

CPDUT12VMUHT-HF

RoHS Device

Halogen Free



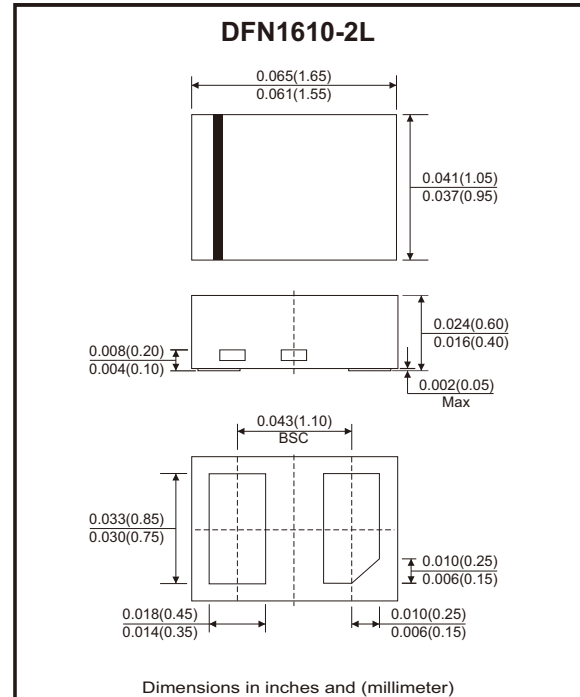
Features

- ESD/surge protection for 1 line with Uni-directional.
- Protect one I/O line or one power line.
- Fast turn-on and low clamping voltage.
- IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (air/contact)
- IEC 61000-4-4 (EFT) 80A (5/50ns)
- IEC 61000-4-5 (Lightning) 65A (8/20 μs)

Mechanical data

- Case: DFN1610-2L package, molded plastic.
- Polarity: Indicated by cathode band.
- 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}	1625	W
Peak pulse current	$T_P = 8/20\mu\text{s}$	I_{PP}	65	A
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	± 30	kV
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
Working peak reverse voltage		V_{RWM}			12	V
Forward voltage	$I_F = 15\text{mA}$	V_F	0.4		1.2	V
Reverse leakage current	$V_{RWM} = 12\text{V}$	I_R			1	μA
Breakdown voltage	$I_T = 1\text{mA}$	V_{BR}	13.3		16.5	V
Clamping voltage	$I_{PP} = 5\text{A}, T_P = 8/20\mu\text{s}$	V_C		16	18	V
	$I_{PP} = 65\text{A}, T_P = 8/20\mu\text{s}$	V_C		23	25	
Clamping voltage	$TLP = 16\text{A}, T_P = 100\text{ns}$	V_C		15		V
Junction capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	C_J		365		pF

Typical Rating and Characteristic Curves (CPDUT12VMUHT-HF)

