

ACPDWQ5V0P-HF

RoHS Device
Halogen Free



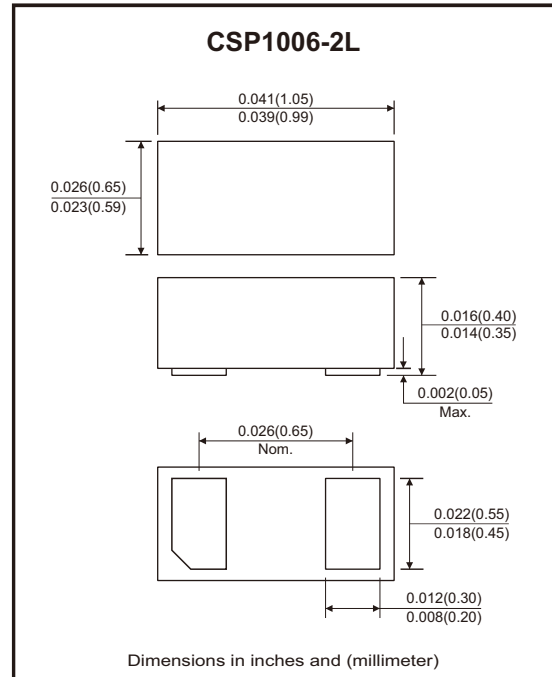
Features

- Bi-directional configurations.
- Solid-state silicon-avalanche technology.
- Low clamping voltage.
- Low leakage current.
- IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- IEC 61000-4-5 (Lightning) 2A (8/20 μs)
- AEC-Q101 Qualified.

Mechanical data

- Case: CSP1006-2L package, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Mounting position: Any.

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}	40	W
Peak pulse current	$T_P = 8/20\mu\text{s}$	I_{PP}	2	A
ESD capability (Note 1)	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	± 15 ± 8	kV
Lead soldering temperature (10s)		T_L	260	$^\circ\text{C}$
Operating junction temperature range		T_J	-55 to +125	$^\circ\text{C}$
Storage temperature range		T_{STG}	-55 to +150	$^\circ\text{C}$

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

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	$I_T = 1\text{mA}$	V_{BR}	6	8		V
Reverse leakage current	$V_{RWM} = 5\text{V}$	I_R			100	nA
Clamping voltage	$I_{PP} = 1\text{A}$, $T_P = 8/20\mu\text{s}$	V_C		14		V
	$I_{PP} = 2\text{A}$, $T_P = 8/20\mu\text{s}$	V_C		18	20	V
Dynamic resistance	IEC 61000-4-2 0~+8kV, contact mode, $T=25^\circ\text{C}$	R_{DYN}		2		Ω
Clamping voltage	$TLP = 16\text{A}$, $T_P = 100\text{ns}$	V_C		45		V
Junction capacitance	$V_R = 0\text{V}$, $f = 1\text{MHz}$	C_J		0.08	0.12	pF

Typical Rating and Characteristic Curves (ACPDWQ5V0P-HF)

