

ACPDQC5V0UESPC-HF

High-Reliability and High-Performance

RoHS Device

Halogen Free



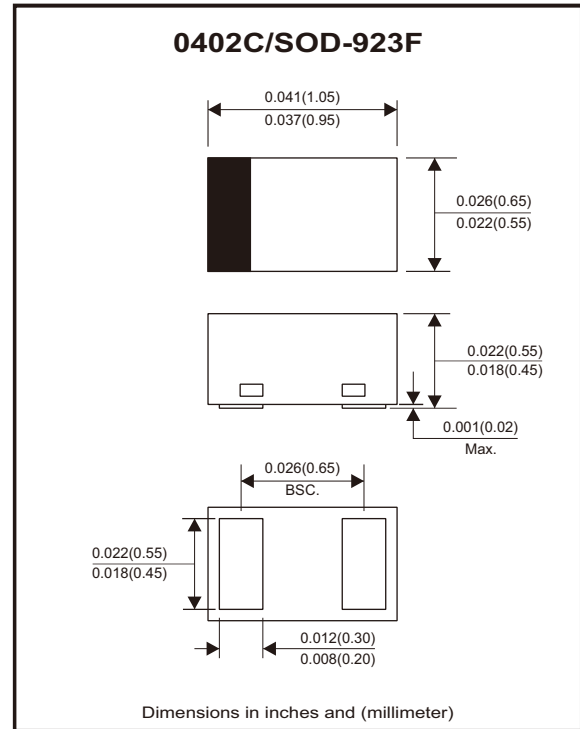
Features

- Uni-directional ESD protection.
- Surface mount package.
- Ultra small SMD package:0402C.
- High component density.
- Low clamping voltage.
- Low leakage.
- AEC-Q101 Qualified.

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 TA=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	T _P = 8/20μs	P _{PP}	48	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	±15 ±8	kV
Operating temperature range		T _J	-40 to +125	°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
Breakdown voltage	I _B = 1mA	V _{BR}	6			V
Reverse leakage current	V _{RWM} = 5V	I _R			0.05	μA
Forward voltage	I _F = 10mA	V _F			1.2	V
Clamping voltage	I _{PP} = 1A, T _P = 8/20μs	V _C			12	V
	I _{PP} = 3A, T _P = 8/20μs	V _C		14	16	
Junction capacitance	V _R = 0V, f = 1MHz	C _J		0.45	0.6	pF

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

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Typical Rating and Characteristic Curves (ACPDQC5V0UESPC-HF)

