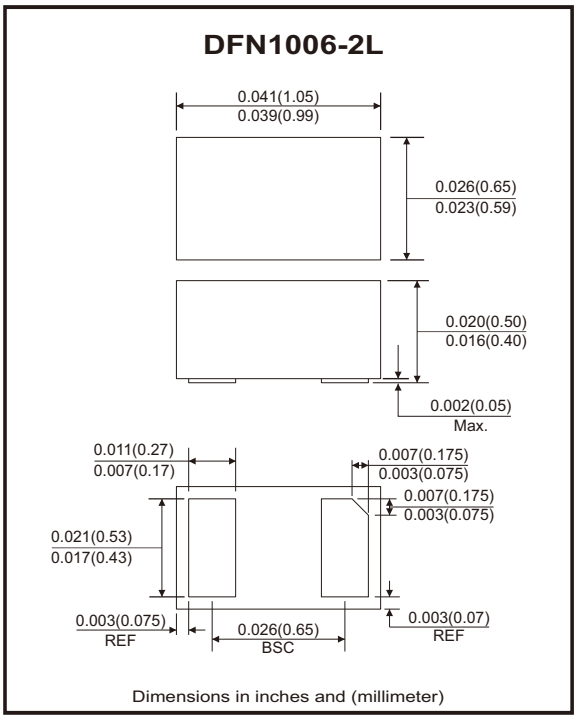
CPDQ18VMSBPA-HF

RoHS Device
Halogen Free



Features

- ESD protection for 1 line with Bi-directional.
- Protect one I/O line or one power line.
- Fast turn-on and low clamping voltage.
- IEC 61000-4-2 (ESD) ±18kV (air), ±16kV (contact)
  IEC 61000-4-4 (EFT) 40A (5/50ns)
  IEC 61000-4-5 (Lightning) 4A (8/20μs)

Mechanical data

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

Circuit Diagram

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

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	T_P = 8/20μs	P_{PP}	28	W
Peak pulse current	T_P = 8/20μs	I_{PP}	4	A
ESD capability (Note 1)	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	±18 ±16	kV
Operating temperature range		T_J	-55 to +125	°C
Storage temperature range		T_{STG}	-55 to +150	°C

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

Electrical Characteristics (at T_A=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Working peak reverse voltage		V_{RWM}			18	V
Reverse leakage current	V_{RWM} = 18V	I_R			0.5	μA
Breakdown voltage	I_T = 1mA	V_{BR}	18.7			V
Clamping voltage	I_{PP} = 1A, T_P = 8/20μs	V_C		4		V
	I_{PP} = 4A, T_P = 8/20μs	V_C		5	7	
Clamping voltage	TLP = 16A, T_P = 0.2/100ns	V_C		7.8		V
Junction capacitance	V_R = 0V, f = 1MHz	C_J		0.5		pF

Typical Rating and Characteristic Curves (CPDQ18VMSBPA-HF)

