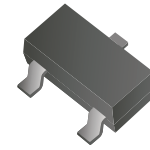


## CPDT712-G

RoHS Device



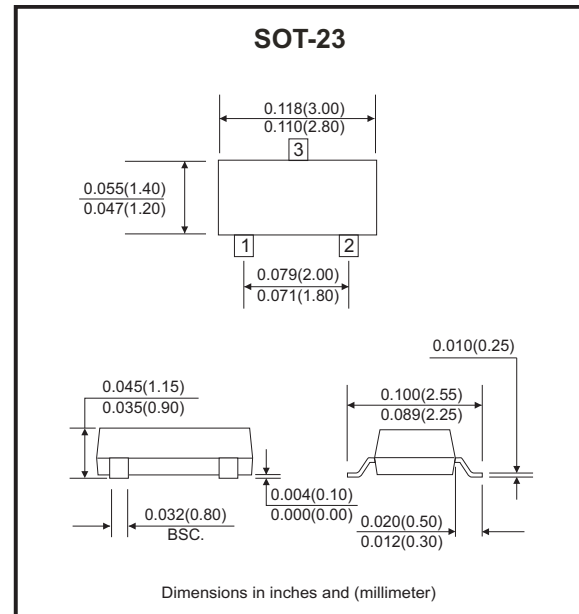
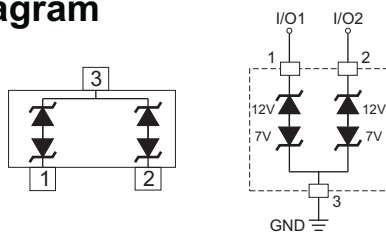
### Features

- 400 watts peak pulse power ( $t_p=8/20\mu s$ ).
- Protects two -7V to 12V lines.
- Low capacitance.
- Low clamping voltage.
- Solid-state silicon avalanche technology.

### Mechanical Data

- Case: SOT-23 molded plastic.
- Epoxy: UL 94V-0 rate flame retardant
- Mounting position: Any

### Circuit Diagram



### Maximum Rating (at $T_A=25^\circ C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2(Air)	V <sub>ESD</sub>	±15	kV
ESD per IEC 61000-4-2(Contact)		±8	
Peak Pulse Power ( $t_p=8/20\mu s$ )	P <sub>PP</sub>	400	W
Peak Pulse Current ( $t_p=8/20\mu s$ )	I <sub>PP</sub>	12	A
Lead Solder Temperature	T <sub>L</sub>	260 (10 sec.)	°C
Operating temperature	T <sub>J</sub>	-55 to +125	°C
Storage temperature	T <sub>STG</sub>	-55 to +150	°C

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

Parameter	Symbol	Conditions	Pin 1 to 3 and Pin 2 to 3 12V TVS			Pin 3 to 1 and Pin 3 to 2 7V TVS			Unit
			Min	Typ	Max	Min	Typ	Max	
Reverse stand off voltage	V <sub>RWM</sub>	Pin3 to1 or Pin2 to 1			12			7	V
Reverse Breakdown voltage	V <sub>(BR)</sub>	I <sub>T</sub> = 1 mA	13.3			7.5			V
Reverse leakage current	I <sub>R</sub>	V <sub>R</sub> = V <sub>RWM</sub>			1			1	μA
Clamping voltage	V <sub>C</sub>	I <sub>PP</sub> = 5A , $t_p=8/20\mu s$			24			14	V
		I <sub>PP</sub> =12A , $t_p=8/20\mu s$			33				
Junction capacitance	C <sub>J</sub>	V <sub>R</sub> = 0V , f=1MHz			75			75	pF
		V <sub>R</sub> =V <sub>RWM</sub> , f=1MHz		45			45		