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

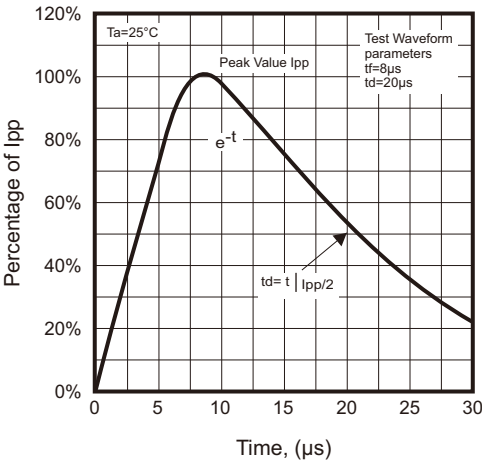


Fig.2 - Power Rating Derating Curve

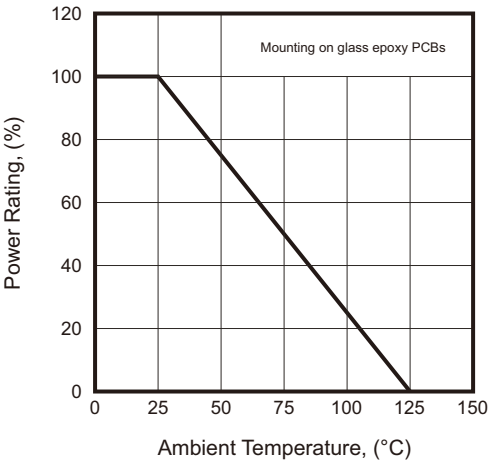


Fig.3 - Typical Clamping Voltage vs. Peak Pulse Current

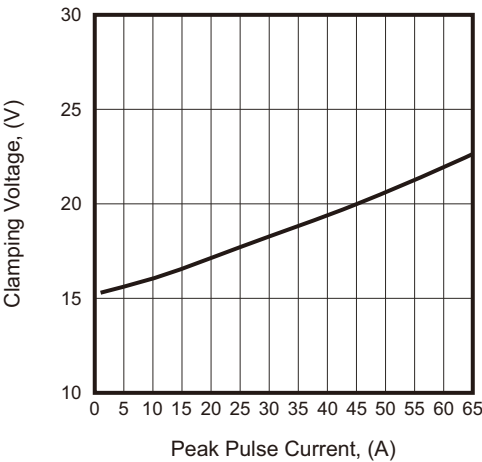


Fig.4 - Typical Capacitance Between Terminals Characteristics

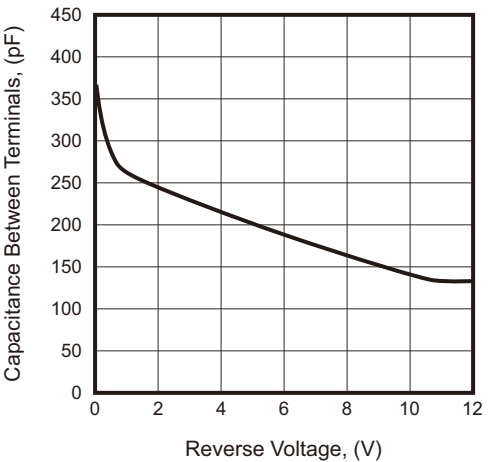
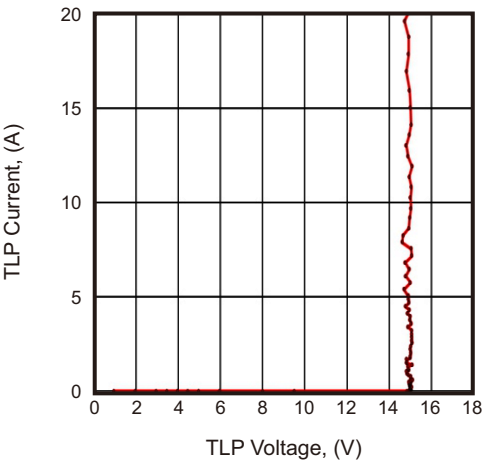
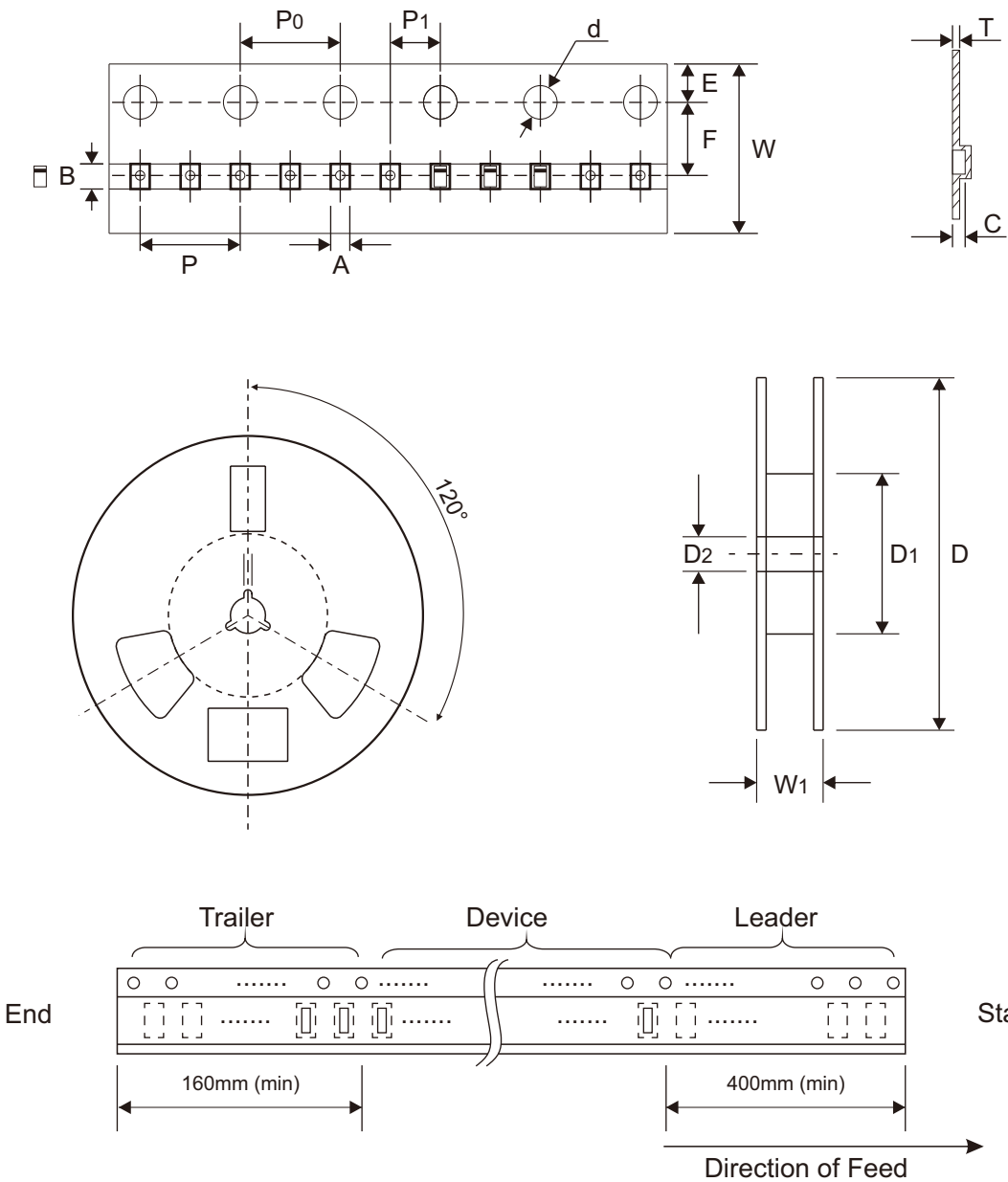


