

CPDQ4V5MSB-HF

RoHS Device

Halogen Free



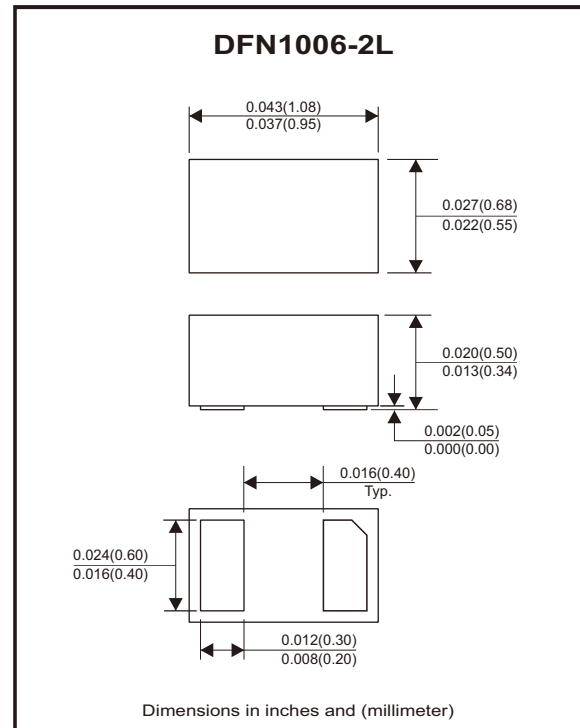
Features

- 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) ± 30 kV (air/contact)
- IEC 61000-4-4 (EFT) 80A (5/50ns)
- IEC 61000-4-5 (Lightning) 42A (8/20 μ s)

Mechanical data

- Case: DFN1006-2L package, molded plastic.
- Mounting position: Any.

Circuit Diagram



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

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	$T_P = 8/20\mu s$	P_{PP}	462	W
Peak pulse current	$T_P = 8/20\mu s$	I_{PP}	42	A
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	± 30	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}			4.5	V
Reverse leakage current	$V_{RWM} = 4.5V$	I_R			0.5	μA
Breakdown voltage	$I_T = 1mA$	V_{BR}	4.5		6.8	V
Clamping voltage	$I_{PP} = 5A, T_P = 8/20\mu s$	V_C		5		V
	$I_{PP} = 42A, T_P = 8/20\mu s$	V_C		9	11	
Clamping voltage	$TLP = 16A, T_P = 100ns$	V_C		5		V
Junction capacitance	$V_R = 0V, f = 1MHz$	C_J		100		pF

Typical Rating and Characteristic Curves (CPDQ4V5MSB-HF)

