

CPDZ5V0SBP-HF

RoHS Device

Halogen Free



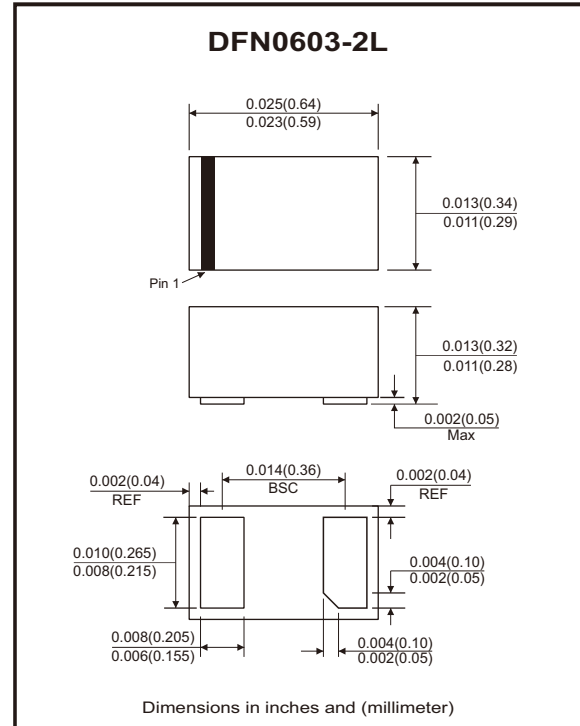
Features

- Small body outline dimensions.
- Only protects one I/O.
- Low capacitance.
- Low leakage current.
- IEC 61000-4-2(ESD) $\pm 12\text{kV}$ (air), $\pm 12\text{kV}$ (contact).
- IEC 61000-4-4(EFT) 40A(5/50ns).
- IEC 61000-4-5(Lightning) 6A(8/20 μs).

Mechanical data

- Case: DFN0603-2L package.
- 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}	42	W
Peak pulse current	$T_P = 8/20\mu\text{s}$	I_{PP}	6	A
Operating temperature range		T_J	-55 to +125	$^\circ\text{C}$
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
Reverse stand-off voltage		V_{RWM}			5	V
Reverse breakdown voltage	$I_T = 1\text{mA}$	V_{BR}	6			V
Reverse leakage current	$V_{RWM} = 5\text{V}$	I_R			200	nA
Holding current	$T = 25^\circ\text{C}$	I_H		48		mA
Clamping voltage	$I_{PP} = 6\text{A}$, $t_p = 8/20\mu\text{s}$	V_C		5	7	V
ESD clamping voltage (Note 1)	$I_{PP} = 4\text{A}$, $t_p = 0.2/100\text{ns}$ (TLP)	V_C		4.7		V
	$I_{PP} = 16\text{A}$, $t_p = 0.2/100\text{ns}$ (TLP)	V_C		8.5		V
Dynamic resistance (Note 1, 2)	$TLP = 0.2/100\text{ns}$	R_{DYN}		0.32		Ω
Junction capacitance	$V_R = 2.5\text{V}$, $f = 1\text{MHz}$	C_J		0.45	0.6	pF

Notes: 1. TLP setting: $t_p=100\text{ns}$, $t_r=0.2\text{ns}$, ITLP and VTLP sample window: $t_1=70\text{ns}$ to $t_2=90\text{ns}$.

2. Dynamic resistance calculated from $I_{PP}=4\text{A}$ to $I_{PP}=16\text{A}$ using "Best Fit".

Typical Rating and Characteristic Curves (CPDZ5V0SBP-HF)

