

CPDQC5V0USC-HF

High-Reliability and High-Performance

RoHS Device

Halogen Free



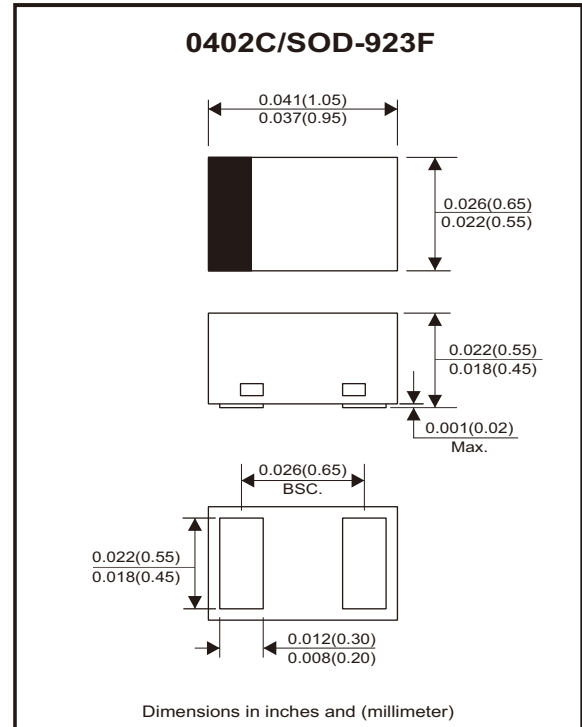
Features

- Uni-directional ESD protection.
- IEC 61000-4-2 Level 4 ESD protection.
- Ultra small SMD package:0402C.
- Surface mount package.
- High component density.

Mechanical data

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

Circuit Diagram



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

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	T _P = 8/20μs	P _{PP}	45	W
Peak pulse current	T _P = 8/20μs	I _{PP}	3	A
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	±30 ±26	kV
Operating temperature range		T _J	-55 to +150	°C
Storage temperature range		T _{STG}	-55 to +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
Forward voltage	I _F = 10mA	V _F			1.2	V
Breakdown voltage	I _r = 1mA	V _{BR}	5.6			V
Reverse leakage current	V _{RWM} = 5V	I _R			0.1	μA
Clamping voltage	I _{PP} = 1A, T _P = 8/20μs I _{PP} = 3A, T _P = 8/20μs	V _C		10 13	12 15	V
Junction capacitance	V _R = 0V, f = 1MHz	C _J		0.4	0.5	pF

Rating and Characteristic Curves (CPDQC5V0SC-HF)

