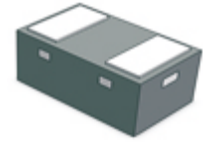


## CPDQC5V0UESPC-HF

### High-Reliability and High-Performance

### RoHS Device

### Halogen Free



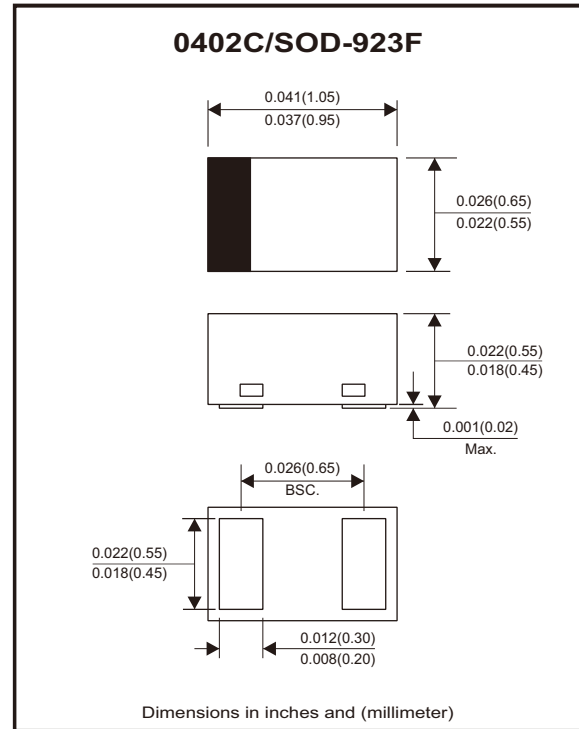
### Features

- Uni-directional ESD protection.
- Surface mount package.
- Ultra small SMD package:0402C.
- High component density.
- Low clamping voltage.
- Low leakage.

### Mechanical data

- Case: 0402C/SOD-923F standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Mounting position: Any.
- Weight: 0.001 grams (approx.).

### Circuit Diagram



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

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	$T_P = 8/20\mu\text{s}$	$P_{PP}$	48	W
Peak pulse current	$T_P = 8/20\mu\text{s}$	$I_{PP}$	3	A
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	$\pm 15$ $\pm 8$	kV
Operating temperature range		$T_J$	-40 to +125	$^\circ\text{C}$
Storage temperature range		$T_{STG}$	-55 to +150	$^\circ\text{C}$

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Working peak reverse voltage		$V_{RWM}$			5	V
Breakdown voltage	$I_B = 1\text{mA}$	$V_{BR}$	6			V
Reverse leakage current	$V_{RWM} = 5\text{V}$	$I_R$			0.05	$\mu\text{A}$
Forward voltage	$I_F = 10\text{mA}$	$V_F$			1.2	V
Clamping voltage	$I_{PP} = 1\text{A}, T_P = 8/20\mu\text{s}$	$V_C$			12	V
	$I_{PP} = 3\text{A}, T_P = 8/20\mu\text{s}$	$V_C$		14	16	
Junction capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	$C_J$		0.45	0.6	pF

