

CPDQ18VMSBP-HF

RoHS Device

Halogen Free



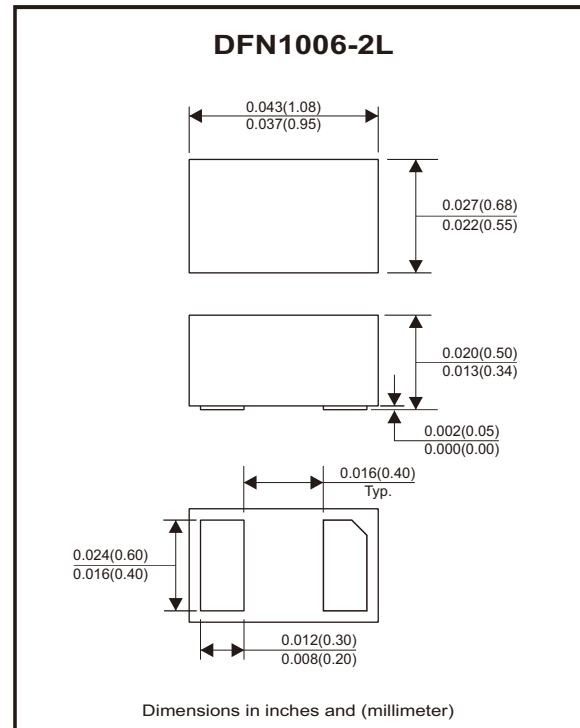
Features

- ESD protection for 1 line with Bi-directional,
- Protect one I/O line or power line.
- Fast turn-on and Low clamping voltage.
- IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (air/contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 4A (8/20 μs)

Mechanical data

- Case: DFN1006-2L package, molded plastic.
- 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}	32	W
Peak pulse current	$T_P = 8/20\mu\text{s}$	I_{PP}	4	A
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	± 15	kV
Operating temperature range		T_J	-55 to +150	$^\circ\text{C}$
Storage temperature range		T_{STG}	-55 to +150	$^\circ\text{C}$

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}			18	V
Reverse leakage current	$V_{RWM} = 18\text{V}$	I_R			1	μA
Breakdown voltage	$I_T = 1\text{mA}$	V_{BR}	18.7			V
Clamping voltage	$I_{PP} = 1\text{A}, T_P = 8/20\mu\text{s}$	V_C		4		V
	$I_{PP} = 4\text{A}, T_P = 8/20\mu\text{s}$	V_C		6	8	
Clamping voltage	$TLP = 16\text{A}, T_P = 100\text{ns}$	V_C		9.6		V
Junction capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	C_J		0.4		pF

Typical Rating and Characteristic Curves (CPDQ18VMSBP-HF)

