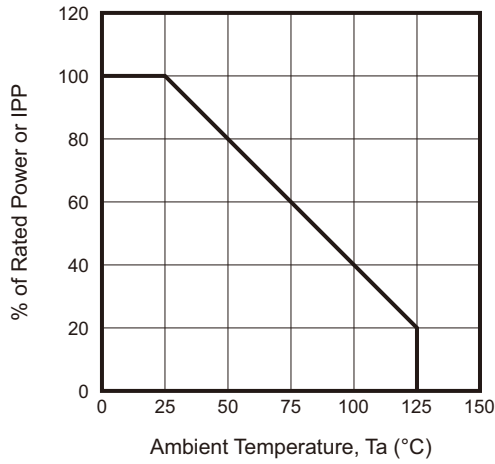


Fig.2 - Clamping Voltage vs Peak Pulse Current

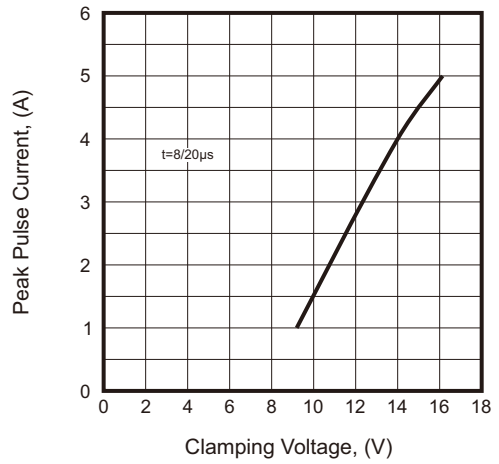


Fig.3 - Voltage Sweeping

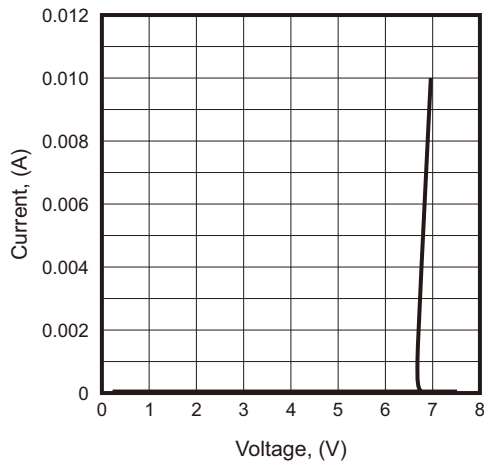


Fig.4 - Voltage vs Capacitance

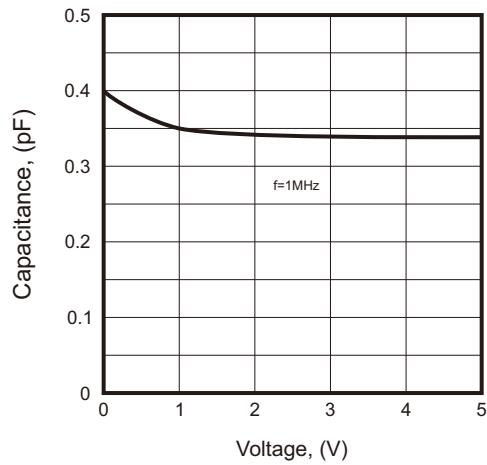


Fig.5 - ESD Clamping (+8kV Contact per IEC 61000-4-2)