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

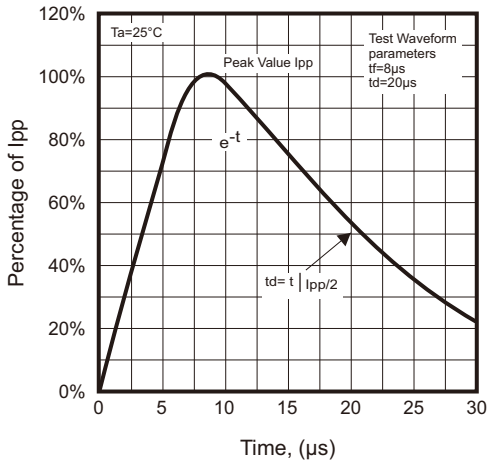


Fig.2 - Power Rating Derating Curve

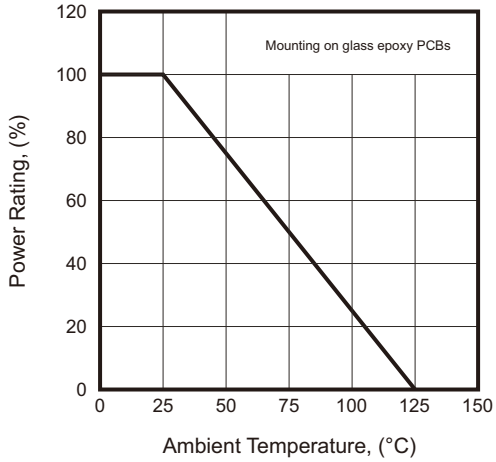


Fig.3 - Typical Clamping Voltage vs. Peak Pulse Current

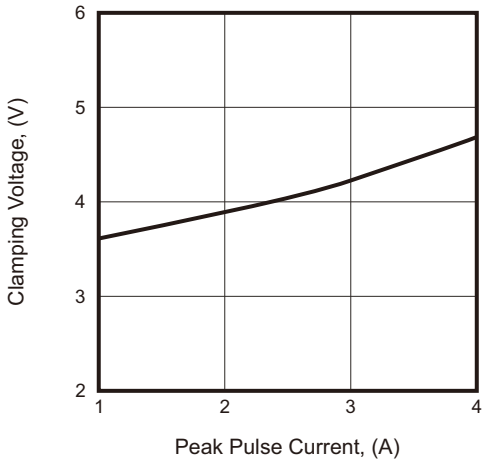


Fig.4 - Typical Capacitance Between Terminals Characteristics

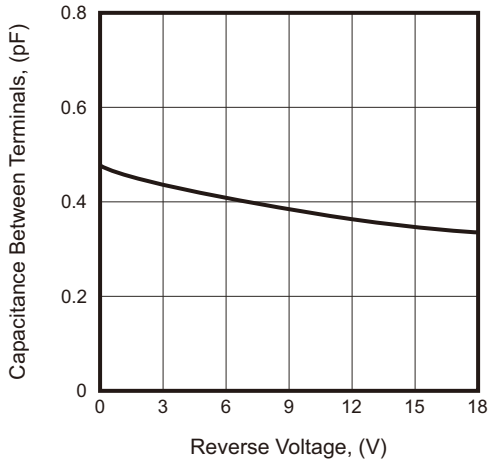


Fig.5 - TLP- Positive Pulse

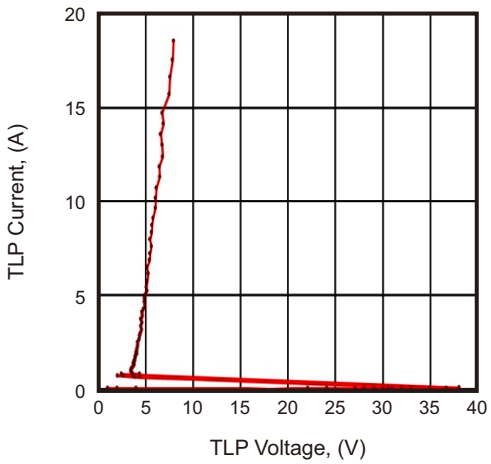
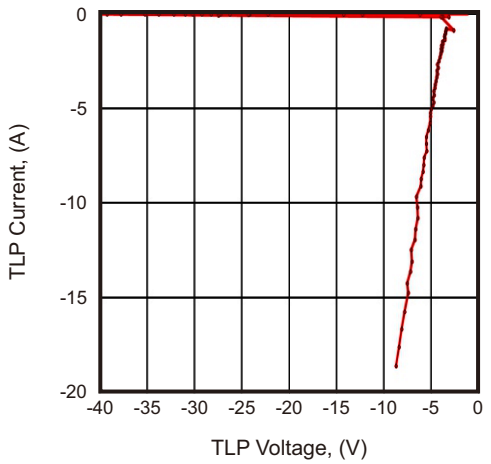
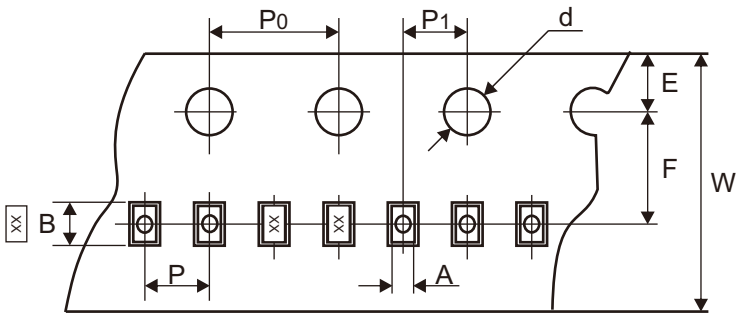
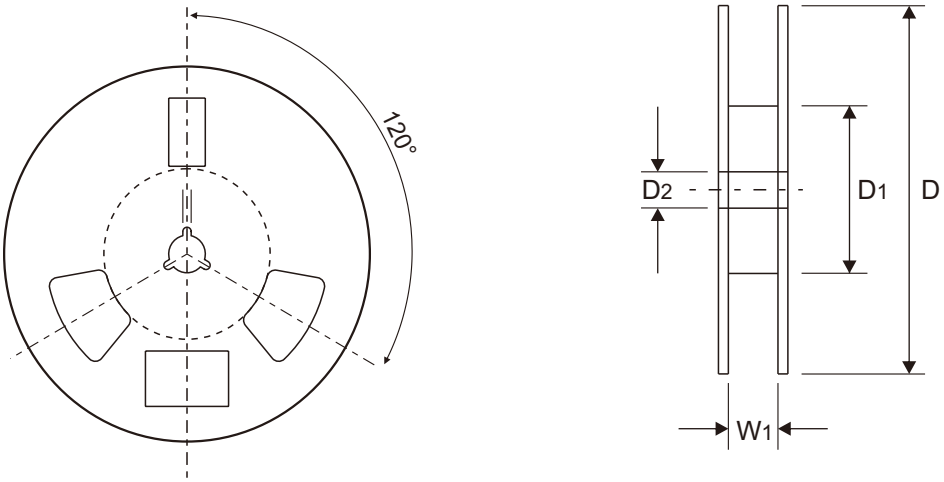


