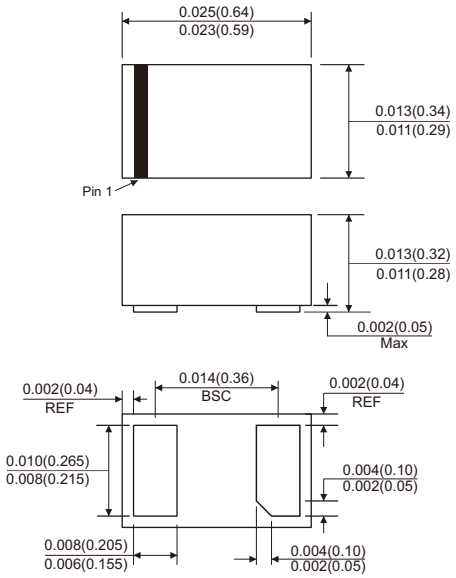
CPDWZ5V0MSBP-HF

RoHS Device
Halogen Free

CSP0603-2L



Dimensions in inches and (millimeter)

Features

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

Mechanical data

- Case: CSP0603-2L package.
- Mounting position: Any.

Circuit Diagram

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

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	T_P = 8/20μs	P_{PP}	42	W
Peak pulse current	T_P = 8/20μs	I_{PP}	6	A
Operating temperature range		T_J	-55 to +125	°C
Storage temperature range		T_{STG}	-55 to +150	°C

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse stand-off voltage		V_{RWM}			5	V
Reverse breakdown voltage	I_T = 1mA	V_{BR}	6			V
Reverse leakage current	V_{RWM} = 5V	I_R			200	nA
Holding current	T = 25°C	I_H		48		mA
Clamping voltage	I_{PP} = 6A, tp = 8/20μs	V_C		5	7	V
Clamping voltage (Note 1)	TLP = 4A, tp = 0.2/100ns	V_C		4.7		V
	TLP = 16A, tp = 0.2/100ns	V_C		8.5		V
Dynamic resistance (Note 1, 2)	TLP = 0.2/100ns	R_{DYN}		0.32		Ω
Junction capacitance	V_R = 0V, f = 1MHz	C_J		0.45	0.6	pF

Notes: 1. TLP setting: t_p=100ns, t_r=0.2ns, I_{TLP} and V_{TLP} sample window: t_1=70ns to t_2=90ns.
2. Dynamic resistance calculated from I_{PP}=4A to I_{PP}=16A using “Best Fit”.

Typical Rating and Characteristic Curves (CPDWZ5V0MSBP-HF)

