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## Low Capacitance ESD Protection Diode



# ACPDQC5V0USP-HF

RoHS Device  
 Halogen Free

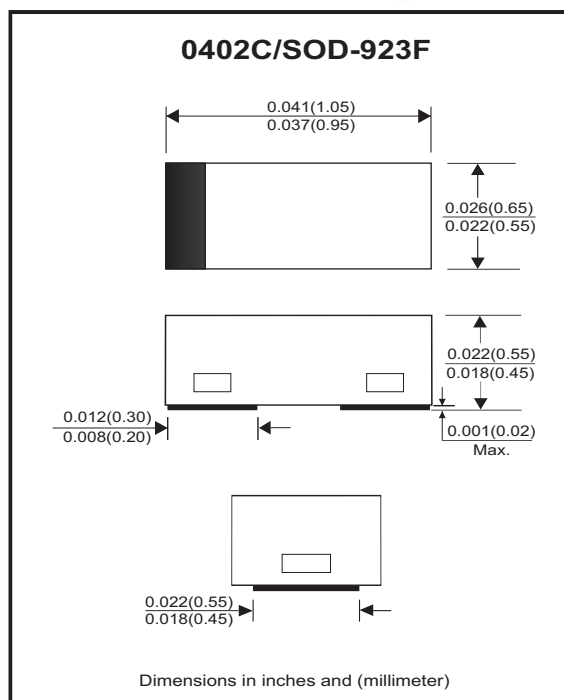


### Features

- Uni-directional ESD protection.
- ESD Protection: IEC61000-4-2 Level 4 ESD protection.
- Surface mount package.
- Low capacitance.
- Low Leakage current.
- High component density.
- Comply with AEC-Q101

### Mechanical data

- Case: 0402C/SOD-923F standard package, molded plastic.
- Terminals: Matte tin plated, Solderable per MIL-STD-750, Method 2026.
- Marking Code: Cathode band & 5S
- Mounting position: Any.
- Weight: 0.001 grams(approx.).



### Circuit diagram



### Maximum Rating And Electrical Characteristics

(at TA=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse stand-off voltage		VRWM			5.0	V
Forward voltage	IF = 10mA	VF			1.5	V
Breakdown voltage	IR = 1mA	VBR	5.4			V
Reverse leakage current	VR = 5V	IR		0.1	1.0	μA
Junction capacitance	VR = 0V, f = 1MHz	CJ		0.6	0.9	pF
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD			15 8	kV
Clamping voltage	IPP = 1A, TP=8/20us IPP = 2.5A, TP=8/20us	VC			13 20	V
Peak pulse power		PPP			50	W
Operation temperature		TJ			150	°C
Storage temperature		TSTG	-55		150	°C

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## RATING AND CHARACTERISTIC CURVES (ACPDQC5V0USP-HF)

