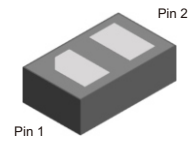


CPDWZ5V0MSBPA-HF

RoHS Device

Halogen Free

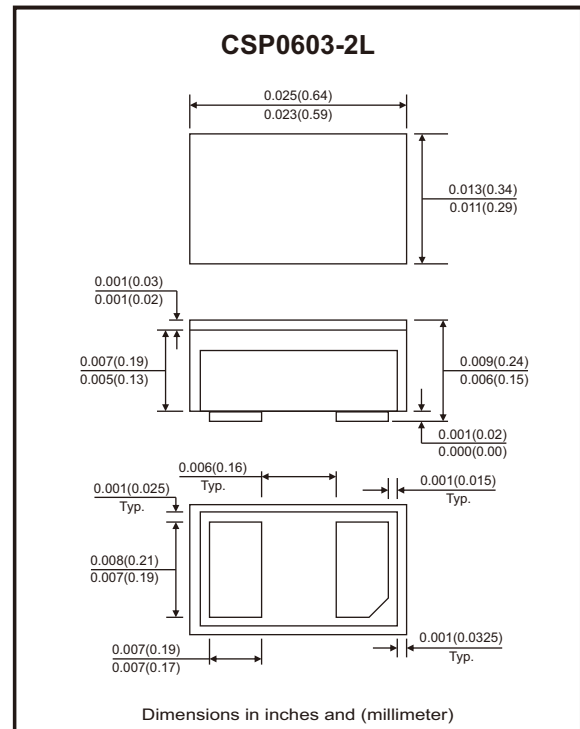


Features

- 75W peak pulse power per line ($t_p=8/20\mu s$).
- Ultra-low capacitance: $C_J=0.48$ pF typ.
- Low clamping voltage.
- Response time is typically < 1 ns.
- Bidirectional configurations.
- IEC 61000-4-2 (ESD) ± 16 kV (air/contact)
- IEC 61000-4-5 (Lightning) 10A (8/20 μs)

Mechanical data

- Case: CSP0603-2L standard package, molded plastic.
- Mounting position: Any.
- Qualified max reflow temperature: 260°C .



Circuit Diagram



Maximum Rating (at $T_A=25^\circ C$ unless otherwise noted)

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	$T_P = 8/20\mu s$	P_{PP}	75	W
Peak pulse current	$T_P = 8/20\mu s$	I_{PP}	10	A
ESD protection (Note 1)	IEC 61000-4-2 (air)	ESD	± 16	kV
	IEC 61000-4-2 (contact)			
Lead soldering temperature		T_L	260 (10 sec)	$^\circ C$
Junction and storage temperature range		T_J, T_{STG}	-55 to +150	$^\circ C$

Note: 1. Device stressed with ten non-repetitive ESD pulses.

Electrical Characteristics Per Line (at $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Peak reverse working voltage		V_{RWM}			5	V
Breakdown voltage	$I_T = 1\text{mA}$	V_{BR}	5.5		8.0	V
Reverse leakage current	$V_{RWM} = 5\text{V}$	I_R			1	μA
Clamping voltage (Note 2)	$I_{PP} = 4\text{A}, T_P = 8/20\mu\text{s}$	V_C		5	7	V
	$I_{PP} = 10\text{A}, T_P = 8/20\mu\text{s}$	V_C		7	9	
Clamping voltage (Note 1)	$TLP = 16\text{A}, T_P = 0.2/100\text{ns}$	V_C		6.5		V
Dynamic resistance (Note 1)		R_{DYN}		0.2		Ω
Junction capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	C_J		0.48	0.65	pF

Notes: 1. TLP parameter: $Z_0=50\Omega$, $t_p=100\text{ns}$, $t_r=2\text{ns}$, averaging window from 70ns to 90ns. R_{DYN} is calculated from 4A to 16A.

