

CPDZ18VM-HF

RoHS Device

Halogen Free



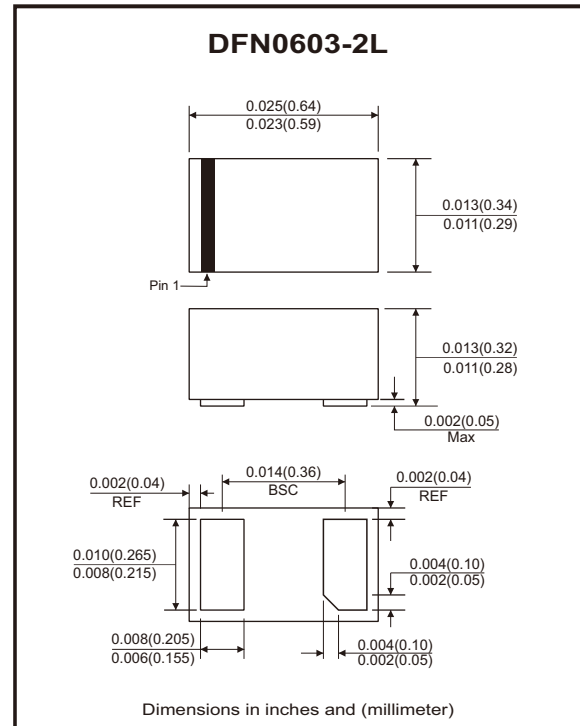
Features

- ESD/EFT/surge protection for 1 line with Bi-directional.
- High surge protection.
- Protect one I/O line or one power line.
- IEC 61000-4-2 (ESD) $\pm 20\text{kV}$ (air), $\pm 18\text{kV}$ (contact)
- IEC 61000-4-4 (EFT) 50A (5/50ns)
- IEC 61000-4-5 (Lightning) 1.6A (8/20 μs)

Mechanical data

- Case: DFN0603-2L package, molded plastic.
- Terminals: Tin plated, 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}	51	W
Peak pulse current	$T_P = 8/20\mu\text{s}$	I_{PP}	1.6	A
ESD capability (Note 1)	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	± 20 ± 18	kV
Operating 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}			18	V
Reverse leakage current	$V_{RWM} = 18\text{V}$	I_R			100	nA
Breakdown voltage	$I_T = 1\text{mA}$	V_{BR}	20		24.5	V
Clamping voltage	$I_{PP} = 1\text{A}$, $T_P = 8/20\mu\text{s}$	V_C		27	29	V
	$I_{PP} = 1.6\text{A}$, $T_P = 8/20\mu\text{s}$	V_C		30	32	
Clamping voltage	$TLP = 16\text{A}$, $T_P = 100\text{ns}$	V_C		32		V
Junction capacitance	$V_R = 0\text{V}$, $f = 1\text{MHz}$	C_J		5.7		pF

Typical Rating and Characteristic Curves (CPDZ18VM-HF)