Fig.1 - Peak Pulse Power vs. Pulse Time

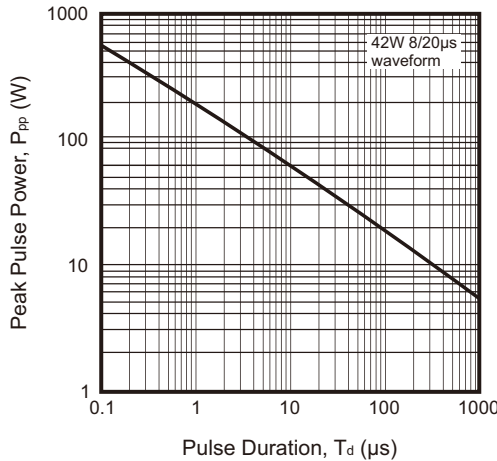


Fig.2 - Power Derating Curve

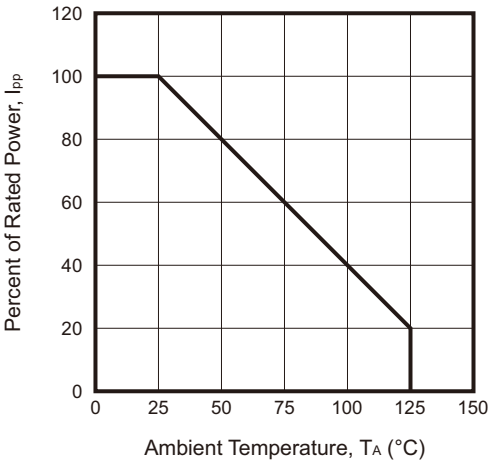


Fig.3 - Clamping Voltage vs. Peak Pulse Current

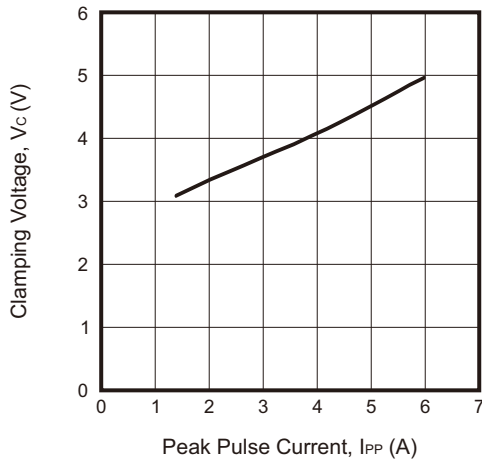


Fig.4 - Normalized Junction Capacitance vs. Reverse Voltage

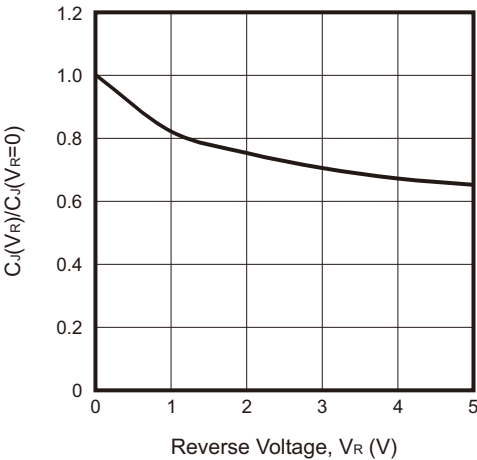


Fig.5 - TLP Positive I-V Curve

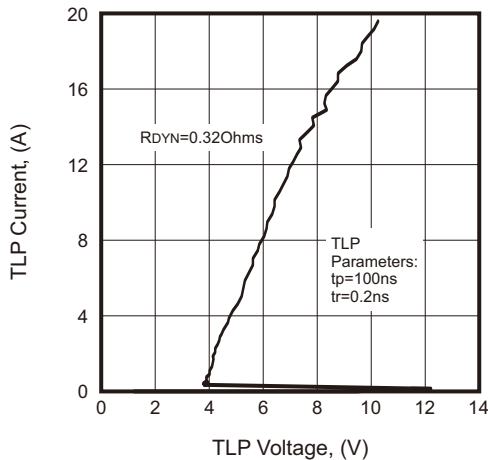
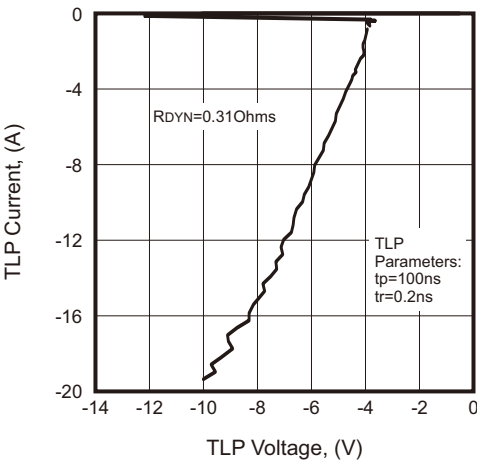
