

CPDQ05C5V0HP-HF

RoHS Device

Halogen Free



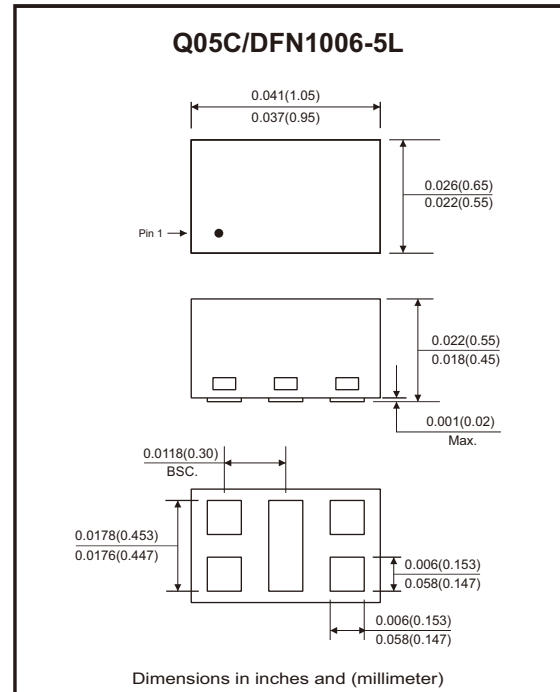
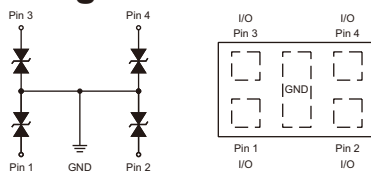
Features

- Bi-directional ESD protection.
- Surface mount package.
- High component density.
- Low clamping voltage.
- IEC 61000-4-4 (EFT) 80A (5/50ns)

Mechanical data

- Case: Q05C/DFN1006-5L standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Mounting position: Any.

Circuit Diagram



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

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	$T_P = 8/20\mu s$	P_{PP}	60	W
Peak pulse current	$T_P = 8/20\mu s$	I_{PP}	4	A
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	± 30	kV
Operating junction temperature range		T_J	-55 to +125	°C
Storage temperature range		T_{STG}	-55 to +150	°C

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Working peak reverse voltage		V_{RWM}			5	V
Breakdown voltage	$I_T = 1mA$	V_{BR}	5.5			V
Reverse leakage current	$V_R = 3V$	I_R			50	nA
	$V_R = 5V$	I_R			100	nA
Clamping voltage	$I_{PP} = 1A, T_P = 8/20\mu s$	V_C		9	11	V
	$I_{PP} = 4A, T_P = 8/20\mu s$	V_C		13	15	
Clamping voltage	$TLP = 16A, T_P = 100ns$	V_C		14.6		V
Dynamic resistance	$TLP, T_P = 100ns, GND$ to I/O	R_{DYN}		0.36		Ω
Junction capacitance	$V_R = 0V, f = 1MHz, GND$ to I/O	C_J		6		pF

Typical Rating and Characteristic Curves (CPDQ05C5V0HP-HF)