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

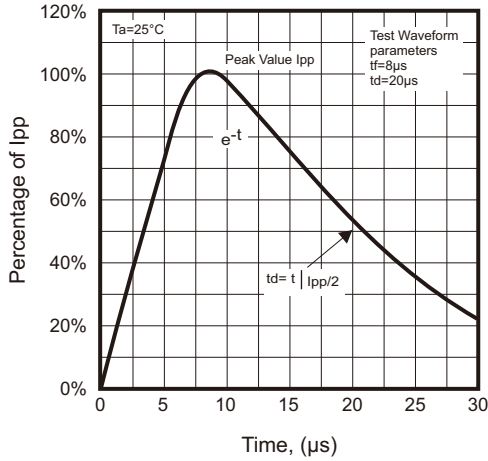


Fig.2 - Power Rating Derating Curve

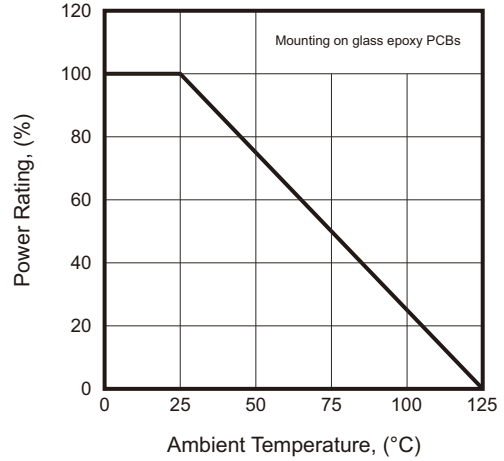


Fig.3 - Clamping Voltage vs. Peak Pulse Current

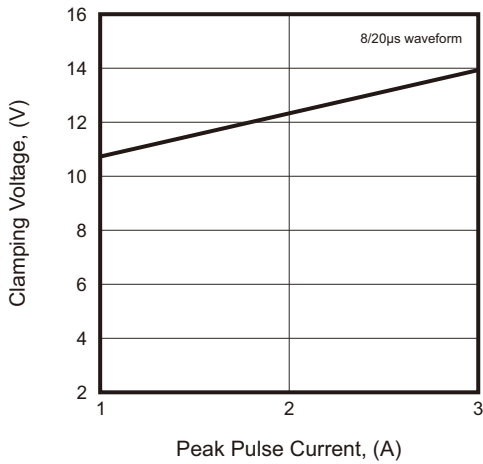
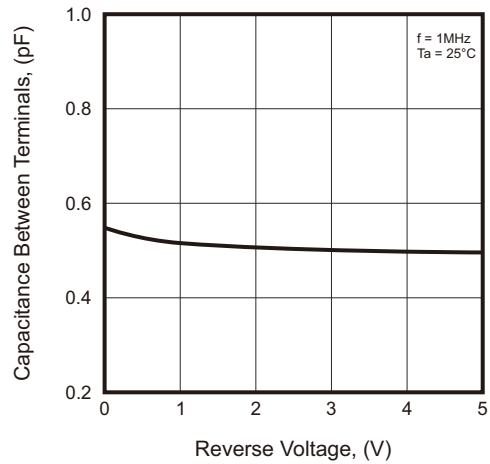
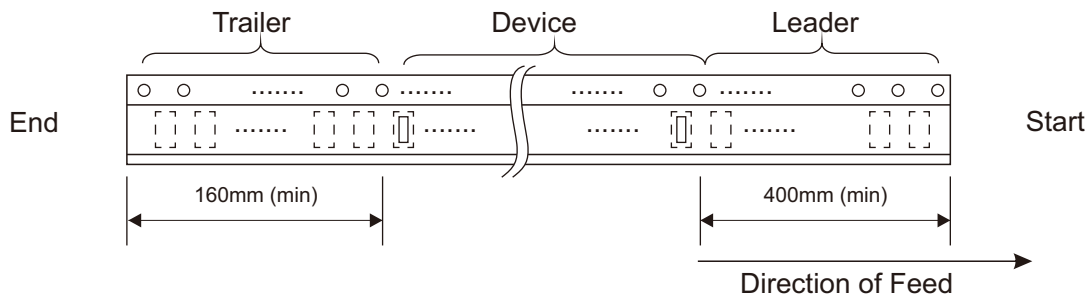
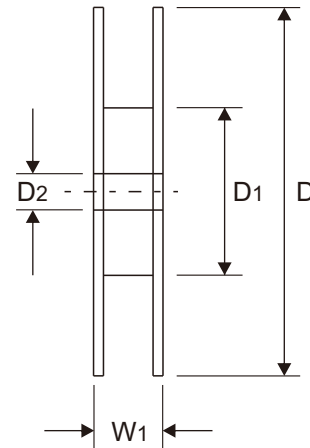
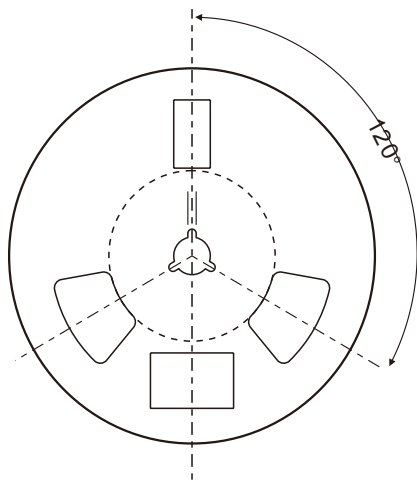
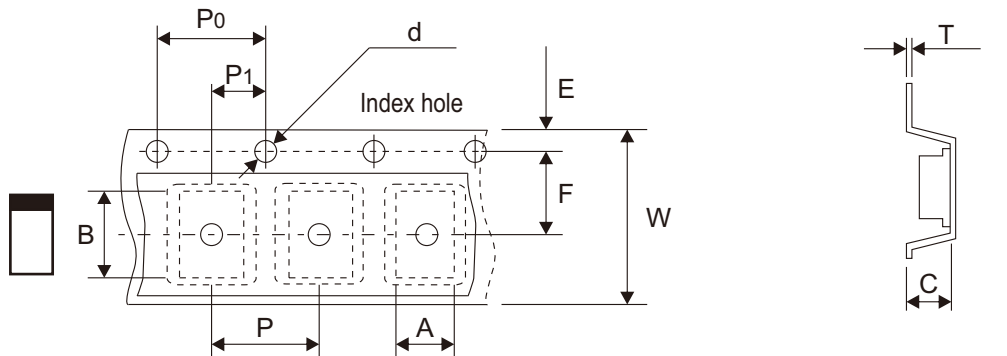


Fig.4 - Capacitance Between Terminals Characteristics



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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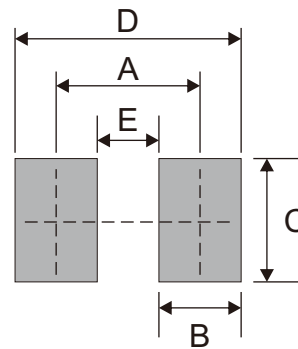
Marking Code

Part Number	Marking Code
ACPDQC5V0UESPC-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