Fig.1 - Clamping Voltage Curve

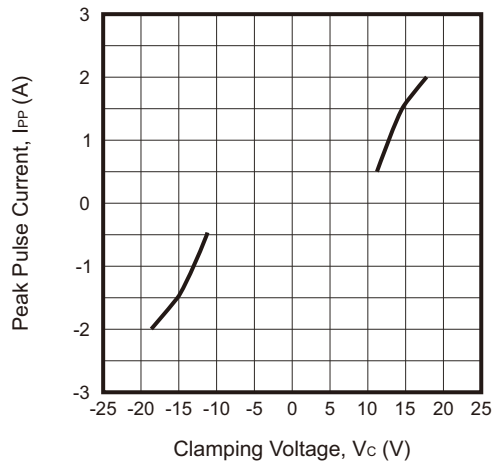


Fig.2 - TLP Curve

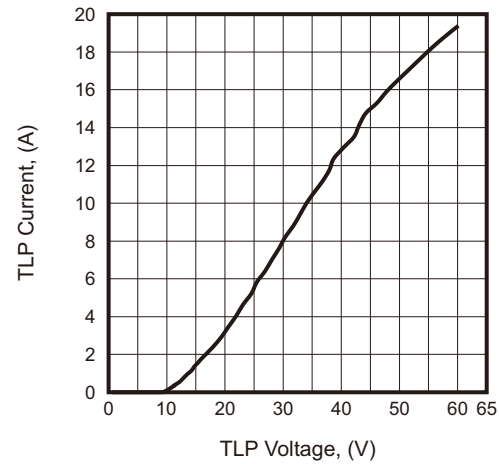


Fig.3 - Typical Variation of C_{IN} VS. V_{IN}

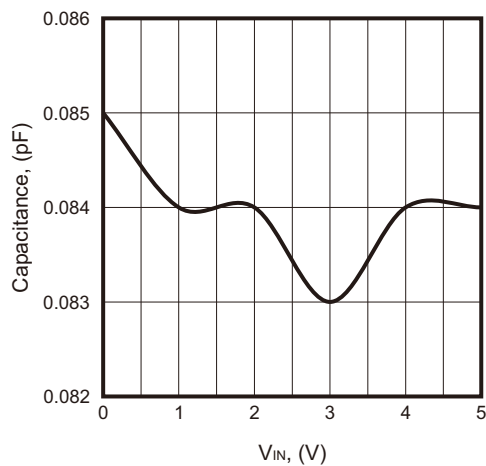
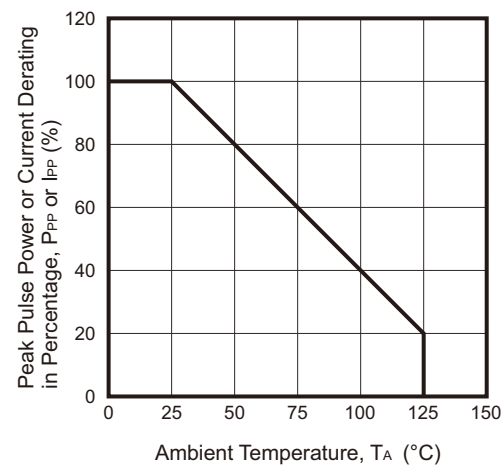
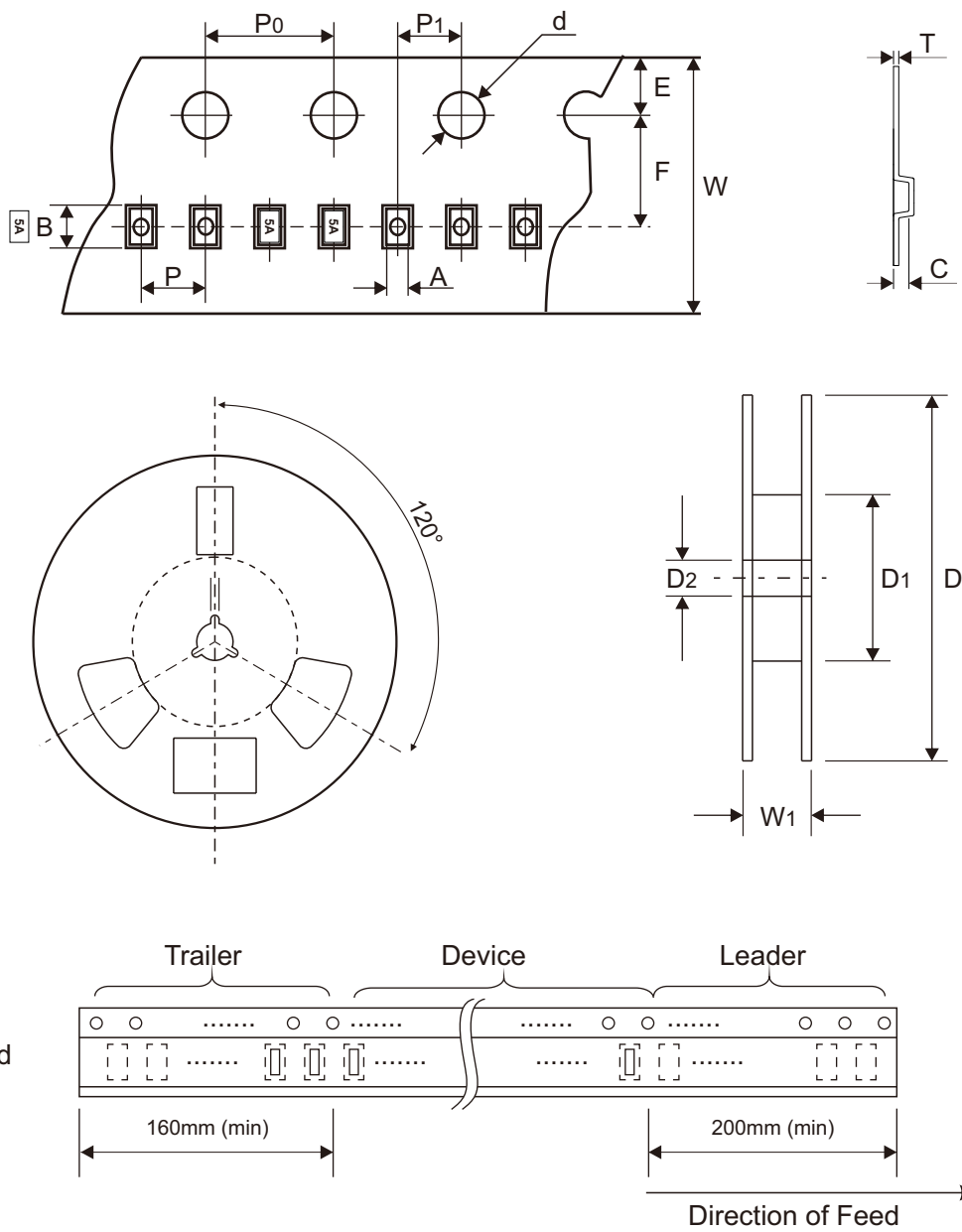