Fig.1 - Peak Pulse Power vs. Pulse Time

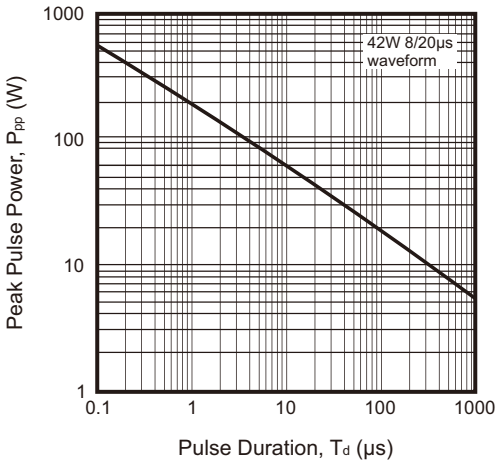


Fig.2 - Power Derating Curve

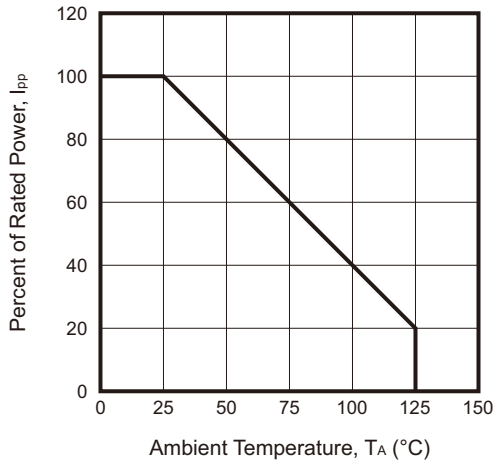


Fig.3 - Clamping Voltage vs. Peak Pulse Current

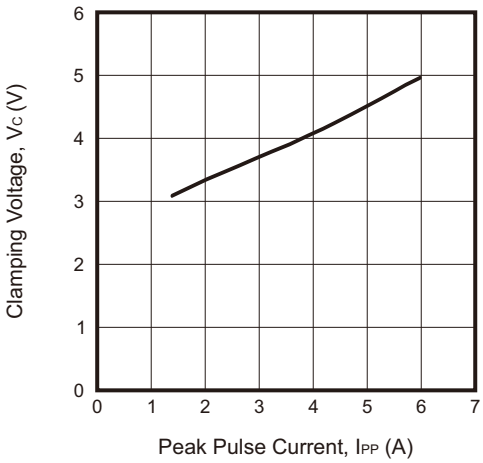


Fig.4 - Typical Capacitance Between Terminals Characteristics

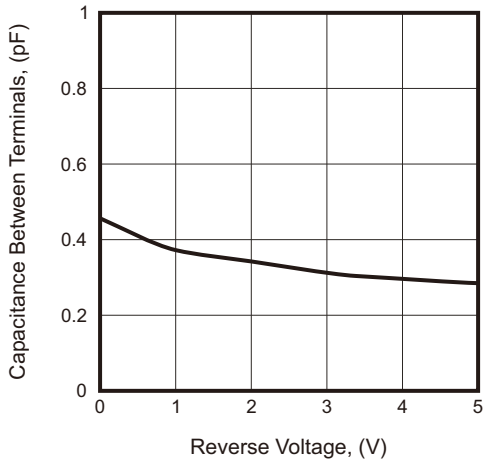


Fig.5 - TLP- Positive Pulse

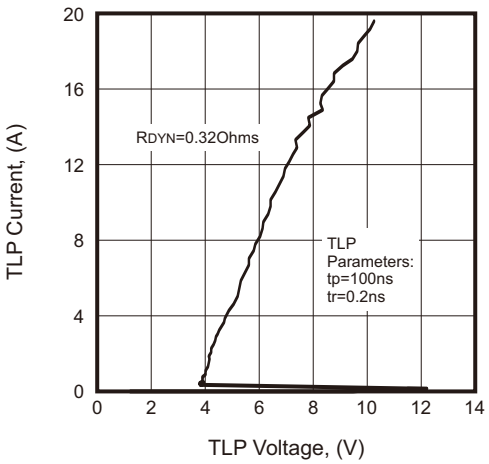
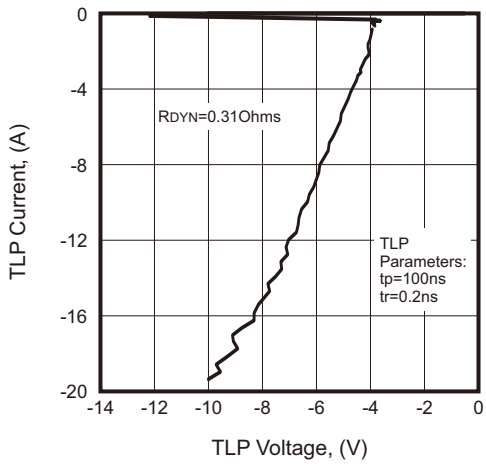
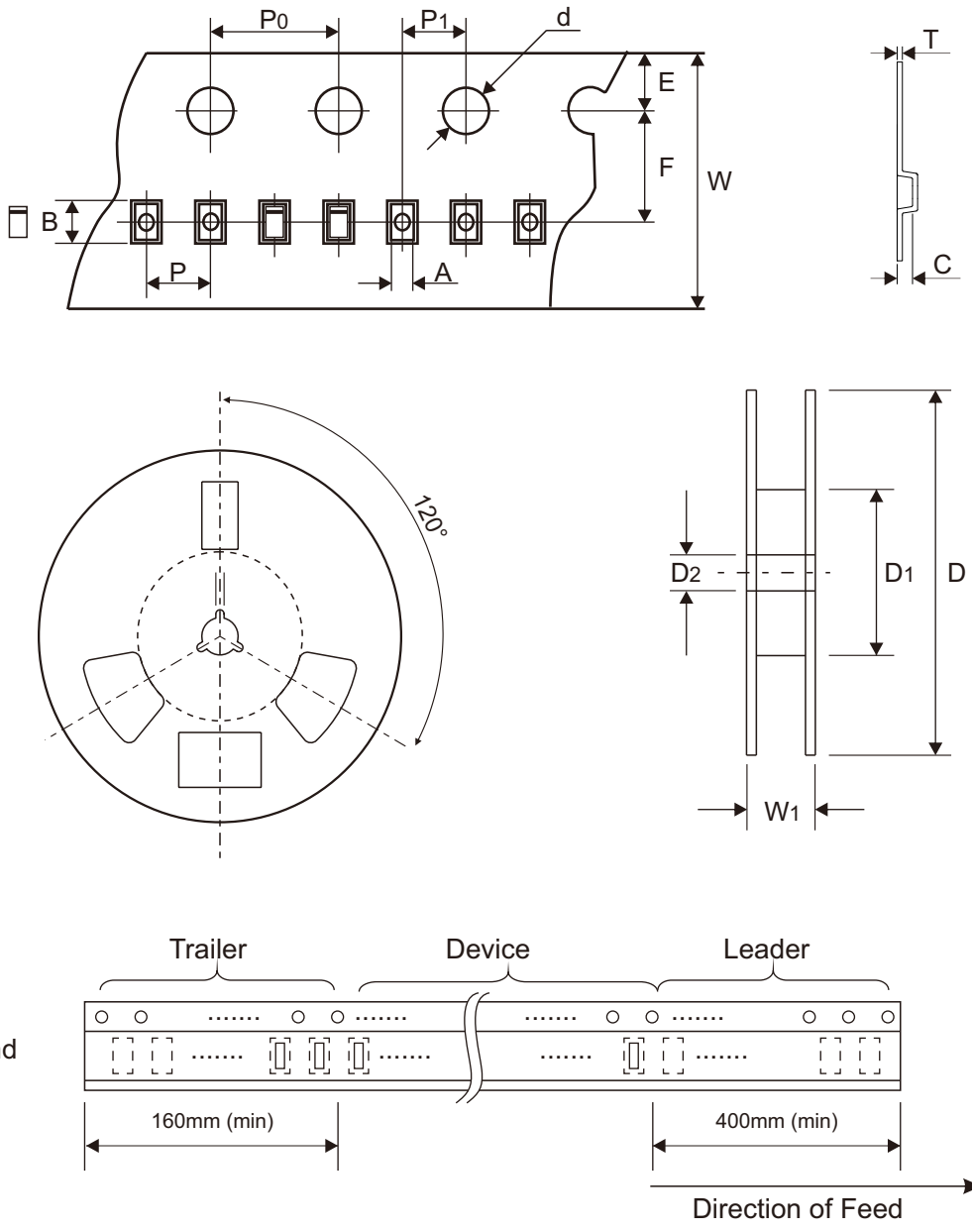


Fig.6 - TLP- Negative Pulse



Reel Taping Specification



	SYMBOL	A	B	C	d	D	D1	D2
CSP0603 -2L	(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

	SYMBOL	E	F	P	P0	P1	T	W	W1
CSP0603 -2L	(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

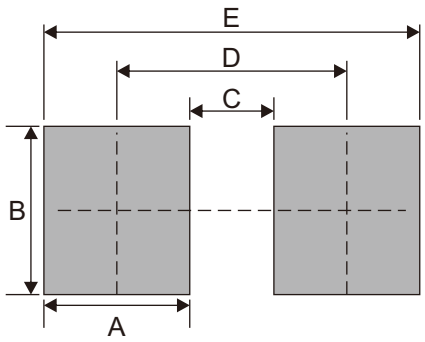
Marking Code

Part Number	Marking Code
CPDWZ5V0MSBP-HF	K

X = Control code

Suggested P.C.B. PAD Layout

SIZE	CSP0603-2L	
	(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)
CSP0603-2L	15,000	7