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

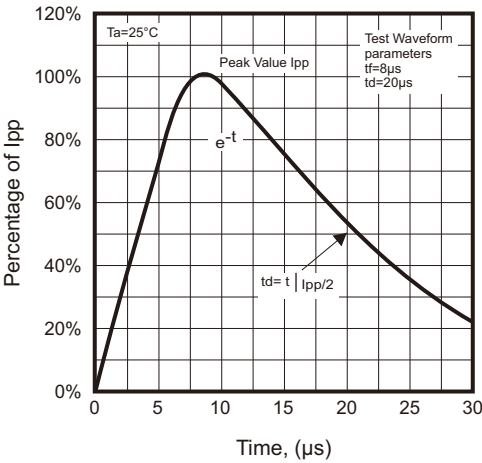


Fig.2 - Power Rating Derating Curve

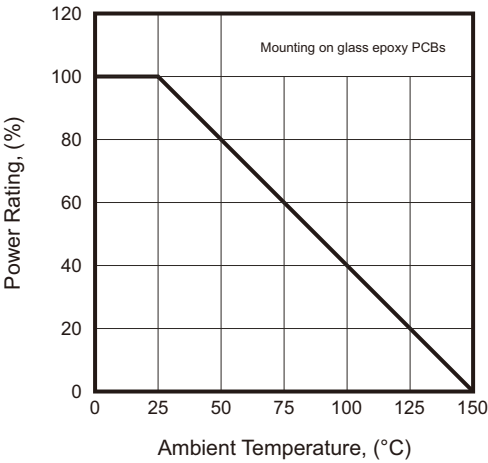


Fig.3 - Typical Clamping Voltage vs. Peak Pulse Current

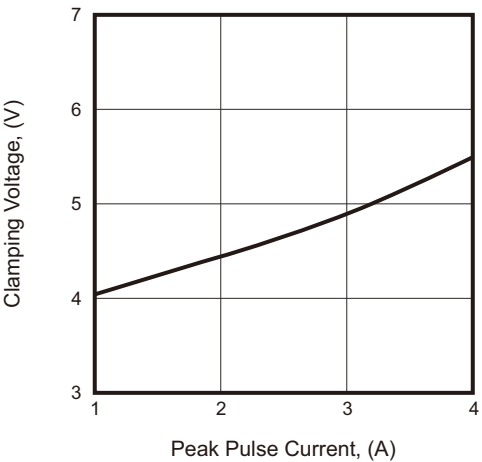


Fig.4 - Typical Capacitance Between Terminals Characteristics

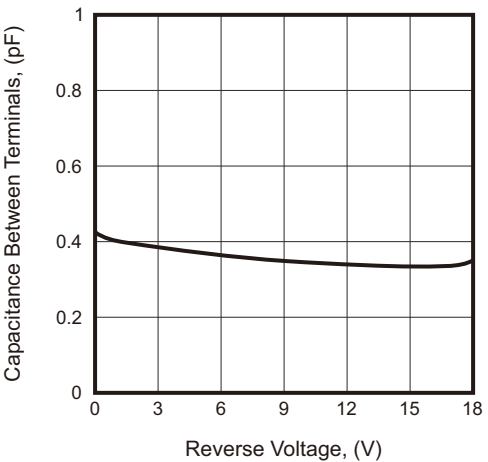


Fig.5 - TLP- Positive Pulse

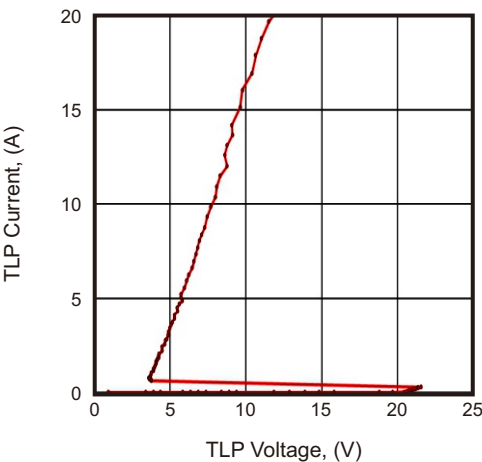
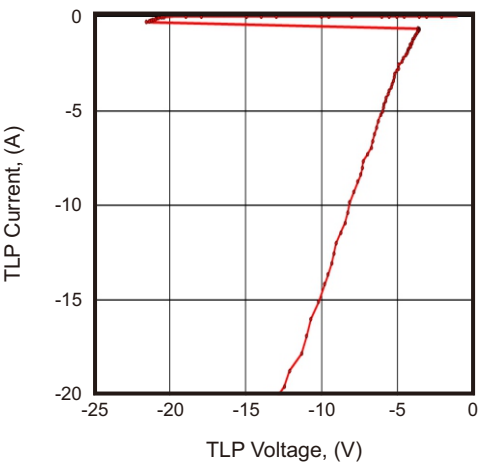
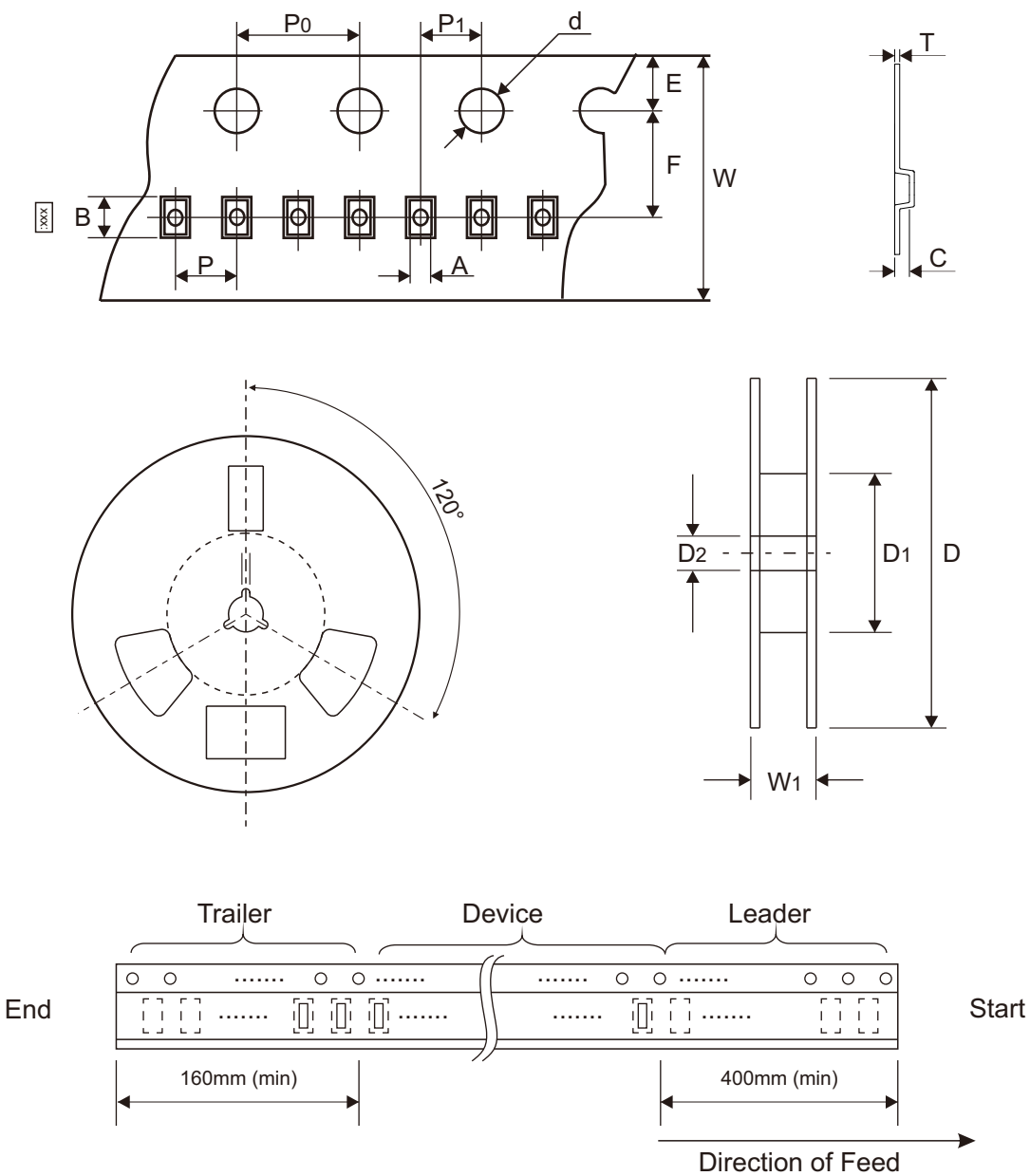


Fig.6 - TLP- Negative Pulse



Reel Taping Specification



DFN1006 -2L	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	0.70 ± 0.05	1.15 ± 0.05	0.57 ± 0.03	1.55 ± 0.05	180.00 ± 1.00	54.40 ± 1.00	$13.00 + 0.50$ $- 0.20$
	(inch)	0.028 ± 0.002	0.045 ± 0.002	0.022 ± 0.001	0.061 ± 0.002	7.087 ± 0.039	2.142 ± 0.039	$0.512 + 0.020$ $- 0.008$

DFN1006 -2L	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.05	2.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.20 ± 0.05	8.00 ± 0.10	12.00 ± 1.30
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.079 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.002	0.315 ± 0.004	0.472 ± 0.051

Marking Code

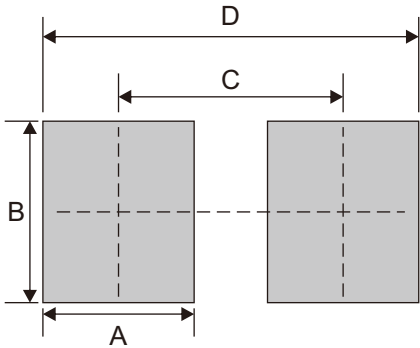
Part Number	Marking Code
CPDQ18VMSBP-HF	18B

18B:

: = Control code

Suggested P.C.B. PAD Layout

SIZE	DFN1006-2L	
	(mm)	(inch)
A	0.50	0.020
B	0.60	0.024
C	0.70	0.028
D	1.20	0.047



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DFN1006-2L	10,000	7