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

REV:A

## Typical Rating and Characteristic Curves (CPDQC5V0UESPC-HF)

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

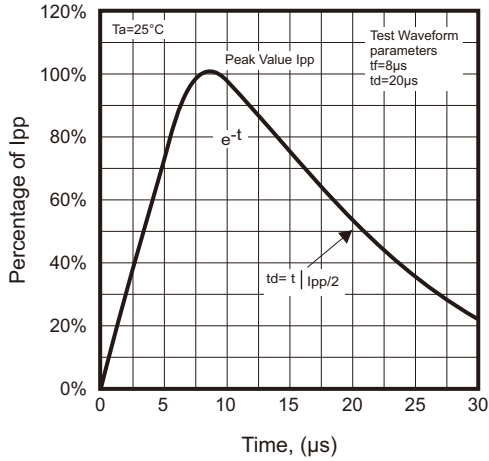


Fig.2 - Power Rating Derating Curve

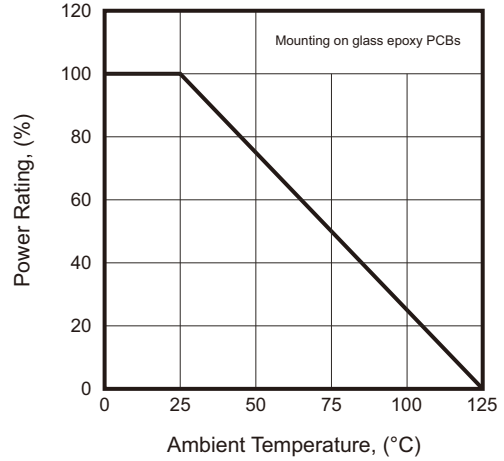


Fig.3 - Clamping Voltage vs. Peak Pulse Current

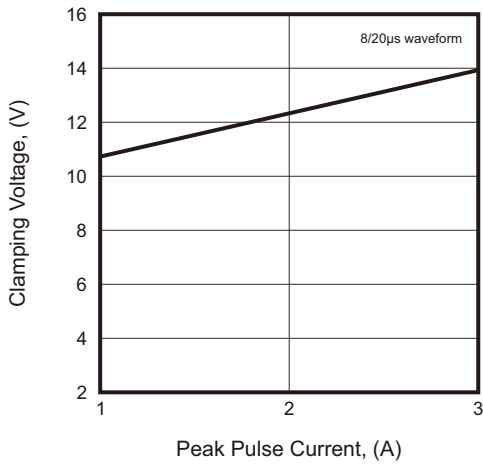
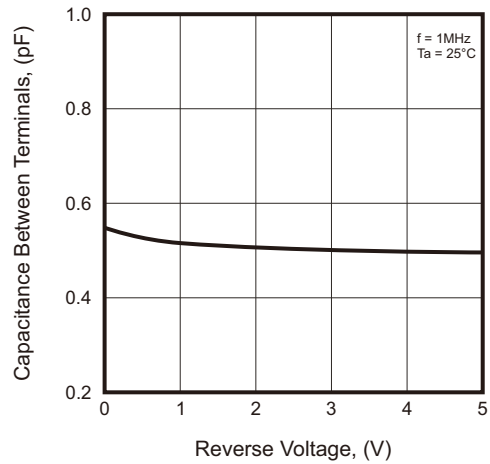
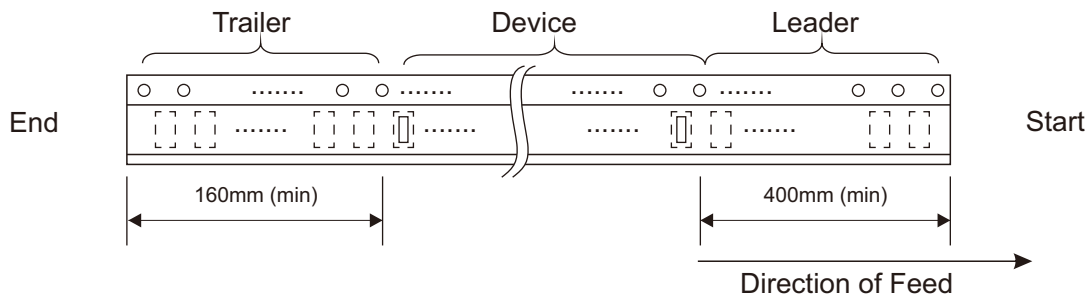
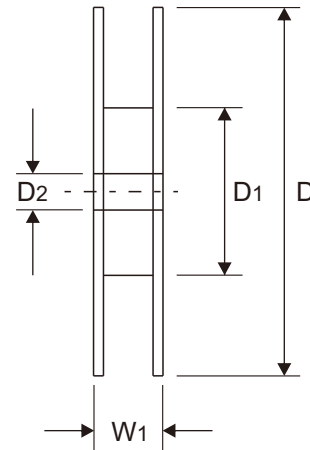
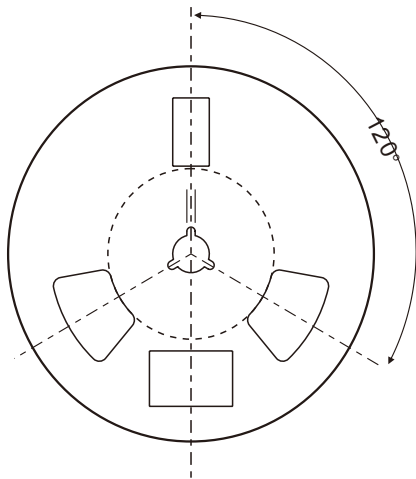
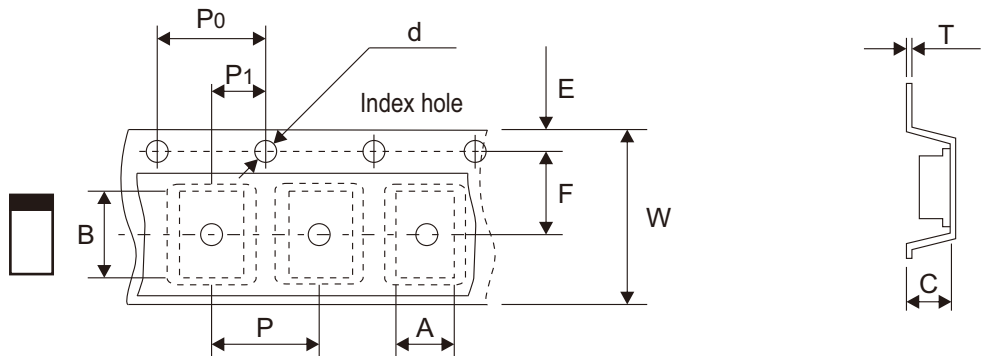


Fig.4 - Capacitance Between Terminals Characteristics



## Reel Taping Specification



0402C (SOD-923F)	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 (SOD-923F)	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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REV:A

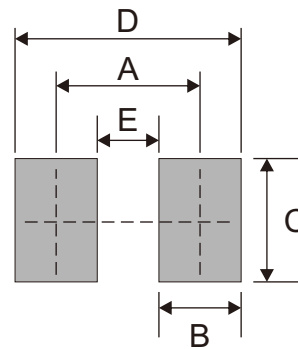
## Marking Code

Part Number	Marking Code
CPDQC5V0UESPC-HF	5SP



## Suggested P.C.B. PAD Layout

SIZE	0402C/SOD-923F	
	(mm)	(inch)
A	0.70	0.028
B	0.40	0.016
C	0.60	0.024
D	1.10	0.043
E	0.30	0.012



## Standard Packaging

Case Type	REEL PACK	
	REEL ( pcs )	Reel Size (inch)
0402C/SOD-923F	5,000	7