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

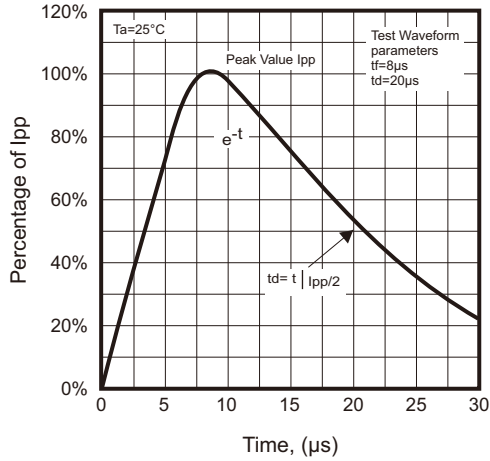


Fig.2 - Power Rating Derating Curve

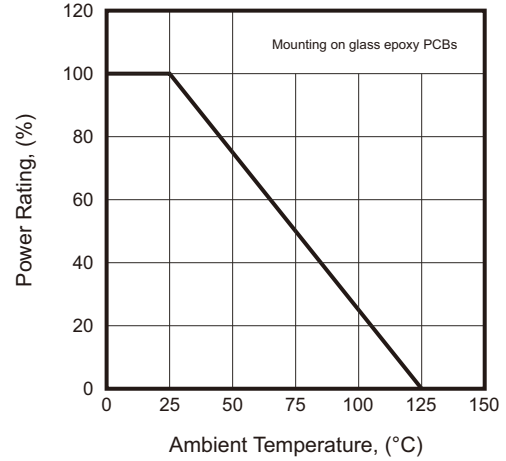


Fig.3 - Typical Clamping Voltage vs.
Peak Pulse Current

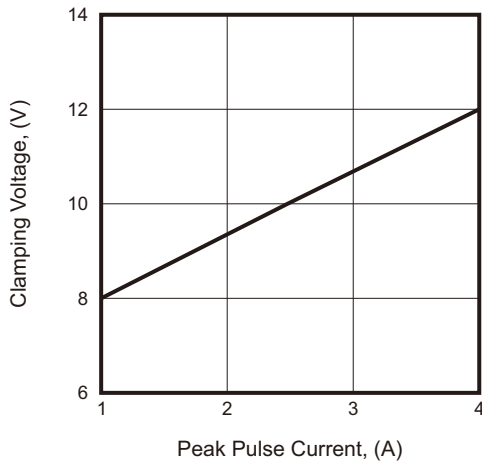


Fig.4 - Typical Capacitance Between
Terminals Characteristics

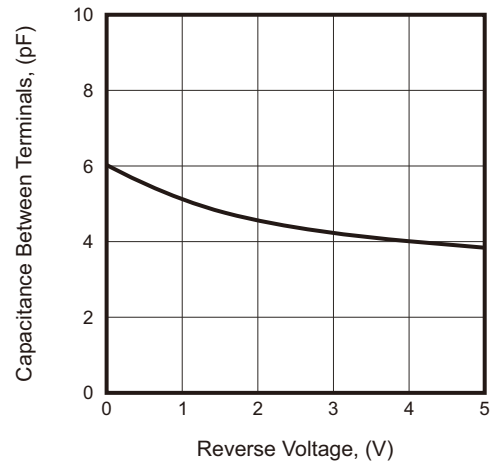


Fig.5 - TLP- Positive Pulse

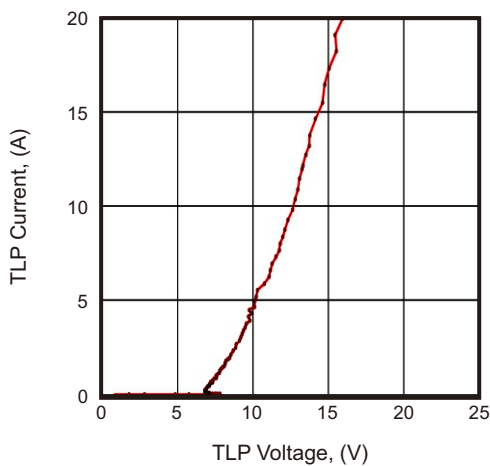
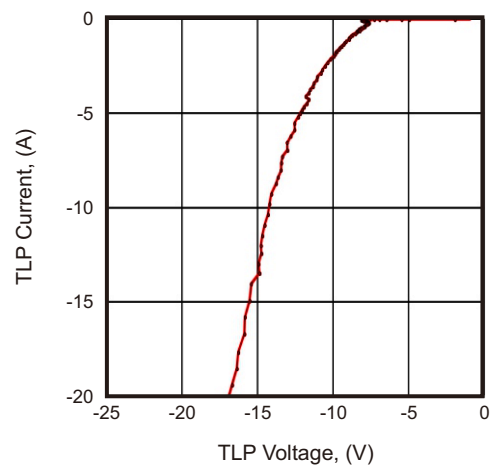
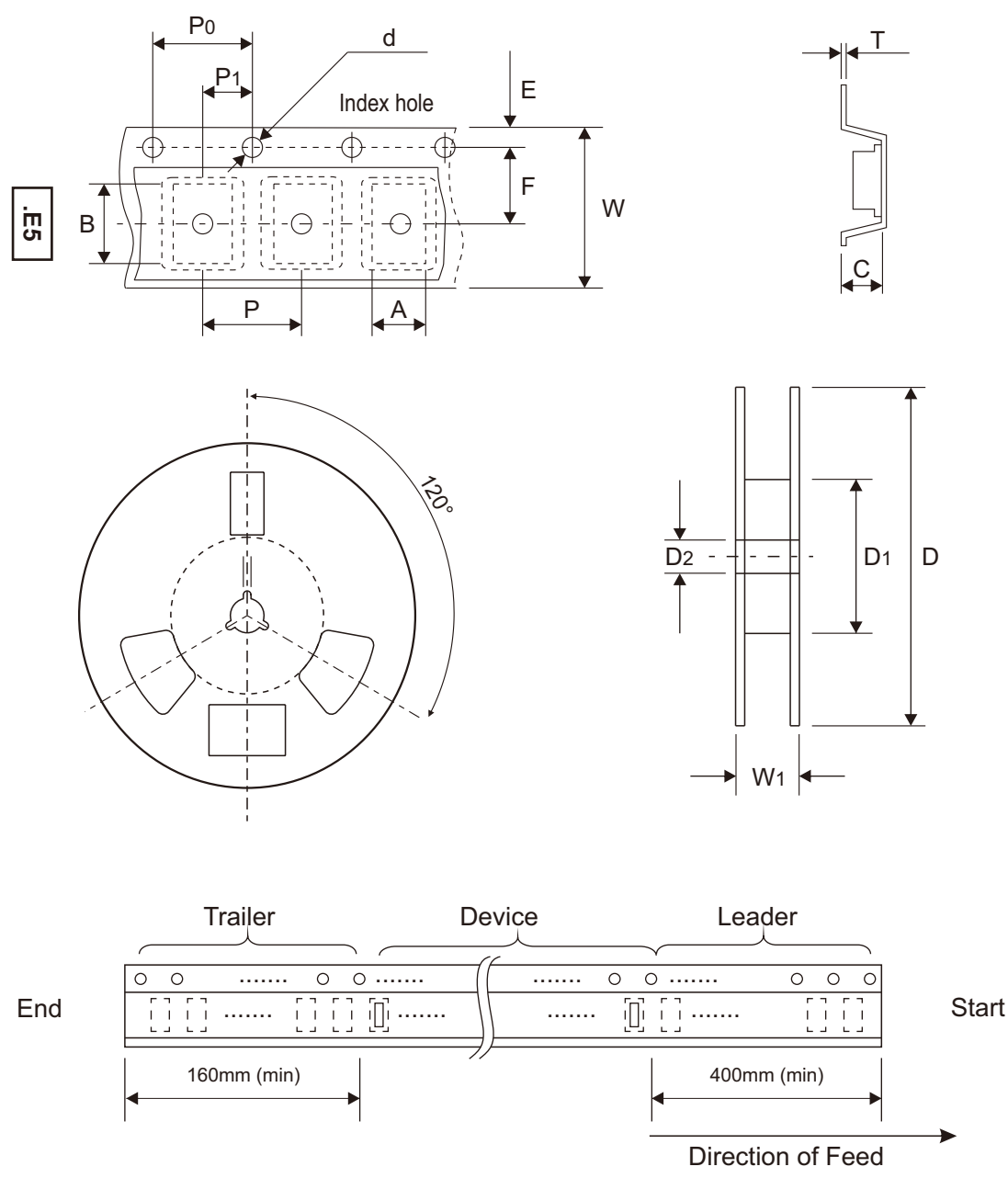