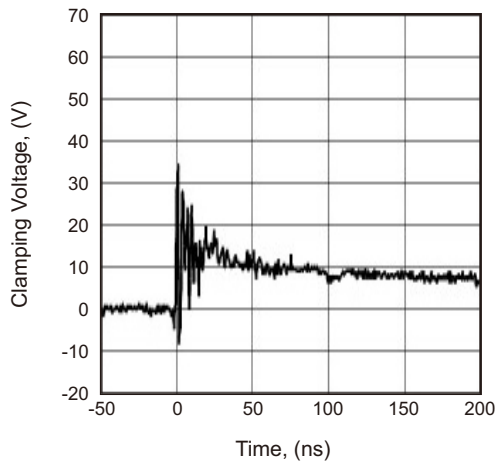
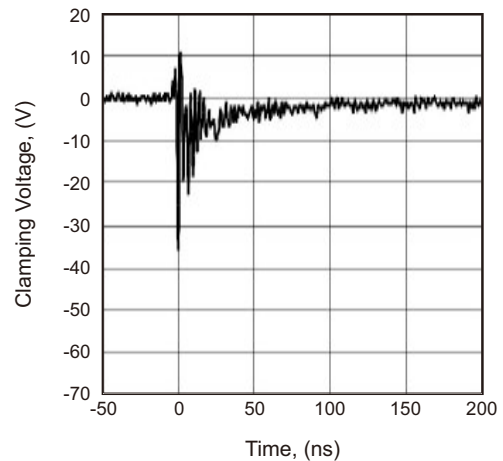
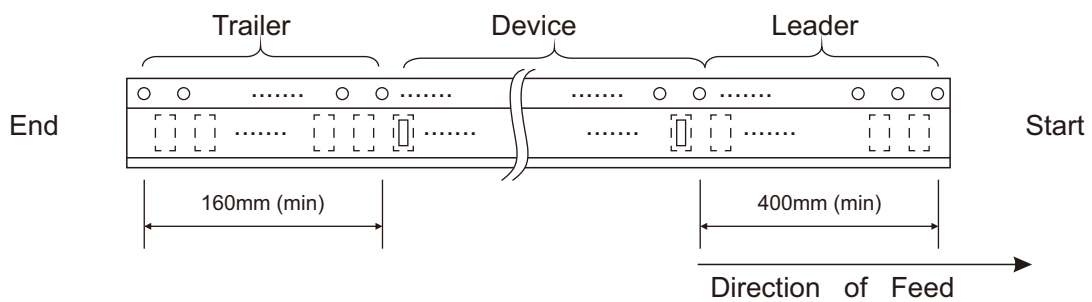
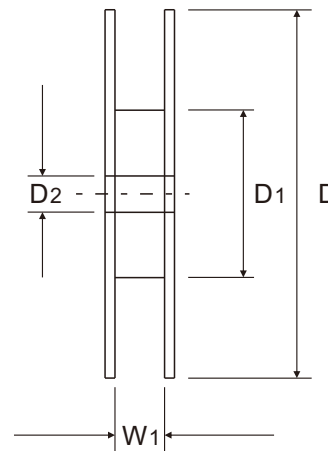
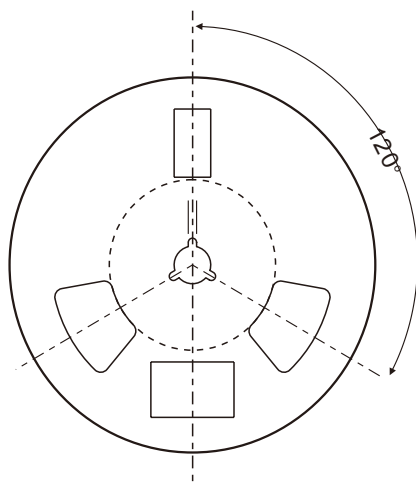
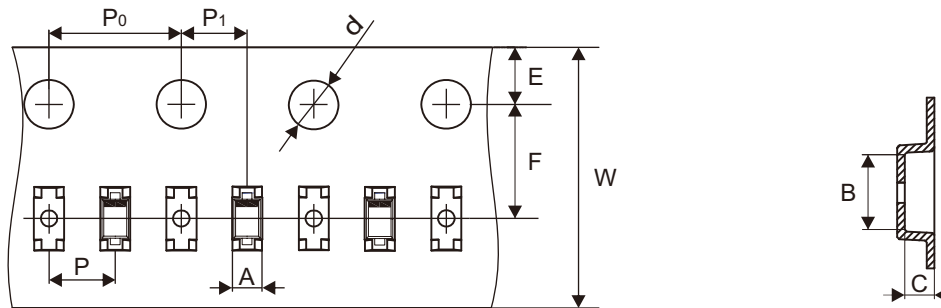


Fig.6 - ESD Clamping (-8kV Contact per IEC 61000-4-2)



## Reel Taping Specification



SOD-523	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	0.90 ± 0.05	1.95 ± 0.05	0.73 ± 0.05	1.55 ± 0.05	178.00 ± 2.00	54.50 ± 1.00	13.00 ± 1.00
	(inch)	0.035 ± 0.002	0.077 ± 0.002	0.029 ± 0.002	0.061 ± 0.002	7.008 ± 0.079	2.146 ± 0.039	0.512 ± 0.039

SOD-523	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.05	2.00 ± 0.05	4.00 ± 0.10	2.00 ± 0.05	8.00 + 0.30 - 0.10	9.40 ± 1.50
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.079 ± 0.002	0.157 ± 0.004	0.079 ± 0.002	0.315 + 0.012 - 0.004	0.370 ± 0.059

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

## Marking Code

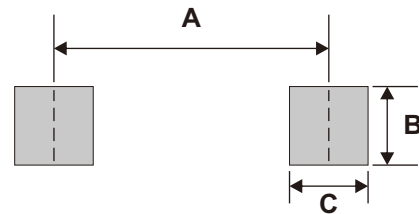
Part Number	Marking Code
CPDH5V0UC-HF	5L



xx = Product type marking code

## Suggested PAD Layout

SIZE	SOD-523	
	(mm)	(inch)
A	1.40	0.055
B	0.40	0.016
C	0.40	0.016



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

## Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOD-523	3,000	7