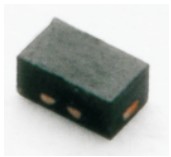
SMD ESD Protection Diode

CPDQT1V8-HF

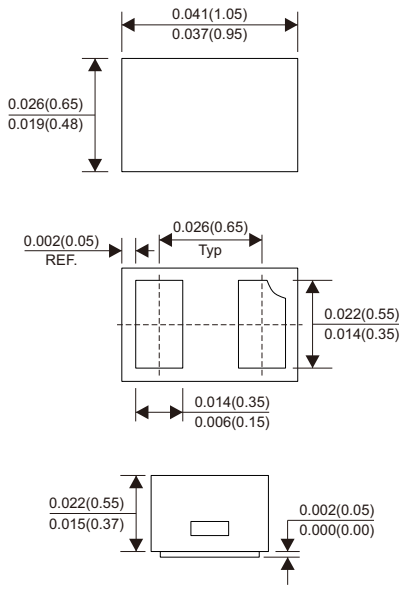
RoHS Device
Halogen Free



Features

- Bi-directional ESD protection of one line.
- Low capacitance.
- Low reverse stand-off voltage.
- Low reverse clamping voltage.
- Low leakage current.
- 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 4 ESD protection.

DFNWB1.0x0.6-02L-G



Dimensions in inches and (millimeter)

Mechanical data

- Case: DFNWB1.0x0.6-02L-G 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	air model	V_{ESD} (Note 1)	±30	kV
IEC 61000-4-2 ESD voltage	contact model			
JESD22-A114-B ESD voltage	per human body model		±16	
ESD voltage	machine model		±0.4	
Peak pulse power (Note 2)		P_{PP}	250	W
Peak pulse current (Note 2)		I_{PP}	25	A
Lead solder temperature - maximum (10 second duration)		T_L	260	°C
Operation junction and storage temperature range		T_J, 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.

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}			1.8	V
Reverse leakage current	V_{RWM} = 1.8V	I_R			1	μA
Breakdown voltage	I_T = 1mA	$V_{(BR)}$	3.0	3.4		V
Clamping voltage (Note 2)	I_{PP} = 1A	V_C		3.5	4.5	V
	I_{PP} = 25A	V_C		8	10	V
Junction capacitance	V_R = 0V, f = 1MHz	C_J		45		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 (CPDQT1V8-HF)

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

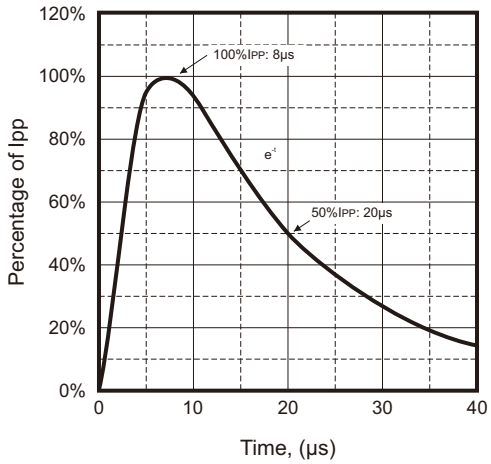


Fig.2 - Reverse Characteristics

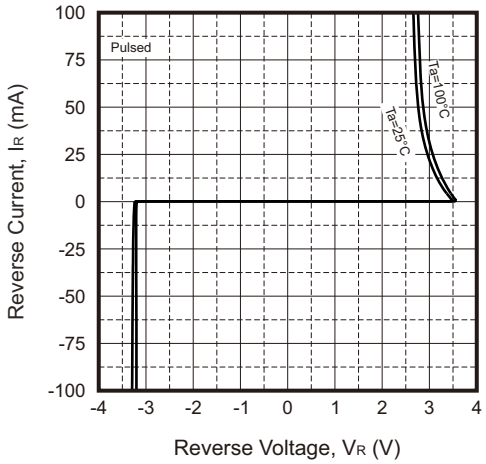


Fig.3 - Capacitance Characteristics

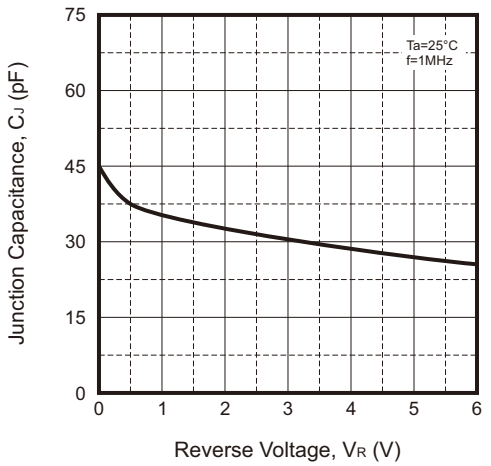
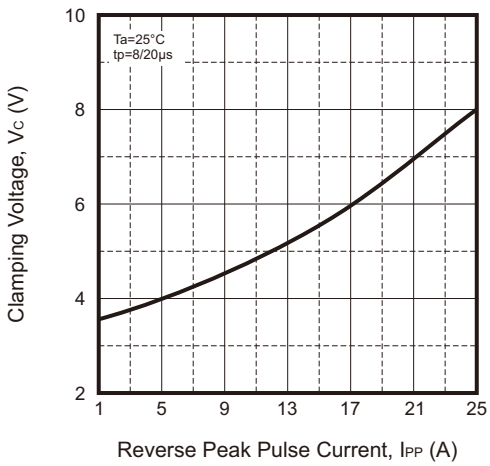
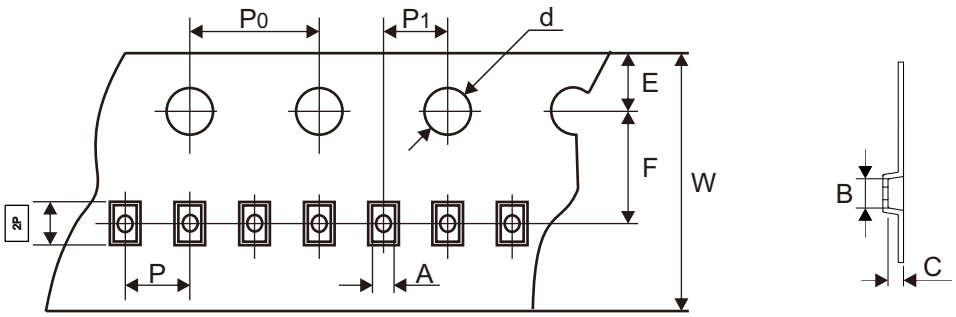