Fig.4 - Pulse Derating Curve



Reel Taping Specification



CSP1006 -2L	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	0.72 ± 0.05	1.17 ± 0.05	0.55 ± 0.05	1.55 ± 0.05	178.00 ± 2.00	55.00 ± 5.00	13.00 + 0.50 - 0.20
	(inch)	0.028 ± 0.002	0.046 ± 0.002	0.022 ± 0.002	0.061 ± 0.002	7.008 ± 0.079	2.165 ± 0.197	0.512 + 0.020 - 0.008

CSP1006 -2L	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.05	2.00 ± 0.05	4.00 ± 0.10	2.00 ± 0.05	0.18 ± 0.03	8.00 ± 0.10	14.40 Max
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.079 ± 0.002	0.157 ± 0.004	0.079 ± 0.002	0.007 ± 0.001	0.315 ± 0.004	0.567 Max

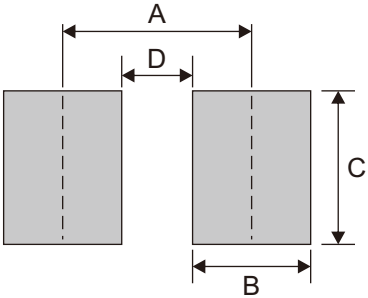
Marking Code

Part Number	Marking Code
ACPDWQ5V0P-HF	5A



Suggested P.C.B. PAD Layout

SIZE	CSP1006-2L	
	(mm)	(inch)
A	0.80	0.031
B	0.50	0.020
C	0.65	0.026
D	0.30	0.012



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
CSP1006-2L	10,000	7