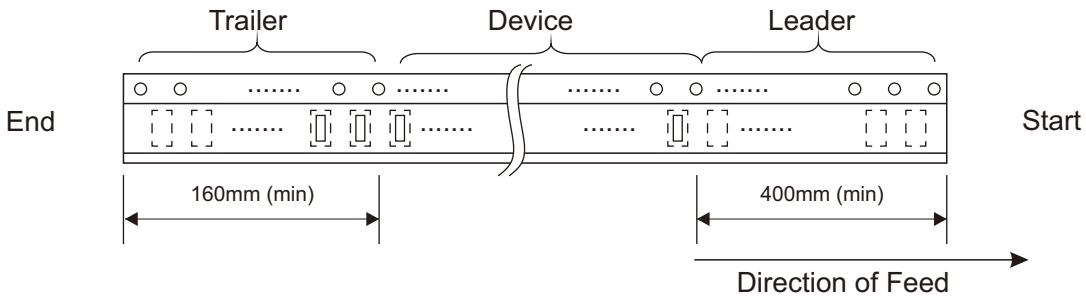
Fig.6 - TLP- Negative Pulse



Reel Taping Specification







	SYMBOL	A	B	C	d	D	D1	D2
DFN1006 -2L	(mm)	0.68 + 0.07 − 0.04	1.19 + 0.05 − 0.12	0.48 + 0.10 − 0.05	1.55 ± 0.05	181.00 Max	55.00 ± 5.00	13.00 + 0.50 − 0.20
	(inch)	0.027 + 0.003 − 0.002	0.047 + 0.002 − 0.005	0.019 + 0.004 − 0.002	0.061 ± 0.002	7.126 Max	2.165 ± 0.197	0.512 + 0.020 − 0.008

	SYMBOL	E	F	P	P0	P1	T	W	W1
DFN1006 -2L	(mm)	1.75 ± 0.10	3.50 ± 0.05	2.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.21 ± 0.04	8.00 + 0.30 − 0.10	11.60 Max
	(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 + 0.012 − 0.004	0.457 Max

Marking Code

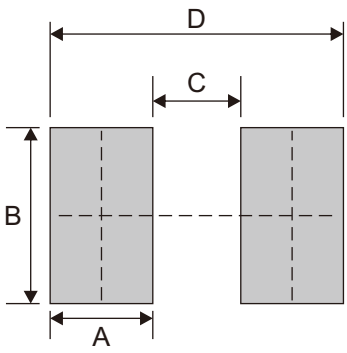
Part Number	Marking Code
CPDQ18VMSBPA-HF	SF

SFX

X = Control code

Suggested P.C.B. PAD Layout

SIZE	DFN1006-2L	
	(mm)	(inch)
A	0.35	0.014
B	0.60	0.024
C	0.30	0.012
D	1.00	0.039



Standard Packaging

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