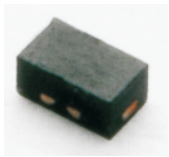
SMD ESD Protection Diode

CPDQT18V-HF

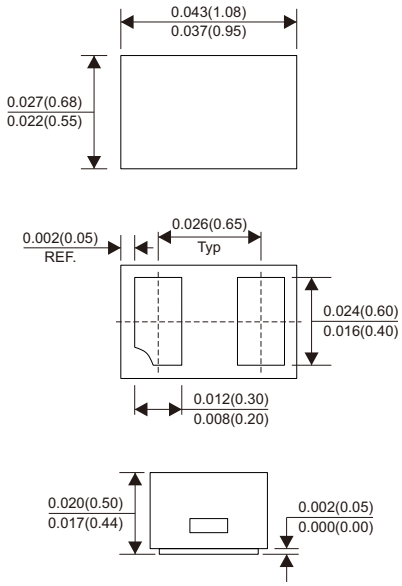
RoHS Device
Halogen Free



Features

- Bi-directional ESD protection of one line.
- Low capacitance: 0.35pF.
- Low reverse clamping voltage.
- Reverse stand-off voltage: 18V.
- ESD rating of class 3(>16Kv) per human body model.
- Excellent package: 1.0mm x 0.6mm x 0.5mm.
- Fast response time.
- JESD22-A114-B ESD rating of class 3B per human body model.
- IEC 61000-4-2 Level 3 ESD protection.

DFNWB1006-2L



Dimensions in inches and (millimeter)

Mechanical data

- Case: DFNWB1006-2L package, molded plastic.

Circuit Diagram

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

Parameter		Symbol	Value	Unit
IEC 61000-4-2 ESD voltage IEC 61000-4-2 ESD voltage	air model contact model	V_{ESD} (Note 1)	±20	kV
JESD22-A114-B ESD voltage	per human body model		±20	
ESD voltage	machine model		±0.4	
Peak pulse power (Note 2)		P_{PP}	48	W
Peak pulse current (Note 2)		I_{PP}	4	A
Lead solder temperature - maximum (10 second duration)		T_L	260	°C
Junction temperature		T_J	150	°C
Storage temperature range		T_{STG}	-55 ~ +150	°C

Notes: 1. Device stressed with ten non-repetitive ESD pulses.
2. Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC 61000-4-5.

Company reserves the right to improve product design , functions and reliability without notice.

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse stand off voltage (Note 1)		V_{RWM}			18	V
Reverse leakage current	V_{RWM} = 18V	I_R			0.1	μA
Breakdown voltage	I_T = 1mA	$V_{(BR)}$	19	21		V
Clamping voltage (Note 2)	I_{PP} = 4A	V_C		12		V
Junction capacitance	V_R = 0V, f = 1MHz	C_J		0.35	0.5	pF

Notes: 1. Other voltages available upon request.
2. Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC 61000-4-5.

Rating and Characteristic Curves (CPDQT18V-HF)

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

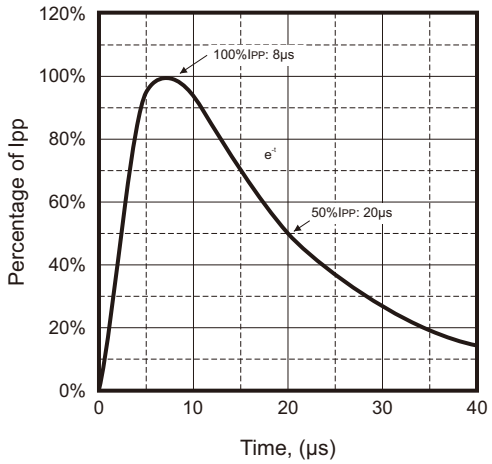


Fig.2 - TLP Measurement

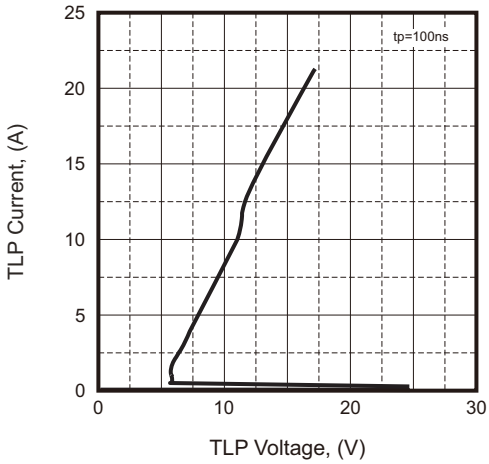
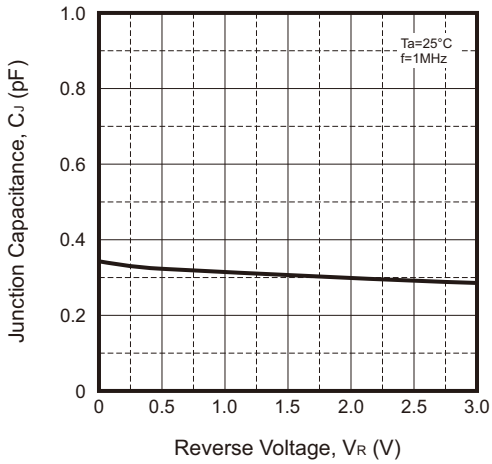


