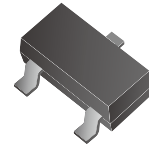


## CPDT-5V0P-HF

RoHS Device  
Halogen Free



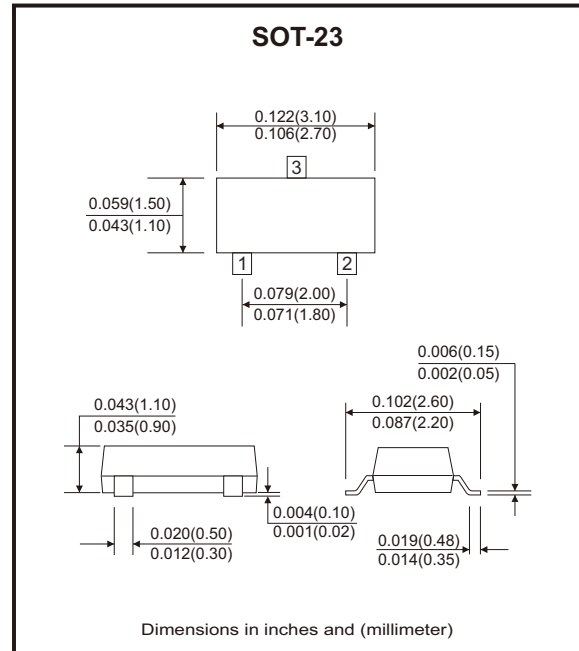
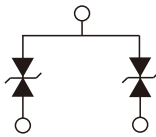
### Features

- Bi-directional ESD protection diode.
- High ESD protection level.
- Working voltage: 5V.
- Low clamping voltage.
- Low leakage current.

### Mechanical data

- Case: SOT-23 standard package, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Mounting position: Any.

### Circuit Diagram



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

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	T <sub>P</sub> = 8/20μs	P <sub>PP</sub>	102	W
Peak pulse current	T <sub>P</sub> = 8/20μs	I <sub>PP</sub>	6	A
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	±30	kV
Operating temperature		T <sub>J</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 stand-off voltage		V <sub>RWM</sub>			5	V
Breakdown voltage	I <sub>B</sub> = 1mA	V <sub>BR</sub>	5.6			V
Reverse leakage current	V <sub>R</sub> = 5V	I <sub>R</sub>		0.01	0.1	μA
Clamping voltage	I <sub>PP</sub> = 1A, T <sub>P</sub> = 8/20μs	V <sub>C</sub>		9	11	V
	I <sub>PP</sub> = 6A, T <sub>P</sub> = 8/20μs	V <sub>C</sub>		14	17	V
Junction capacitance	V <sub>R</sub> = 0V, f = 1MHz	C <sub>J</sub>		6.5	9	pF