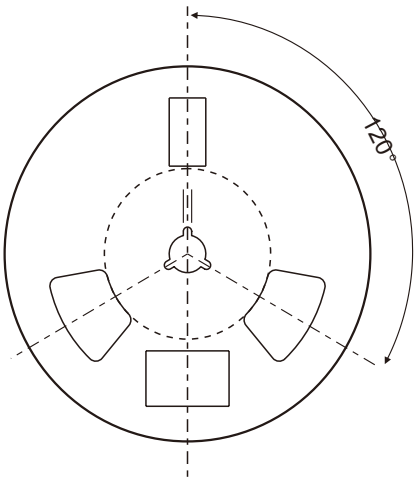
Fig.4 - V_C — I_{PP}

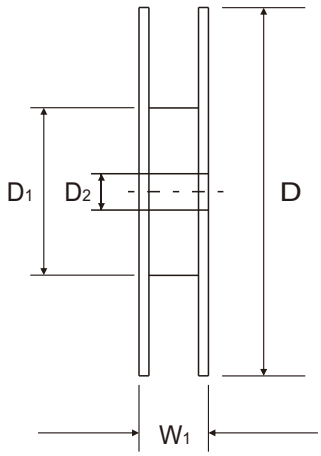


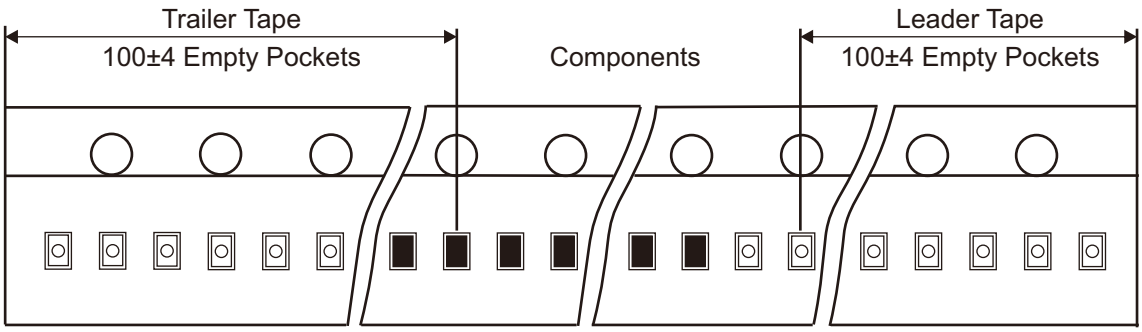
Company reserves the right to improve product design , functions and reliability without notice.

Reel Taping Specification









	SYMBOL	A	B	C	d	D	D1	D2
DFNWB1.0 x0.6-02L-G	(mm)	0.70 Typ	1.10 Typ	0.60 Typ	1.50 Typ	180.00 Typ	60.00 Typ	13.00 Typ
	(inch)	0.028 Typ	0.043 Typ	0.024 Typ	0.059 Typ	7.087 Typ	2.362 Typ	0.512 Typ

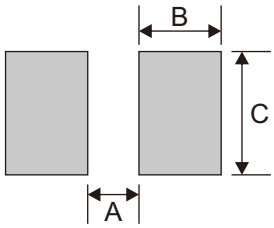
	SYMBOL	E	F	P	P0	P1	W	W1
DFNWB1.0 x0.6-02L-G	(mm)	1.75 Typ	3.50 Typ	2.00 Typ	4.00 Typ	2.00 Typ	8.00 Typ	12.30 Typ
	(inch)	0.069 Typ	0.138 Typ	0.079 Typ	0.157 Typ	0.079 Typ	0.315 Typ	0.484 Typ

Marking Code

Part Number	Marking Code
CPDQT1V8-HF	2P

Suggested P.C.B. PAD Layout

SIZE	DFNWB1.0x0.6-02L-G	
	(mm)	(inch)
A	0.25	0.010
B	0.40	0.016
C	0.60	0.024



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

Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DFNWB 1.0x0.6-02L-G	10,000	7