

CPDQC5V0CSP-HF

High-Reliability and High-Performance

RoHS Device

Halogen Free



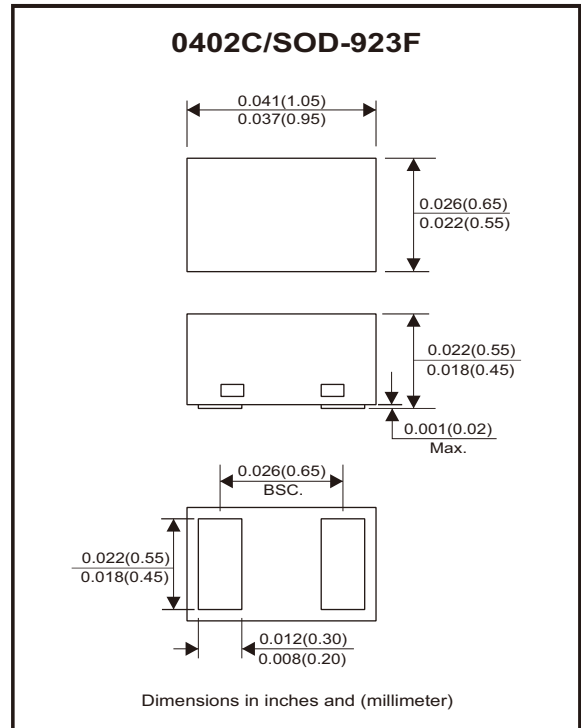
Features

- Bi-directional ESD protection.
- IEC61000-4-2 Level 4 ESD protection.
- Working voltage: 5V
- Typical capacitance: 0.3pF

Mechanical data

- Case: 0402C/SOD-923F small outline plastic package. molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Mounting position: Any.
- High temperature soldering guaranteed: 260°C/10 second.
- Weight: 0.001 grams(approx.).

Circuit Diagram



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

Parameter	Symbol	Value	Unit
Peak pulse power (tp = 8/20µs waveform)	PPP	63	W
ESD per IEC 61000-4-2(Air)	VESD ⁽¹⁾	±15	kV
ESD per IEC 61000-4-2(Contact)		±8	
Operating temperature range	TJ	-55 to +150	°C
Storage temperature range	TSTG	-55 to +150	°C

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse stand-off voltage		VRWM	-	-	5	V
Reverse leakage current	VR = 5 V	IR	-	-	100	nA
Reverse breakdown voltage	IR = 1 mA	V(BR)	6	-	10	V
Clamping voltage	I _{PP} = 1 A	VC	-	13	15	V
	I _{PP} = 3A	VC ⁽²⁾	-	19	21	V
Junction capacitance	VR = 0V , F=1MHz	CJ	-	0.3	0.6	pF

Notes: 1. Device stressed with ten non-repetitive ESD pulses.

2. Non-repetitive current pulse 8/20µs exponential decay waveform according to IEC61000-4-5.

Rating and Characteristic Curves (CPDQC5V0CSP-HF)