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

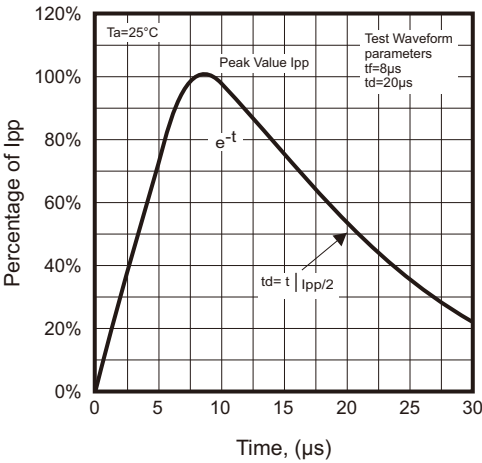


Fig.2 - Power Rating Derating Curve

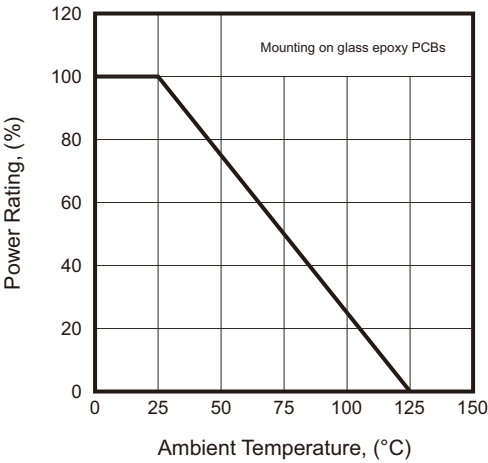


Fig.3 - Typical Clamping Voltage vs. Peak Pulse Current

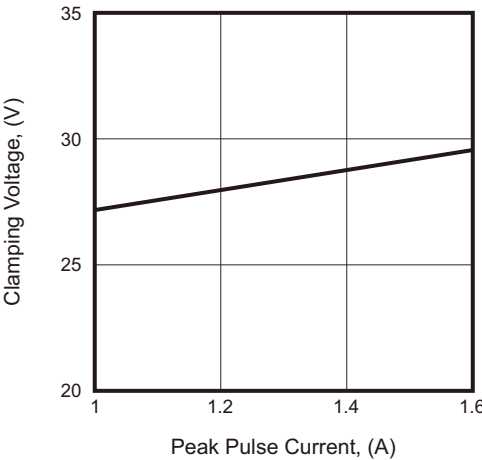


Fig.4 - Typical Capacitance Between Terminals Characteristics

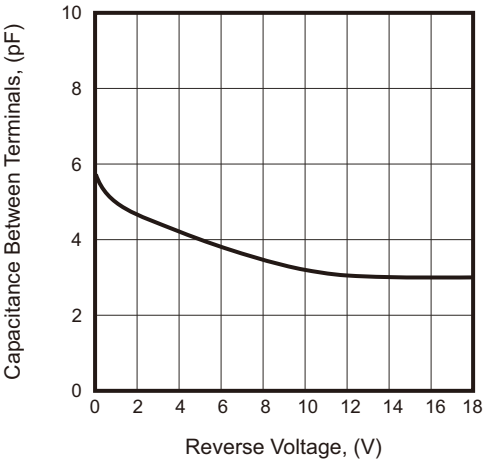


Fig.5 - TLP- Positive Pulse

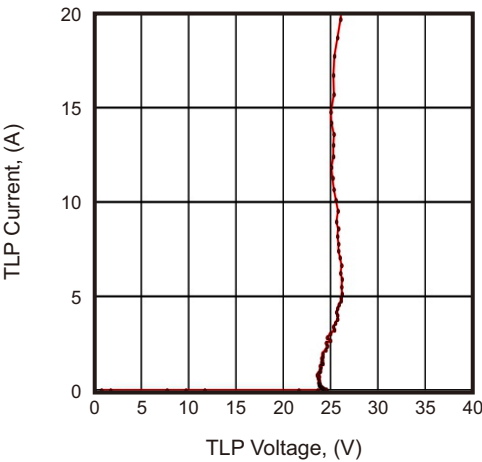
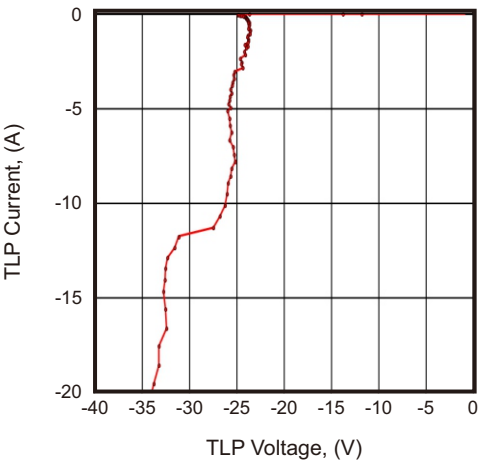
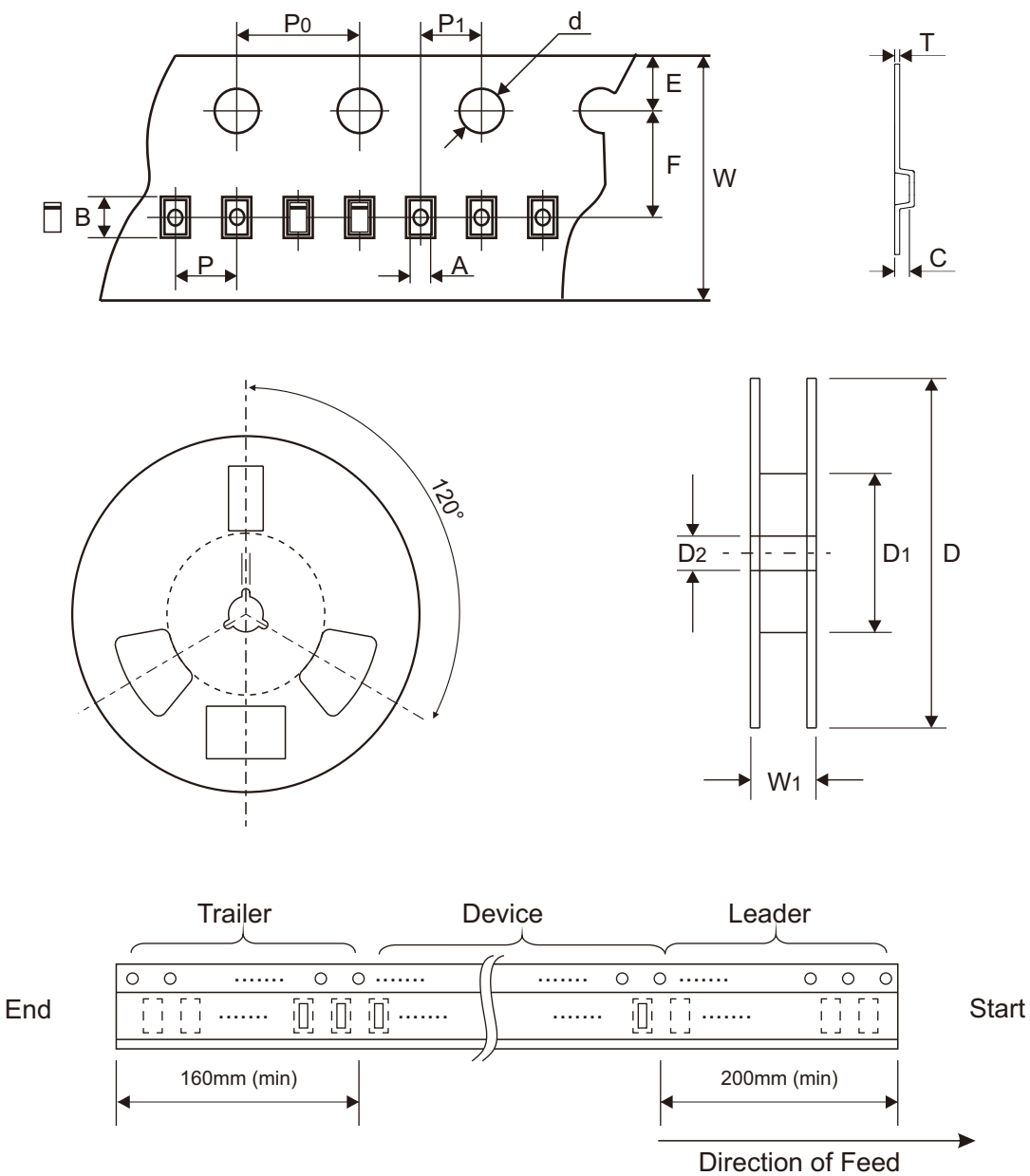


Fig.6 - TLP- Negative Pulse



Reel Taping Specification