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

REV: A

## RATING AND CHARACTERISTIC CURVES (CPDT712-G)

Fig.1 - Power Derating Curve

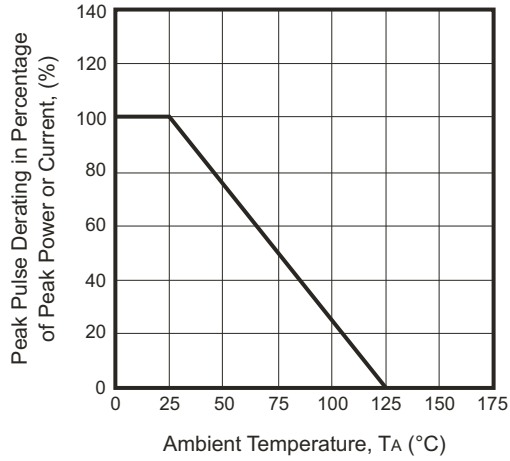


Fig.2 - Non-Repetitive Peak Pulse Power vs. Pulse Time

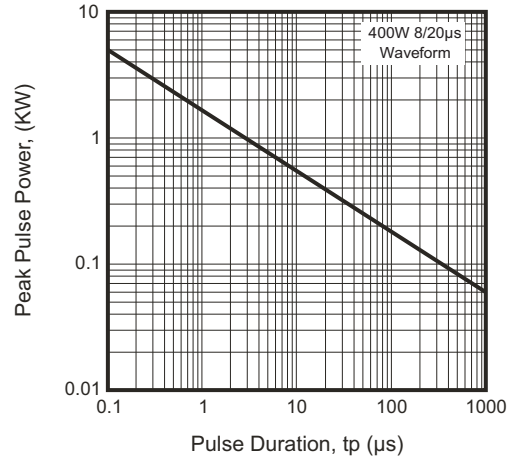


Fig.3 - Pulse Waveform

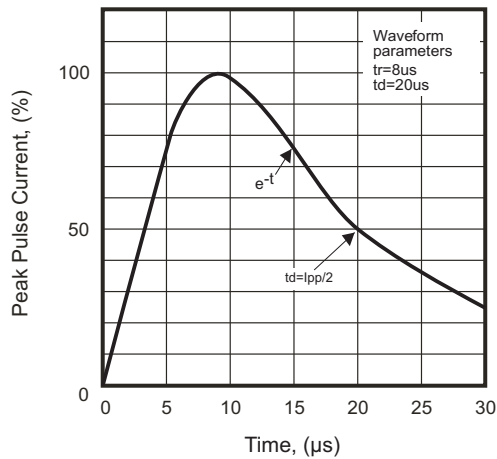


Fig.4 - Typical Clamping voltage vs. Peak Pulse Current

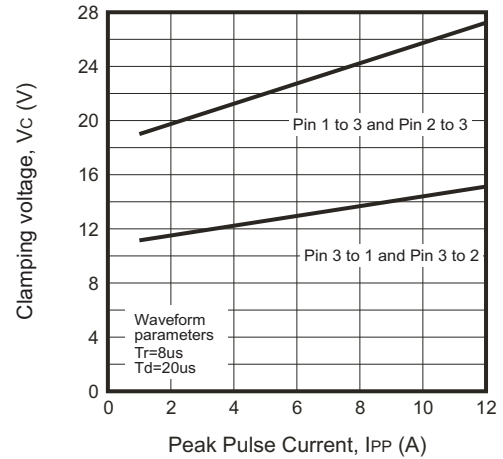
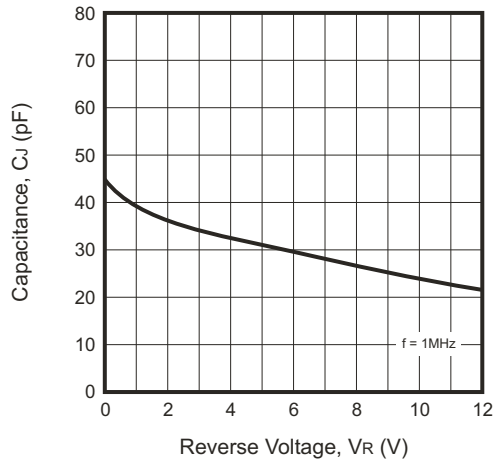
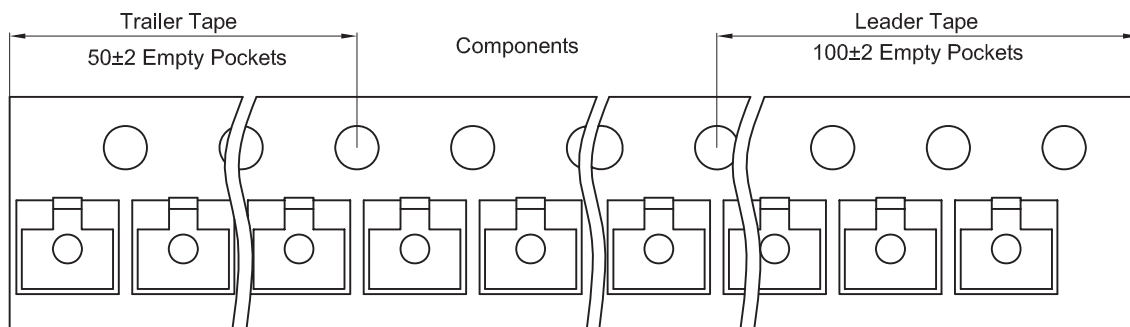
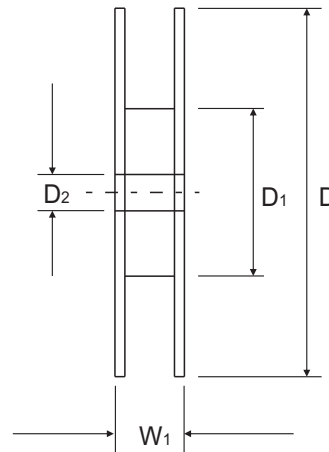
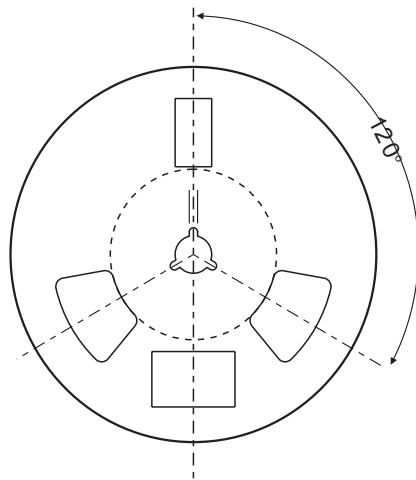
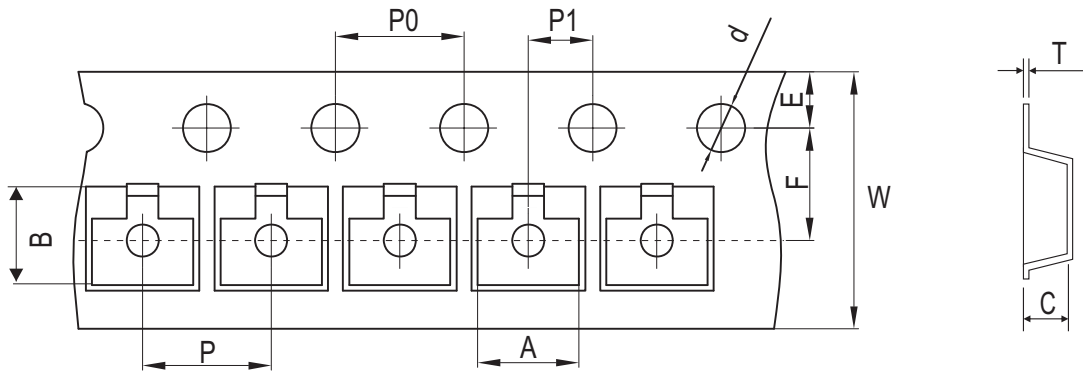


Fig.5 - Capacitance vs. Reverse Voltage