2. Non-repetitive current pulse, according to IEC 61000-4-5.

Typical Rating and Characteristic Curves (CPDWZ5V0MSBPA-HF)

Fig.1 - Pulse Waveform (8/20 μs)

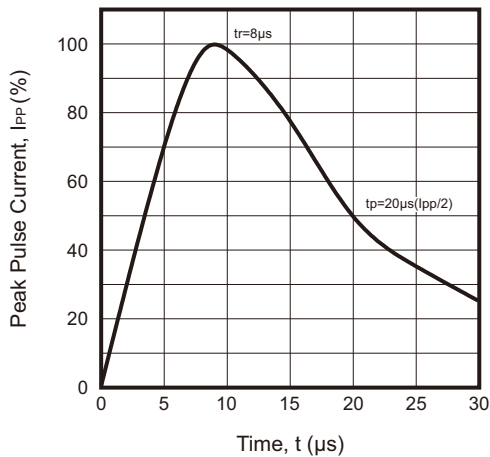


Fig.2 - Power Derating Curve

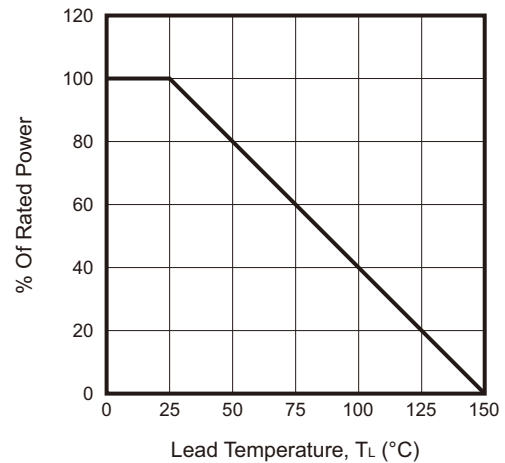


Fig.3 - Clamping Voltage vs. Peak Pulse Current

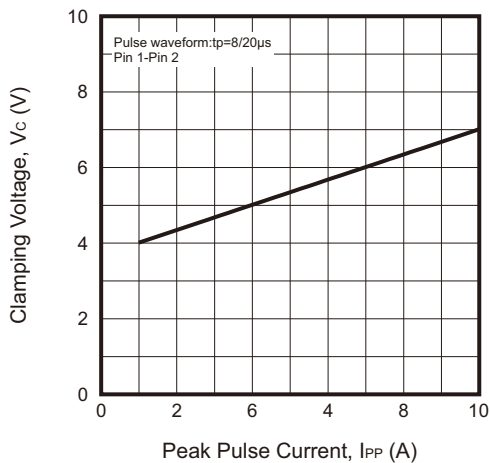
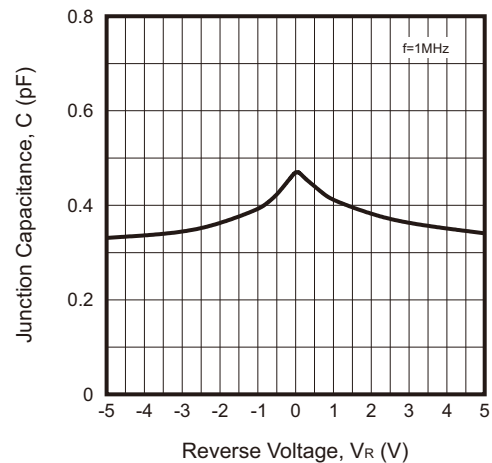


Fig.4 - Capacitance vs. Reverse Voltage



Typical Rating and Characteristic Curves (CPDWZ5V0MSBPA-HF)