Fig.5 - TLP- Positive Pulse



Reel Taping Specification



DFN1610-2L	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	1.14 ± 0.05	1.74 ± 0.05	0.62 ± 0.05	1.50 ± 0.05	180.00 ± 1.00	54.40 ± 1.00	13.00 + 0.50 - 0.20
	(inch)	0.045 ± 0.002	0.069 ± 0.002	0.024 ± 0.002	0.059 ± 0.002	7.087 ± 0.039	2.142 ± 0.039	0.512 + 0.020 - 0.008

DFN1610-2L	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 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	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.002	0.315 ± 0.004	0.472 ± 0.051

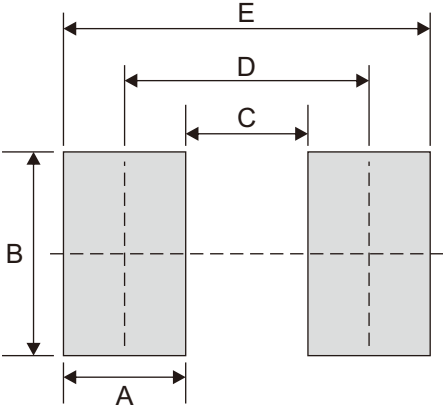
Marking Code

Part Number	Marking Code
CPDUT12VMUHT-HF	H12N



Suggested P.C.B. PAD Layout

SIZE	DFN1610-2L	
	(mm)	(inch)
A	0.625	0.025
B	1.00	0.039
C	0.60	0.024
D	1.225	0.048
E	1.85	0.073



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DFN1610-2L	3,000	7