## Typical Rating and Characteristic Curves (CPDT-5V0P-HF)

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

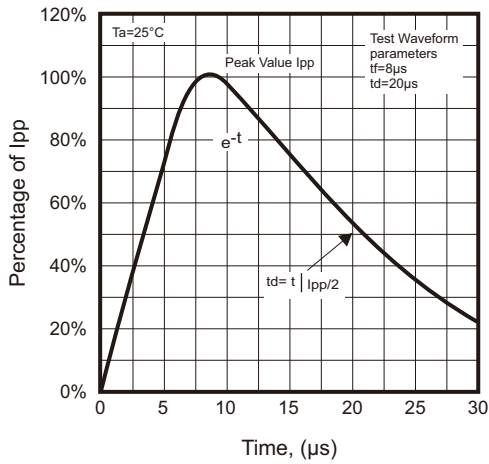


Fig.2 - Power Rating Derating Curve

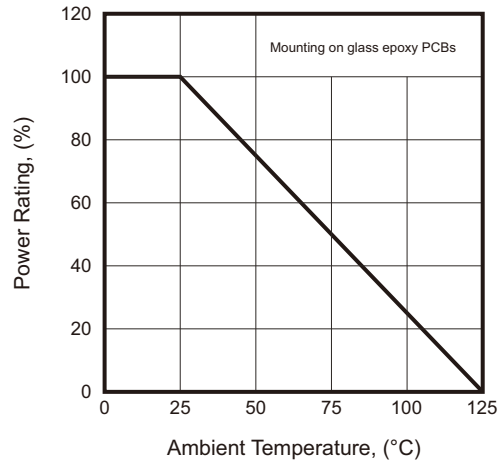


Fig.3 - Clamping Voltage vs. Peak Pulse Current

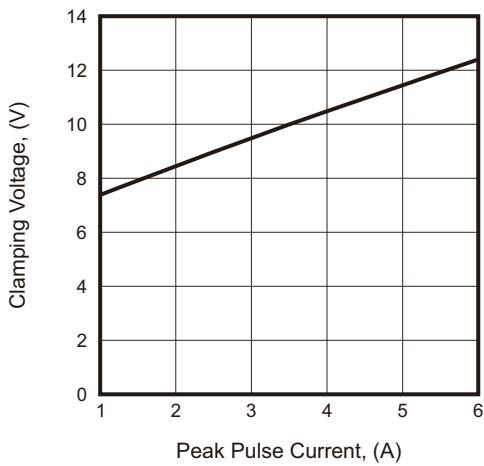
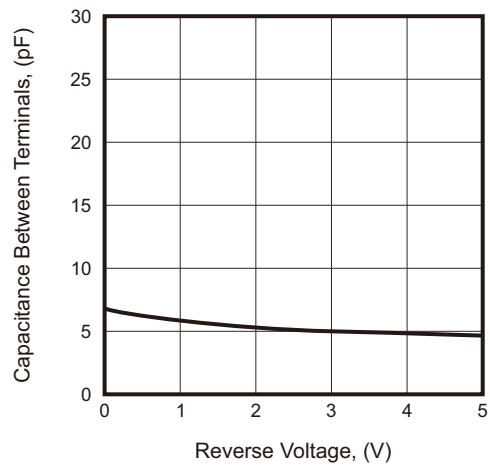
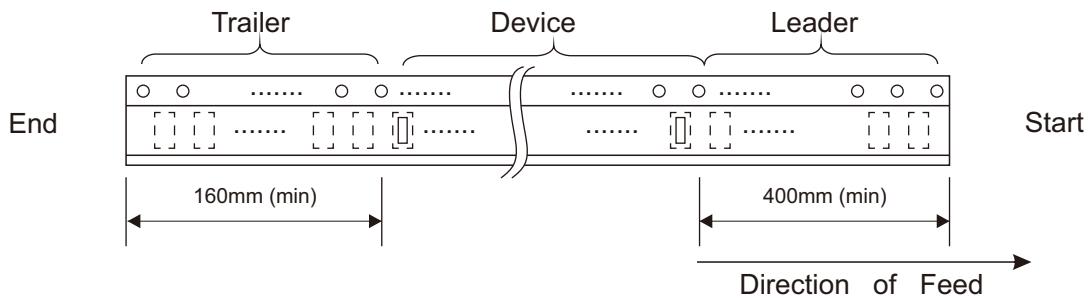
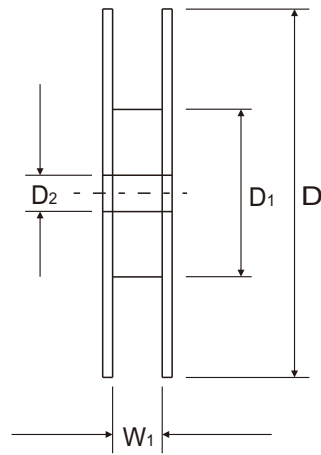
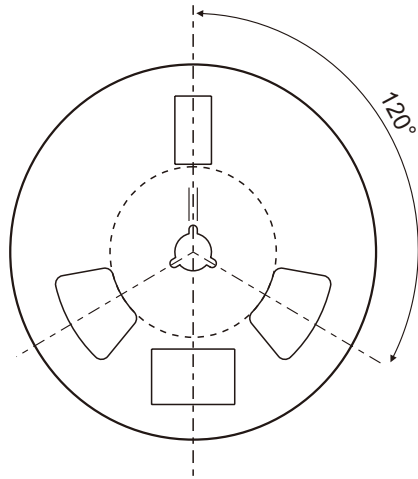
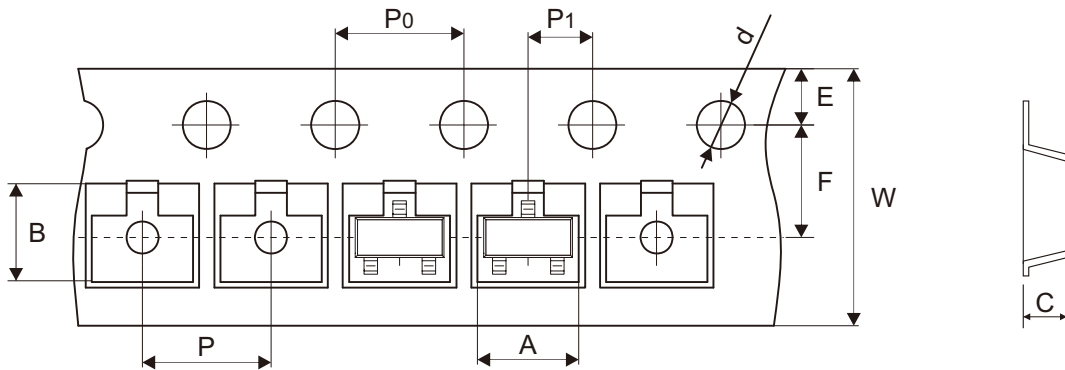


Fig.4 - Capacitance Between Terminals Characteristics



## Reel Taping Specification

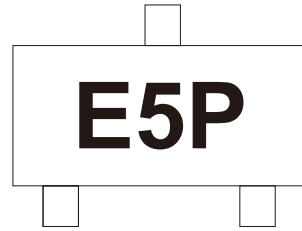


SOT-23	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 ± 0.10	178.00 ± 1.00	54.00 ± 0.50	13.00 ± 0.50
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 ± 0.004	7.008 ± 0.039	2.126 ± 0.020	0.512 ± 0.020

SOT-23	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	8.00 + 0.30 - 0.10	9.50 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.315 + 0.012 - 0.004	0.374 ± 0.039

## Marking Code

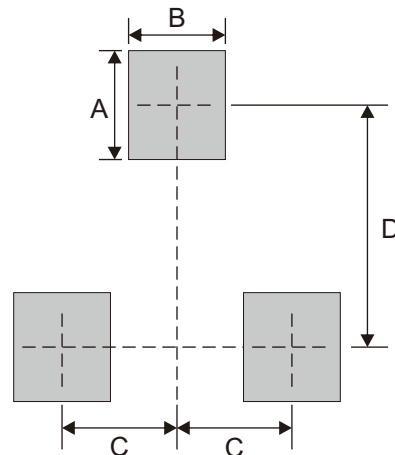
Part Number	Marking Code
CPDT-5V0P-HF	E5P



## Suggested P.C.B. PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.90	0.035
B	0.80	0.031
C	0.95	0.037
D	2.00	0.079

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



## Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-23	3,000	7