Fig.1 - 8/20 μ s Peak Pulse Current Wave Form Acc. IEC 61000-4-5

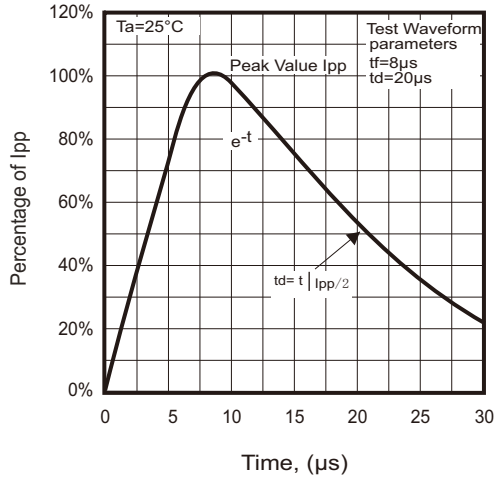


Fig.2 - Typical Capacitance Between Terminals Characteristics

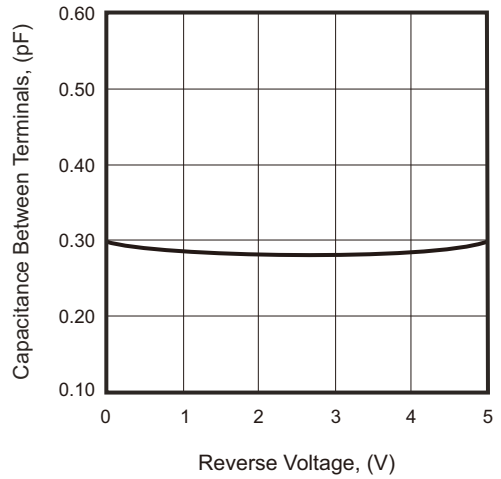


Fig.3 - Clamping Voltage Vs. Peak Pulse Current

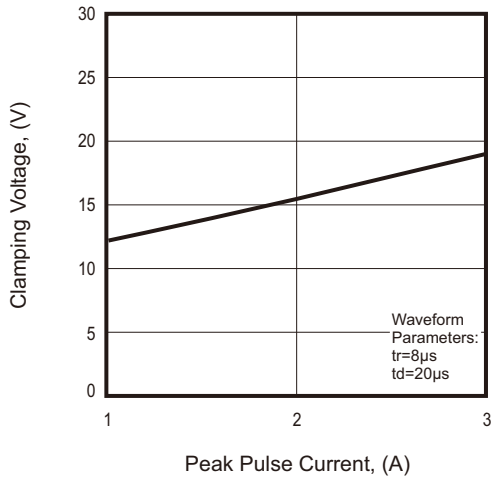


Fig.4 - Power Rating Derating Curve

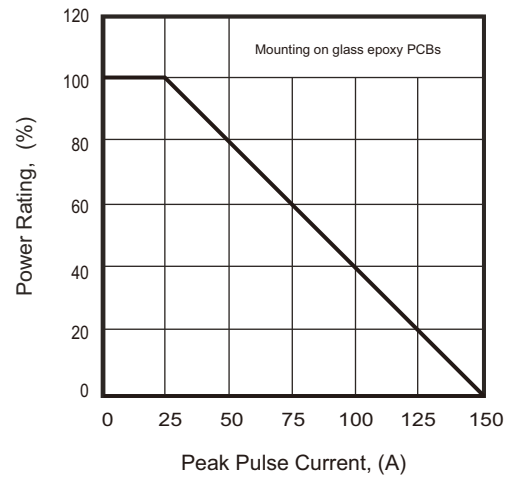
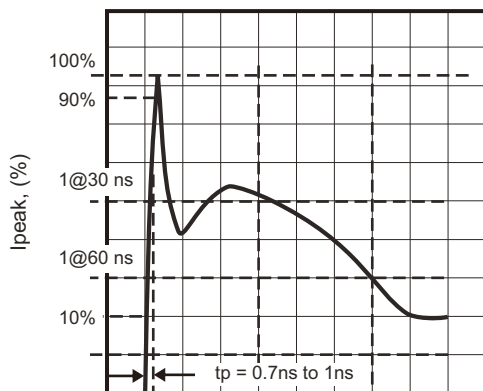
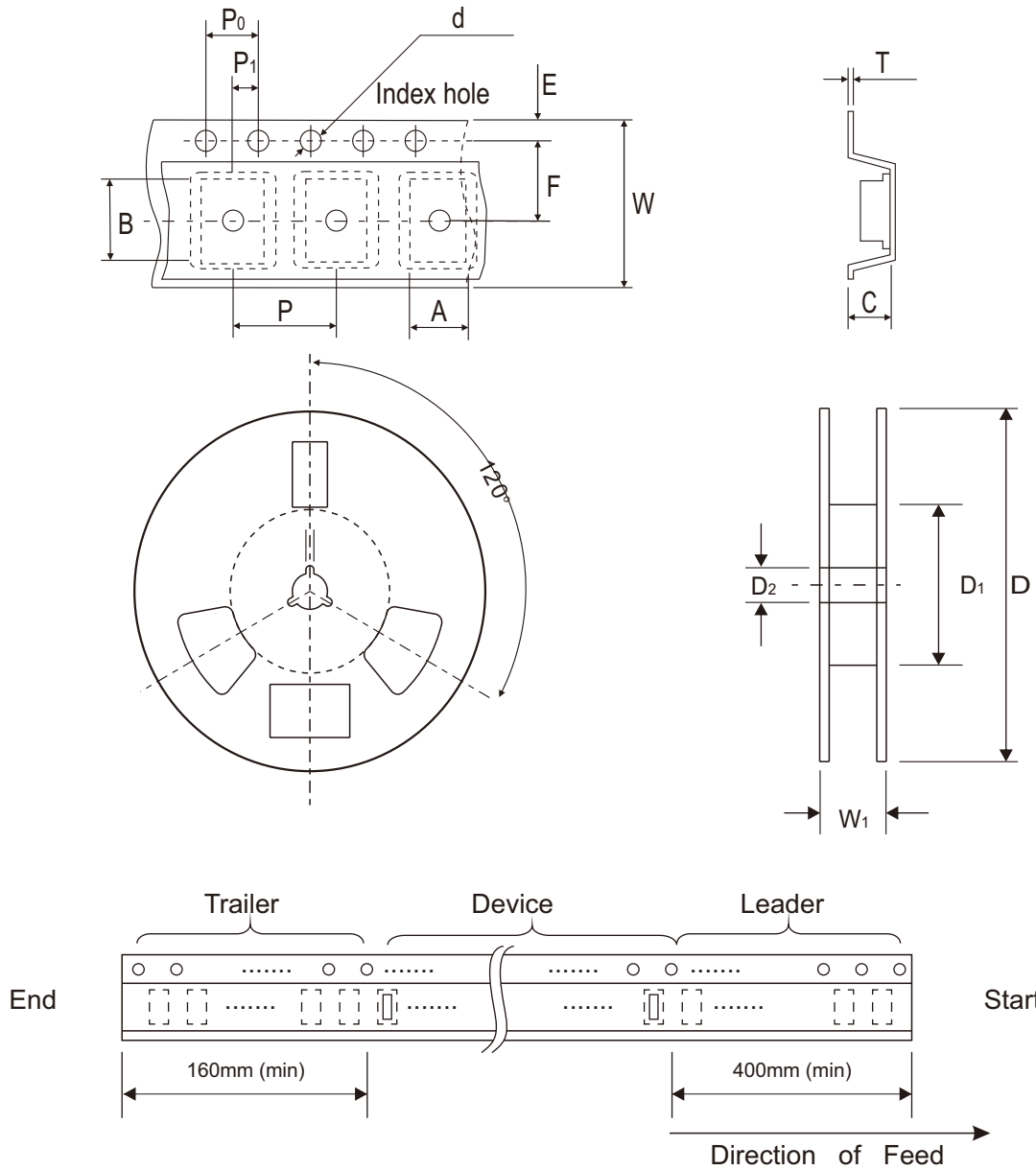


Fig.5 - IEC61000-4-2 Waveform



Reel Taping Specification



0402C (SOD-923F)	SYMBOL	A	B	C	d	D	D ₁	D ₂
	(mm)	0.75 ± 0.05	1.17 ± 0.05	0.65 ± 0.05	1.50 + 0.10 - 0	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	7.008 ± 0.039	2.362 ± 0.020	0.531 ± 0.008

0402C (SOD-923F)	SYMBOL	E	F	P	P ₀	P ₁	T	W	W ₁
	(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
	(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

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

REV:E

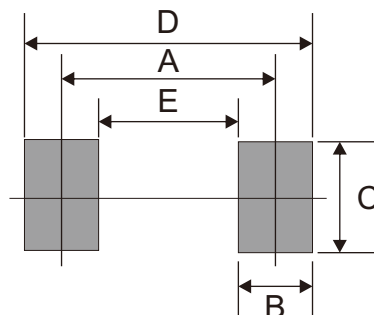
Marking Code

Part Number	Marking Code
CPDQC5V0CSP-HF	5P



Suggested 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