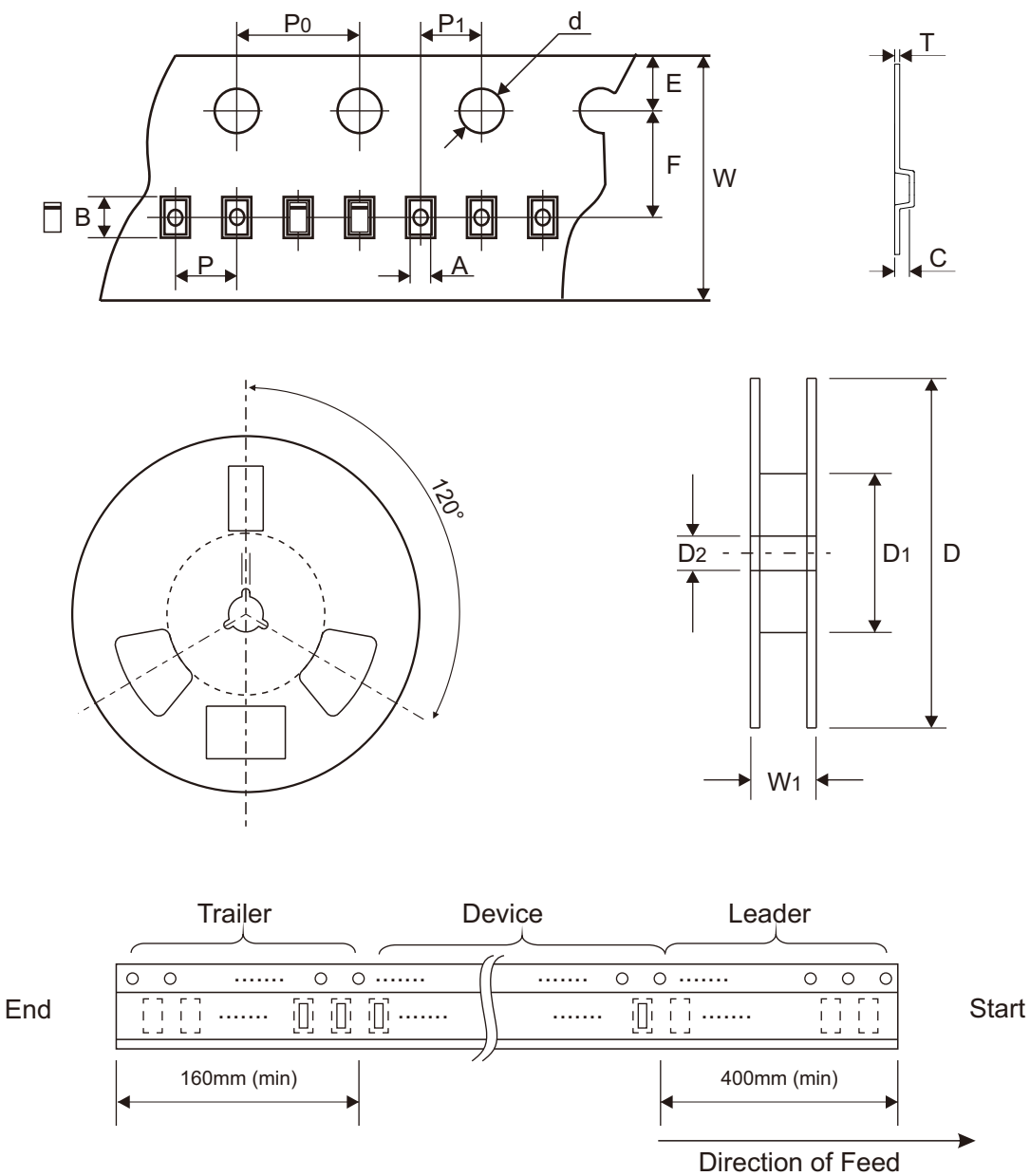


Fig.6 - TLP Negative I-V Curve



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	$1.50 + 0.10 - 0.00$	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	$0.059 + 0.004 - 0.000$	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

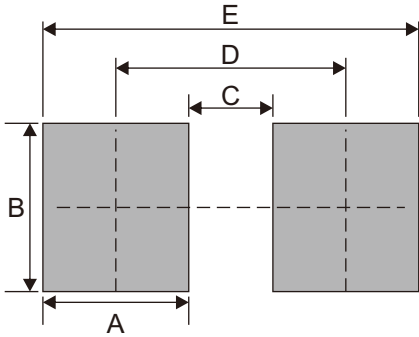
Part Number	Marking Code
CPDZ5V0SBP-HF	<u>K</u> X



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