

# CPDQ03C5V0USP-HF

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



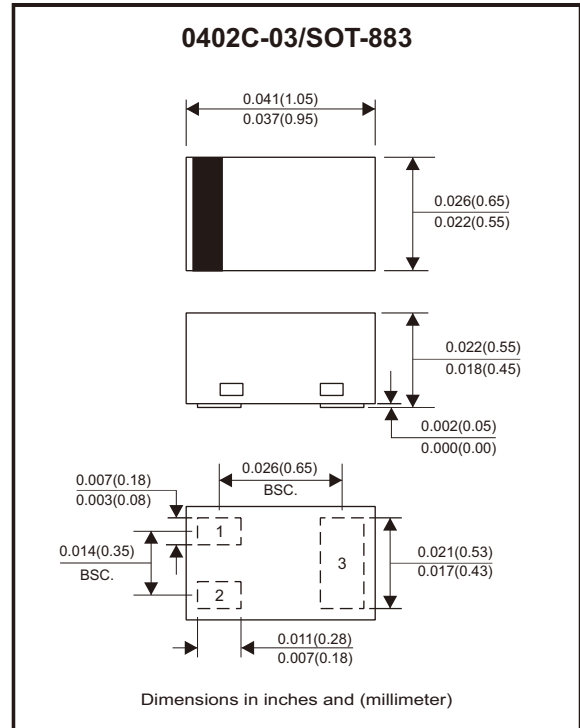
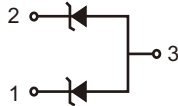
## Features

- IEC61000-4-2 Level 4 ESD Protection.
- Uni-directional ESD protection of one line.
- Surface mount package.
- High component density.
- Low capacitance:0.45pF(Typ.)

## Mechanical data

- Case: 0402C-03/SOT-883 package, molded plastic.
- Mounting position: Any.

## Circuit Diagram



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

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	$T_P = 8/20\mu s$	$P_{PP}$	48	W
Peak pulse current	$T_P = 8/20\mu s$	$I_{PP}$	3	A
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	$\pm 15$ $\pm 10$	kV
Operating temperature range		$T_J$	-55~+150	°C
Storage temperature range		$T_{STG}$	-55~+150	°C

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Working peak reverse voltage		$V_{RWM}$			5	V
Breakdown voltage	$I_T = 1mA$	$V_{BR}$	6		9	V
Reverse leakage current	$V_{RWM} = 5V$	$I_R$			1	$\mu A$
Forward voltage	$I_F = 15mA$	$V_F$			1.2	V
Clamping voltage	$I_{PP} = 1A, T_P = 8/20\mu s$ $I_{PP} = 3A, T_P = 8/20\mu s$	$V_C$			12 16	V
Junction capacitance	$V_R = 0V, f = 1MHz$ (any I/O pin to GND) $V_R = 2.5V, f = 1MHz$ (any I/O pin to GND)	$C_J$		0.45 0.40	0.60 0.50	pF

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## Rating and Characteristic Curves (CPDQ03C5V0UP-HF)