## 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 ± 2.00	54.40 ± 1.00	13.00 ± 1.00
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 ± 0.004	7.087 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

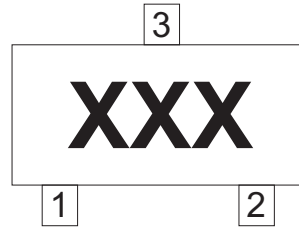
SOT-23	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	8.00 + 0.30 / - 0.10	12.30 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.315 + 0.012 / - 0.004	0.484 ± 0.039

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

REV: A

## Marking Code

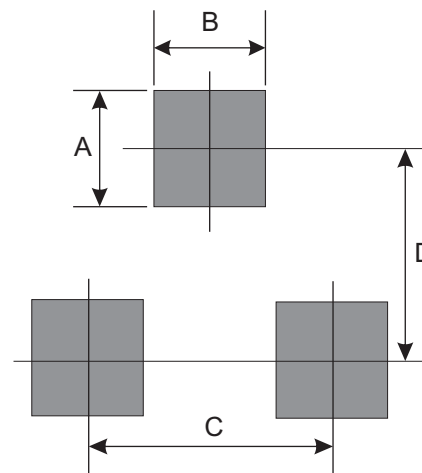
Part Number	Marking Code
CPDT712-G	7AM



xxx = Product type marking code

## Suggested PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.80	0.031
B	0.80	0.031
C	1.90 BSC.	0.075 BSC.
D	2.02	0.080



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