Fig.5 - Non Repetitive Peak Pulse Power vs. Pulse Time

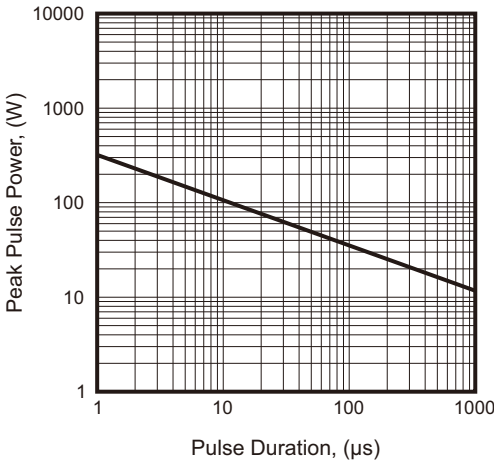


Fig.6 - TLP Measurement

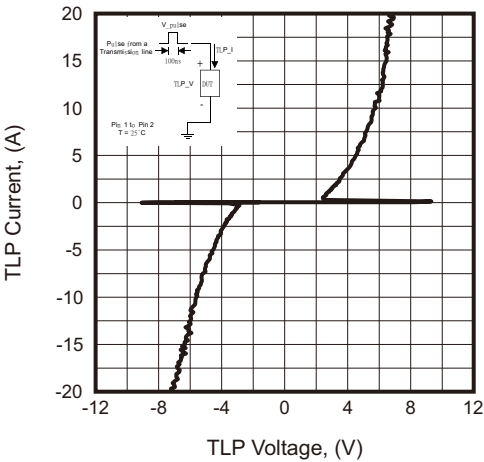


Fig.7 - Clamping Voltage at IEC 61000-4-2 +8kV Pulse Waveform

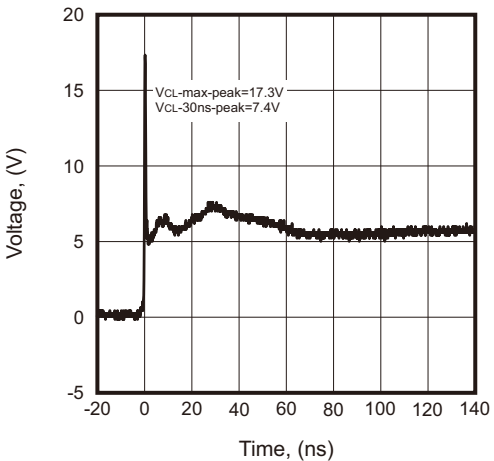
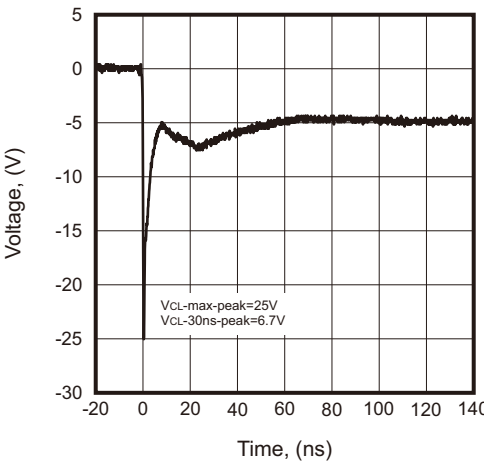
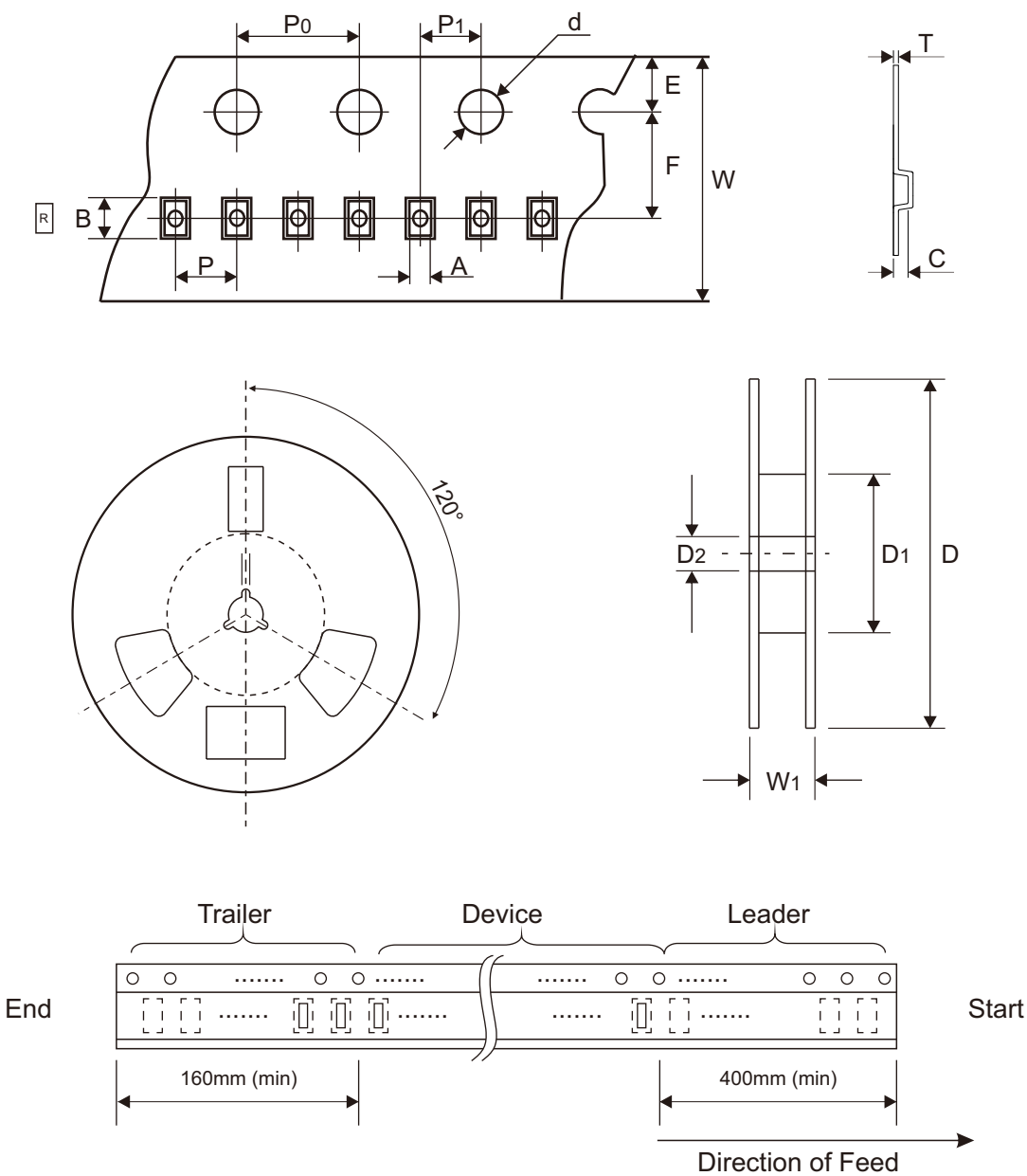