Fig. 1 - 8/20us Peak pulse current waveform acc. IEC 61000-4-5

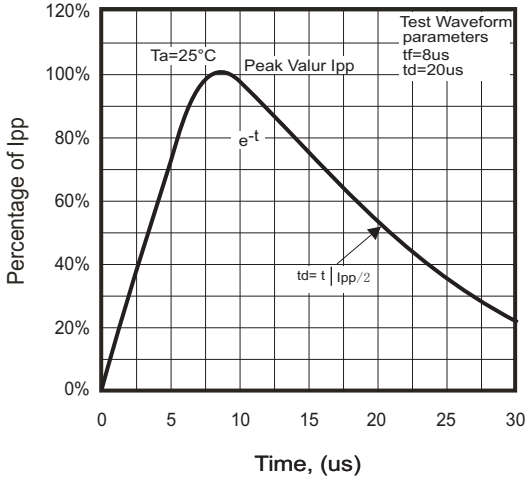


Fig. 2 - Power rating derating curve

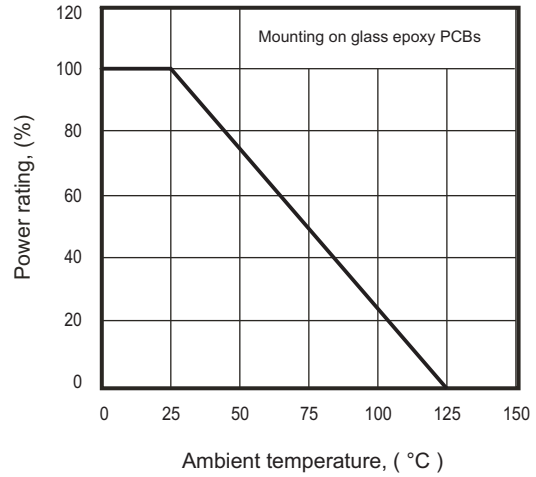


Fig. 3 - Clamping voltage vs. peak pulse current

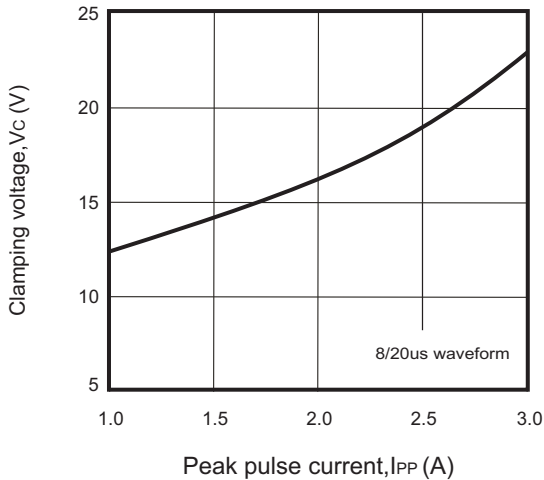


Fig. 4 - Forward voltage vs. forward current

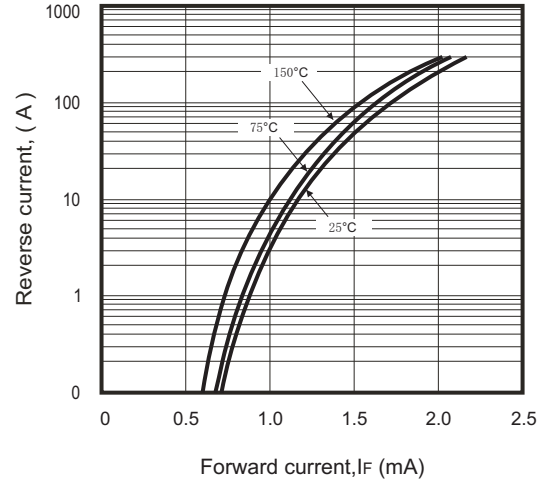
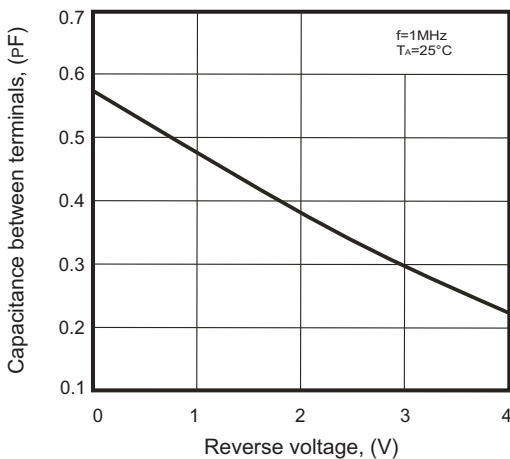