DFN0603 -2L	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	0.38 ± 0.03	0.68 ± 0.03	0.34 ± 0.03	1.55 ± 0.05	178.00 ± 2.00	55.00 ± 5.00	13.00 + 0.50 - 0.20
	(inch)	0.015 ± 0.001	0.027 ± 0.001	0.013 ± 0.001	0.061 ± 0.002	7.008 ± 0.079	2.165 ± 0.197	0.512 + 0.020 - 0.008

DFN0603 -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 ± 0.05	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 ± 0.002	0.315 ± 0.004	0.567 Max

Marking Code

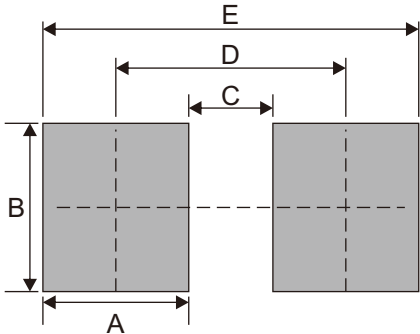
Part Number	Marking Code
CPDZ18VM-HF	S



X = Control code

Suggested P.C.B. PAD Layout

SIZE	DFN0603-2L	
	(mm)	(inch)
A	0.26	0.010
B	0.30	0.012
C	0.15	0.006
D	0.41	0.016
E	0.67	0.026



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DFN0603-2L	15,000	7