Fig.8 - Clamping Voltage at IEC 61000-4-2 -8kV Pulse Waveform



Reel Taping Specification



CSP0603-2L	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	0.39 ± 0.03	0.70 ± 0.03	0.38 ± 0.02	1.55 ± 0.05	180.00 ± 1.00	54.40 ± 1.00	$13.00 + 0.50 - 0.20$
	(inch)	0.015 ± 0.001	0.028 ± 0.001	0.015 ± 0.001	0.061 ± 0.002	7.087 ± 0.039	2.142 ± 0.039	$0.512 + 0.020 - 0.008$

CSP0603-2L	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.03	2.00 ± 0.03	4.00 ± 0.05	2.00 ± 0.03	$0.20 + 0.01 - 0.02$	8.00 ± 0.10	12.00 ± 1.30
	(inch)	0.069 ± 0.004	0.138 ± 0.001	0.079 ± 0.001	0.157 ± 0.002	0.079 ± 0.001	$0.008 + 0.0004 - 0.001$	0.315 ± 0.004	0.472 ± 0.051

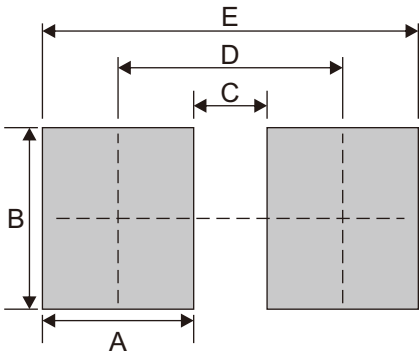
Marking Code

Part Number	Marking Code
CPDWZ5V0MSBPA-HF	R



Suggested P.C.B. PAD Layout

SIZE	CSP0603-2L	
	(mm)	(inch)
A	0.25	0.010
B	0.32	0.013
C	0.15	0.006
D	0.40	0.016
E	0.65	0.026



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
CSP0603-2L	10,000	7