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

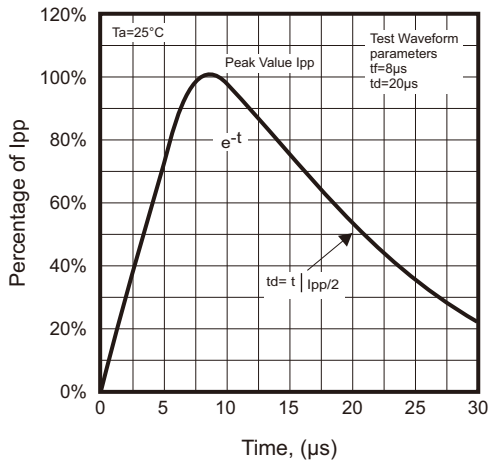


Fig.2 - Power Rating Derating Curve

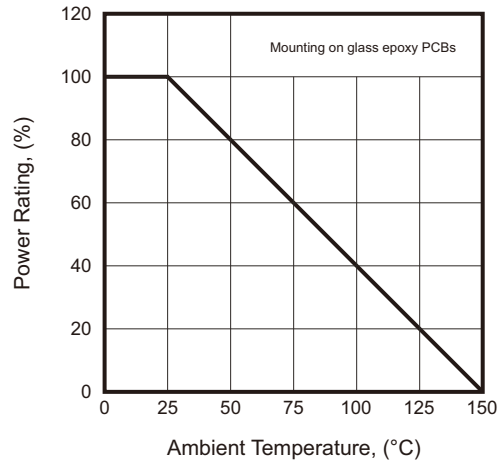


Fig.3 - Typical Clamping Voltage vs. Peak Pulse Current

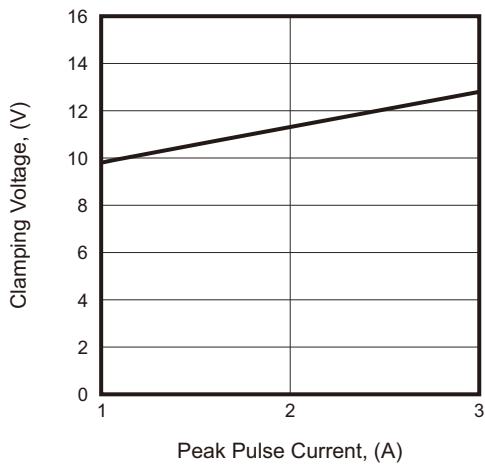
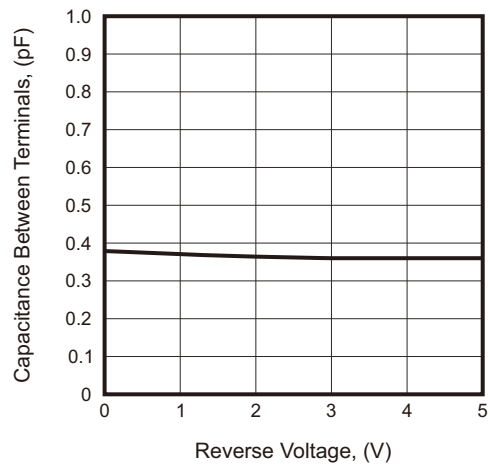
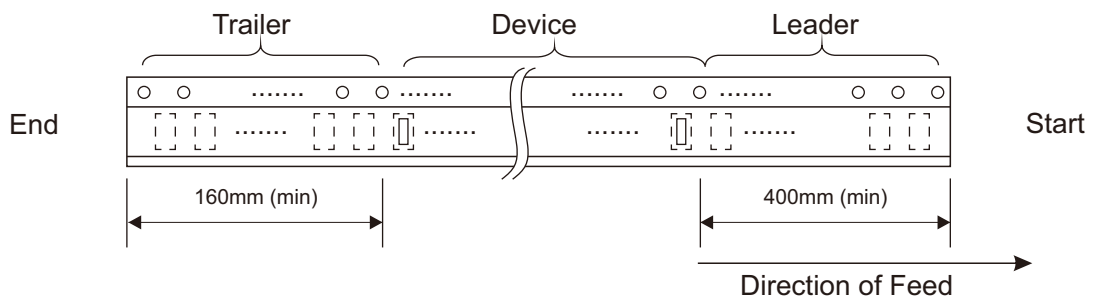
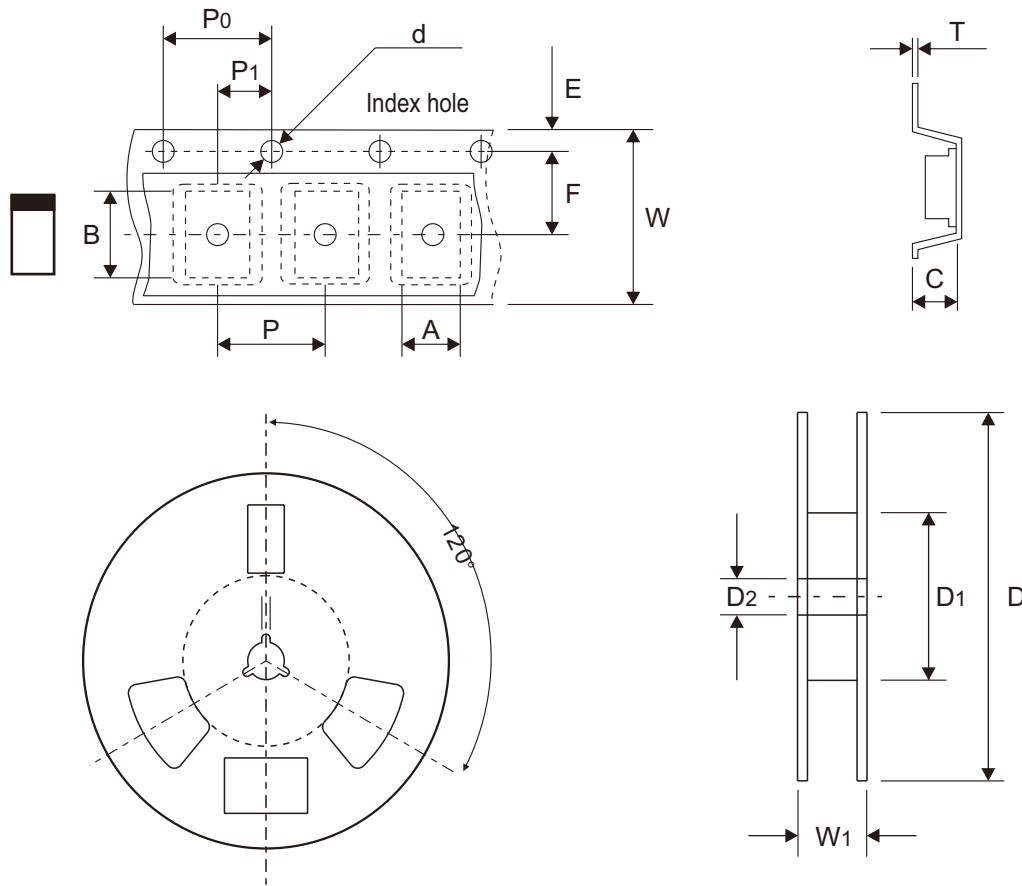


Fig.4 - Typical Capacitance Between Terminals Characteristics



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	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 - 0.00
	(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