Fig.3 - Capacitance Characteristics



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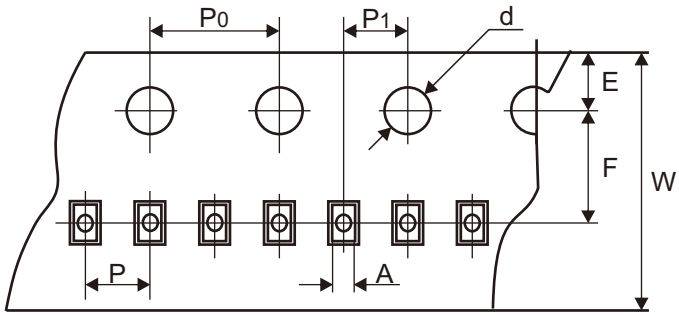
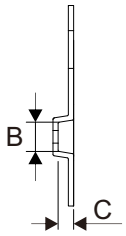
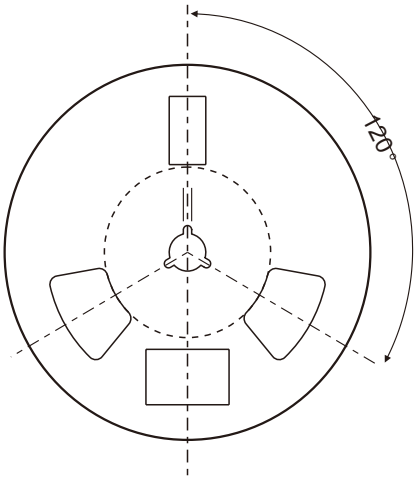
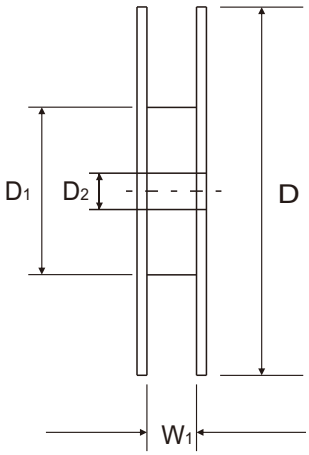
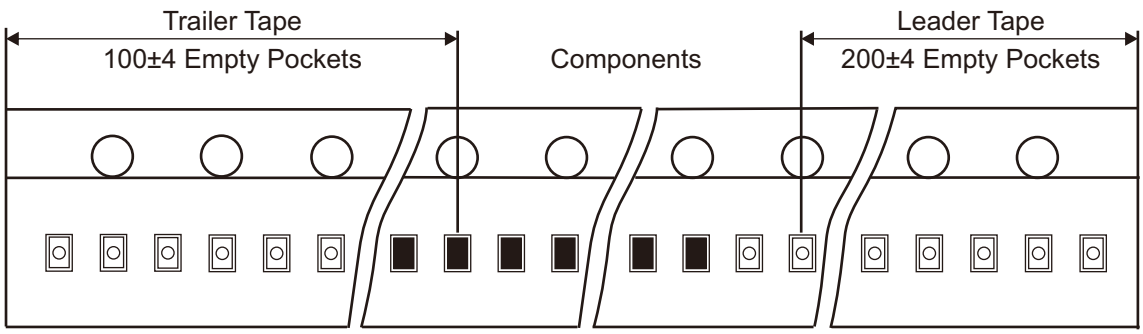
Reel Taping Specification









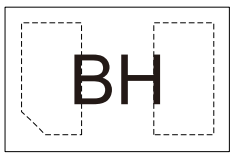


	SYMBOL	A	B	C	d	D	D1	D2
DFNWB 1006-2L	(mm)	0.66 Typ	1.15 Typ	0.66 Typ	1.50 Typ	178.00 Typ	54.40 Typ	13.00 Typ
	(inch)	0.026 Typ	0.045 Typ	0.026 Typ	0.059 Typ	7.008 Typ	2.142 Typ	0.512 Typ

	SYMBOL	E	F	P	P0	P1	W	W1
DFNWB 1006-2L	(mm)	1.75 Typ	3.50 Typ	2.00 Typ	4.00 Typ	2.00 Typ	8.00 Typ	9.50 Typ
	(inch)	0.069 Typ	0.138 Typ	0.079 Typ	0.157 Typ	0.079 Typ	0.315 Typ	0.374 Typ

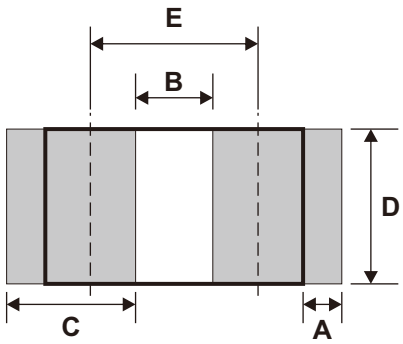
Marking Code

Part Number	Marking Code
CPDQT18V-HF	BH



Suggested PAD Layout

SIZE	DFNWB1006-2L	
	(mm)	(inch)
A	0.15	0.006
B	0.30	0.012
C	0.50	0.020
D	0.60	0.024
E	0.65	0.026



Note: 1. The pad layout is for reference purpose only.

Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DFNWB1006-2L	10,000	7