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

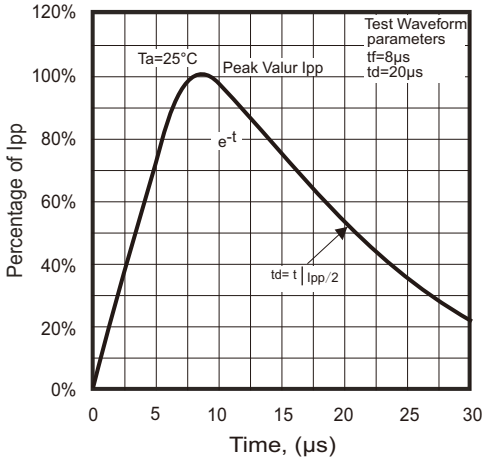


Fig.2 - Power Rating Derating Curve

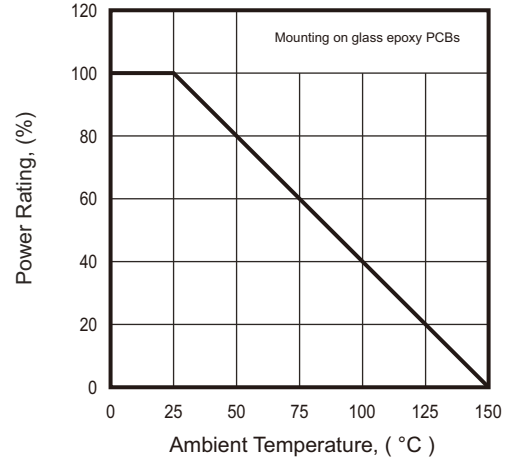


Fig.3 - Typical Clamping Voltage Vs. Peak Pulse Current

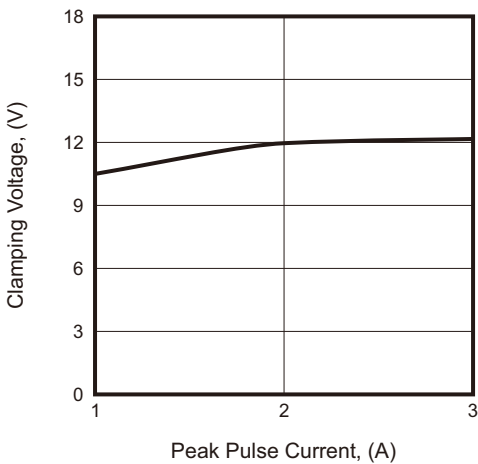


Fig.4 - Forward Characteristic

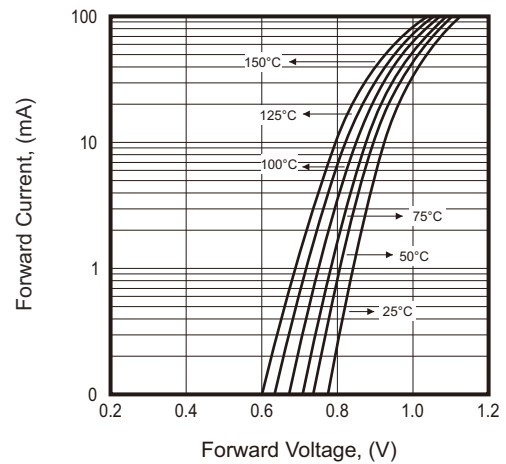
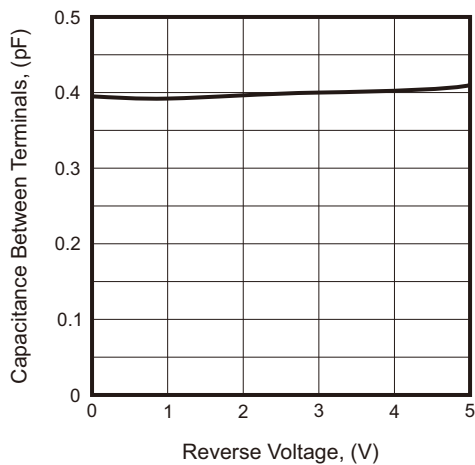


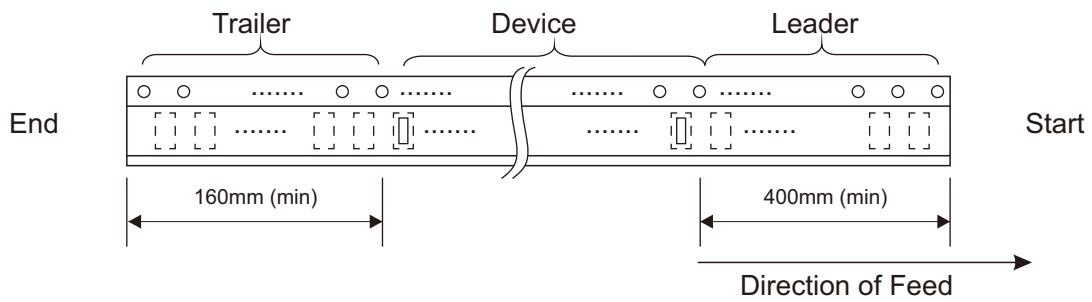
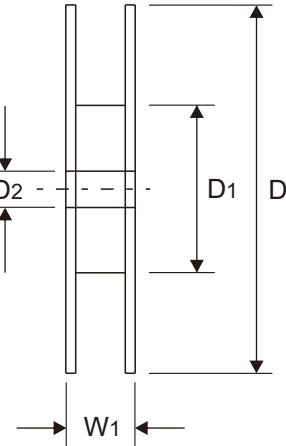
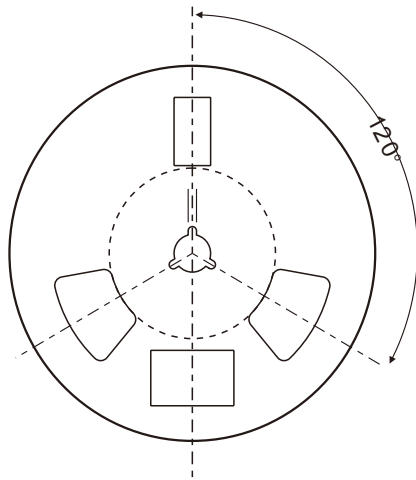
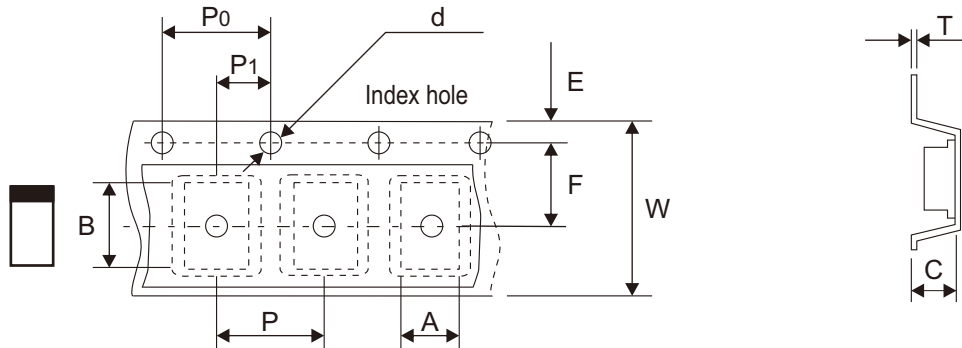
Fig.5 - Typical Capacitance Between Terminals Characteristics



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Reel Taping Specification



0402C-03 (SOT-883)	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	0.75 ± 0.05	1.17 ± 0.05	0.65 ± 0.05	1.50 + 0.10 - 0.00	178.00 ± 1.00	60.00 ± 0.50	13.50 ± 0.20
	(inch)	0.030 ± 0.002	0.046 ± 0.002	0.026 ± 0.002	0.059 + 0.004 - 0.000	7.008 ± 0.039	2.362 ± 0.020	0.531 ± 0.008

0402C-03 (SOT-883)	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.20 + 0.02 - 0.05	8.00 ± 0.20	12.00 + 0.50 - 0.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.008 + 0.001 - 0.002	0.315 ± 0.008	0.472 + 0.020 - 0.000

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