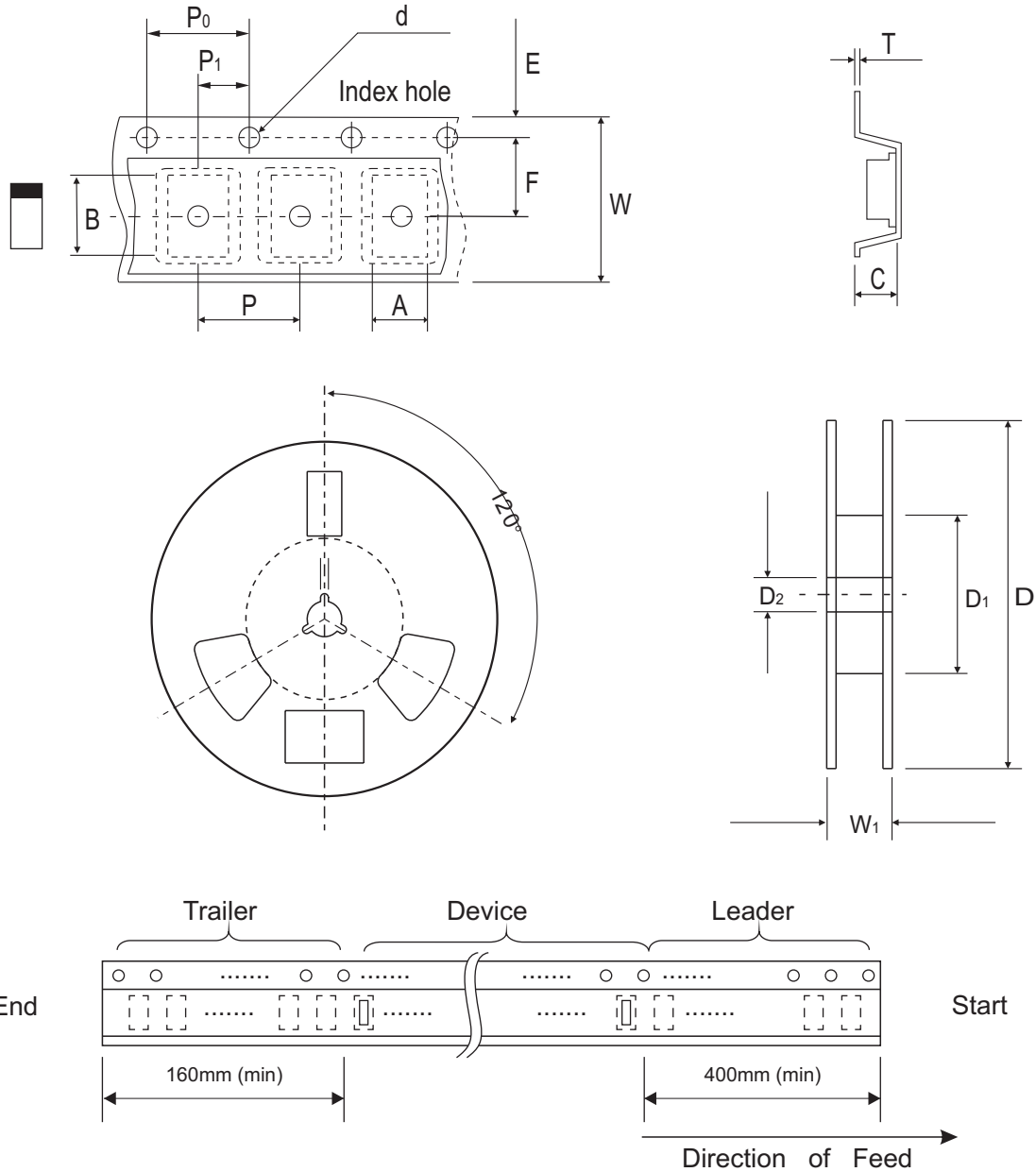
Fig. 5 - Capacitance between terminals characteristics



# Low Capacitance ESD Protection Diode



## Reel Taping Specification



0402C (SOD-923F)	SYMBOL	A	B	C	d	D	D <sub>1</sub>	D <sub>2</sub>
	(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 <sub>0</sub>	P <sub>1</sub>	T	W	W <sub>1</sub>
	(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

# Low Capacitance ESD Protection Diode



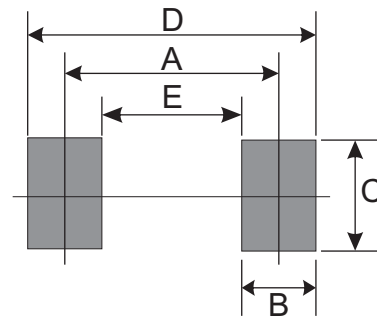
## Marking Code

Part Number	Marking Code
ACPDQC5V0USP-HF	5S



## Suggested PAD Layout

SIZE	0402C/SOD-923F	
	(mm)	(inch)
A	0.70	0.028
B	0.40	0.016
C	0.70	0.028
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