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

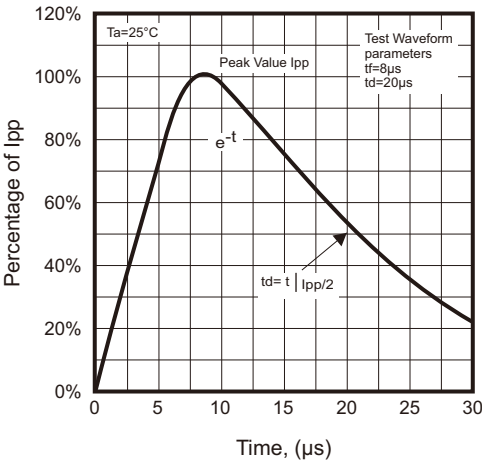


Fig.2 - Power Rating Derating Curve

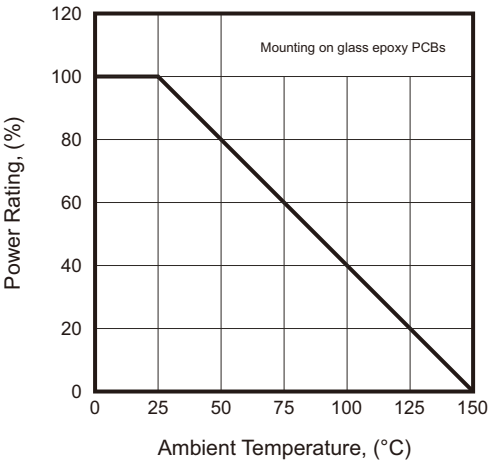


Fig.3 - Typical Clamping Voltage vs. Peak Pulse Current

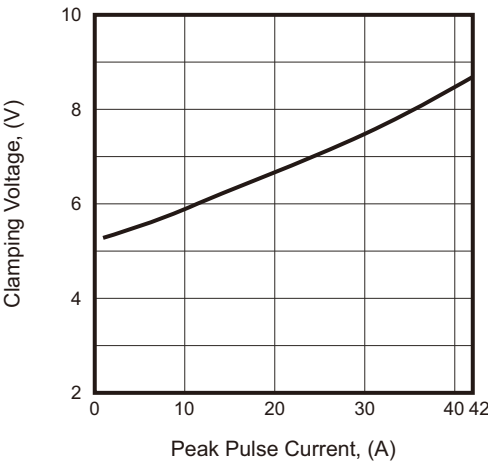


Fig.4 - Typical Capacitance Between Terminals Characteristics

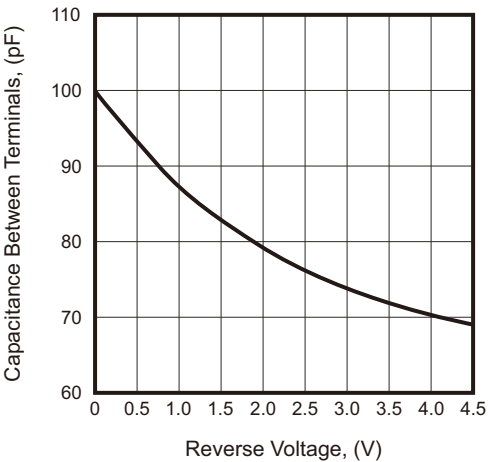


Fig.5 - TLP- Positive Pulse

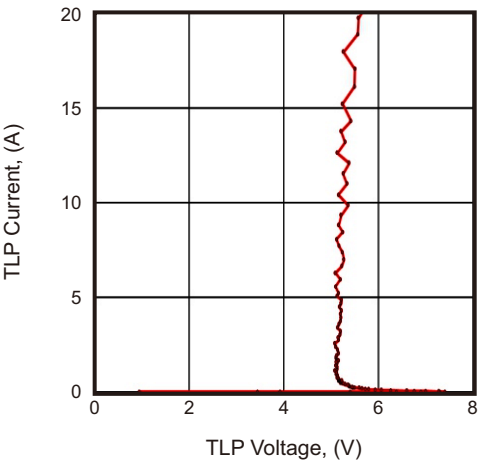