Fig.6 - TLP- Negative Pulse



Reel Taping Specification



Q05C/ DFN1006-5L	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	0.78 ± 0.05	1.25 ± 0.05	0.65 ± 0.05	$1.50 + 0.10 - 0.00$	178.00 ± 1.00	60.00 ± 0.50	13.50 ± 0.20
	(inch)	0.031 ± 0.002	0.049 ± 0.002	0.026 ± 0.002	$0.059 + 0.004 - 0.000$	7.008 ± 0.039	2.362 ± 0.020	0.531 ± 0.008

Q05C/ DFN1006-5L	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	$0.20 + 0.03 - 0.05$	8.00 ± 0.20	$12.00 + 0.50 - 0.00$
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	$0.008 + 0.001 - 0.002$	0.315 ± 0.008	$0.472 + 0.020 - 0.000$

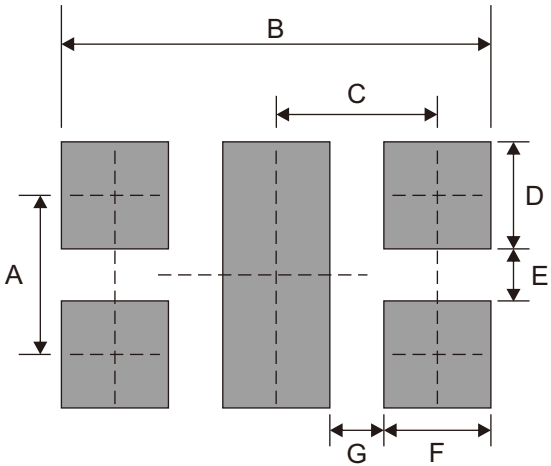
Marking Code

Part Number	Marking Code
CPDQ05C5V0HP-HF	.E5



Suggested P.C.B. PAD Layout

SIZE	Q05C/DFN1006-5L	
	(mm)	(inch)
A	0.30	0.012
B	0.795	0.031
C	0.30	0.012
D	0.195	0.008
E	0.105	0.004
F	0.195	0.008
G	0.105	0.004



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
Q05C/DFN1006-5L	5,000	7