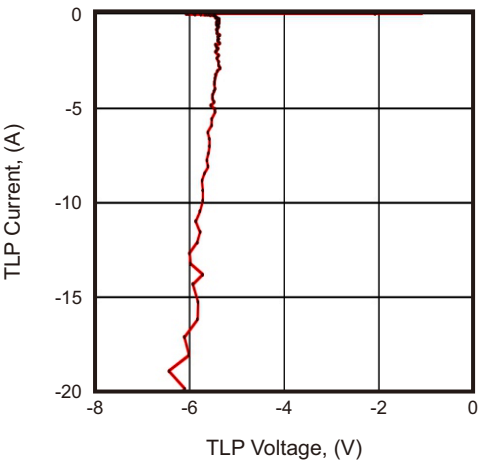
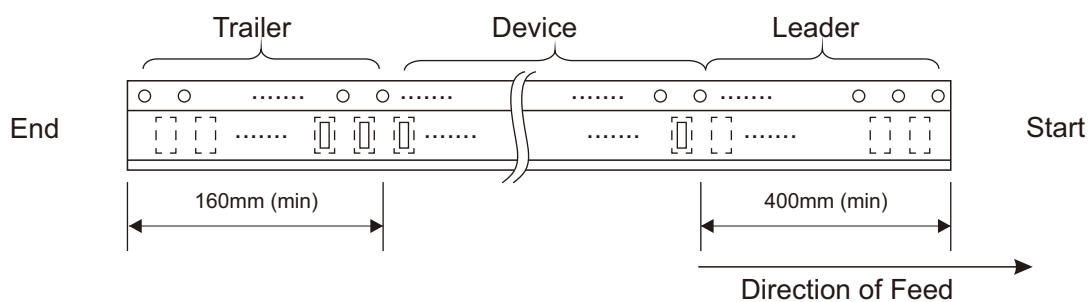
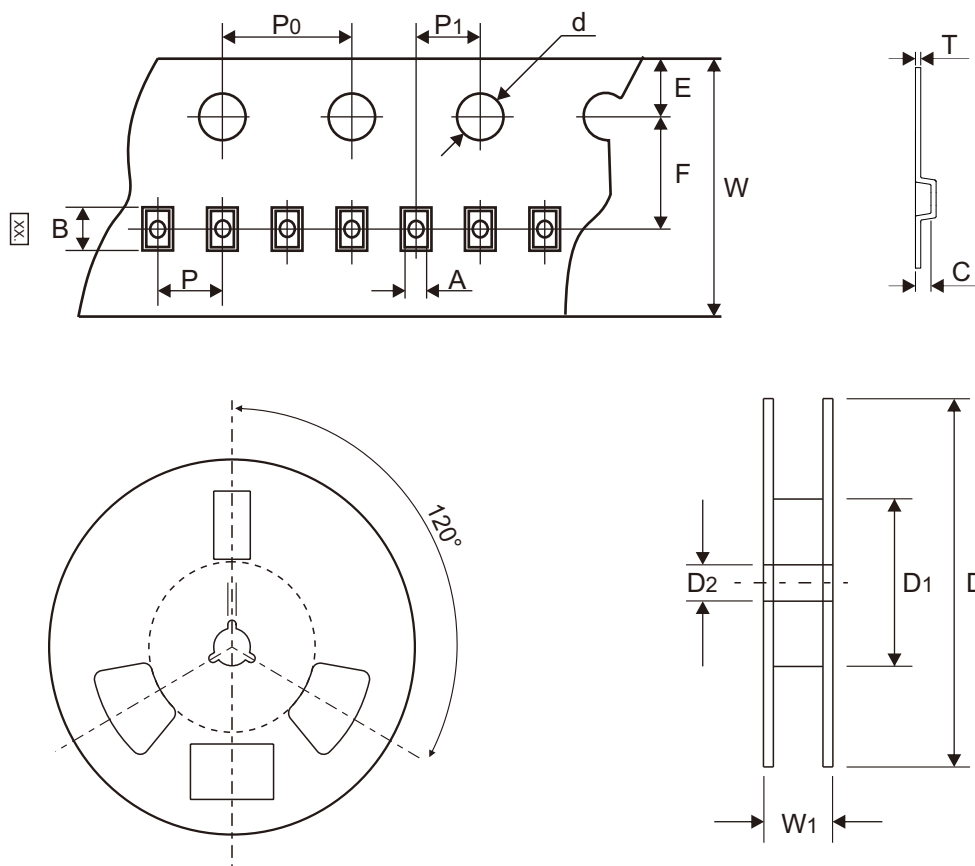


Fig.6 - TLP- Negative Pulse



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	P ₀	P ₁	T	W	W ₁
	(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

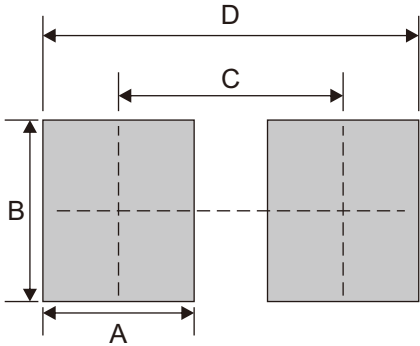
Part Number	Marking Code
CPDQ4V5MSB-HF	22



Solid dot = 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