

# CDL series

- Low impedance, 105°C 5000 hours Long Life.
- Applicable to SMT process.
- RoHS Compliance.
- 105°C 低阻抗、5000小時 長壽命產品。
- 適用於SMT制程。



## SPECIFICATIONS

Items 項目	Characteristics 特性									
Capacitance Tolerance 靜電容量誤差	± 20%(120Hz,20°C)									
Operating Temperature Range 適用溫度範圍	-55 ~ +105°C									
Rated Voltage Range 額定電壓範圍	6.3~100VDC									
Capacitance Range 靜電容量範圍	22~12000μF									
Leakage Current 洩漏電流	≤ 0.01CV or 3 (μA), which is greater. ( After 2 minutes application of DC rated voltage, at 20°C)									
Dissipation Factor 散逸因素( tan δ)	Measurement Frequency: 120Hz. Temperature: 20°C									
	Rated Voltage(V)	6.3	10	16	25	35	50	63	80	100
	tan δ(Max)	0.3	0.26	0.22	0.16	0.14	0.14	0.08	0.08	0.07
Low Temperature Stability 低溫特性 Impedance Ratio(Max) 阻抗比率(最大值)	Measurement Frequency: 120Hz.									
	Rated Voltage(V)	6.3	10	16	25	35	50	63	80	100
	Z(-25°C)/Z(20°C)	4	3	2	2	2	2	2	2	2
	Z(-55°C)/Z(20°C)	8	5	4	3	3	3	3	3	3
Load Life 負荷壽命	5000hours,with application of rated voltage at 105°C									
	Capacitance Change	Within ±30% of Initial Value								
	tan δ	300% or less of Initial Specified Value								
	Leakage Current	Initial Specified Value or less								
Shelf Life 放置壽命	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1000 hours 105°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to them 4.1 of JIS C5101-4.									
	Capacitance Change	Within ±30% of Initial Value								
	tan δ	300% or less of Initial Specified Value								
	Leakage Current	Initial Specified Value or less								
Resistance to Soldering Heat 焊錫耐熱性	The capacitors shall be kept on the hot plate maintained at 250°C for 30 seconds. After removing from the hot plate and restored at room temperature they meet the characteristics requirements listed at right.						Capacitance Change	Within ± 10% of Initial Value		
							tan δ	Initial Specified Value		
							Leakage Current	Initial Specified Value or less		
Standards 參照標準	IEC 60384-4 (JIS C 5101-4)									

## Frequency Coefficient of Permissible Ripple Current

Frequency (Hz)	120 ≤ F < 1K	1K ≤ F < 10K	10K ≤ F < 100K	100K ≤ F
≤ 33	0.35	0.70	0.90	1.00
33 ~ 150	0.40	0.85	0.92	1.00
> 150	0.60	0.85	0.95	1.00

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**DIMENSIONS(mm)**

Chip Type

Fig.1  $\Phi D=8\sim 10\text{mm}$

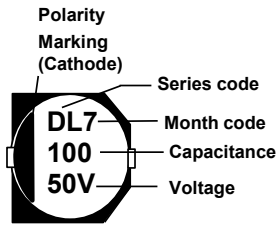
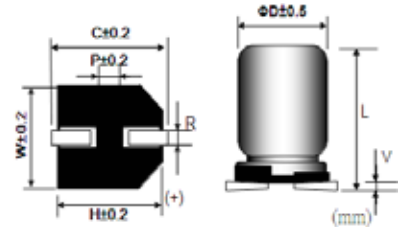
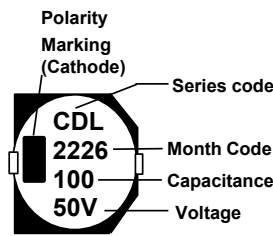


Fig.2  $\Phi D\geq 12.5\text{mm}$



(mm)

Size	$\Phi D$	L	W	H	C	R	P	Vmax
8x10	8.0	10 ± 0.5	8.3	8.3	9.0	0.7~1.1	3.2	0.3
10x10	10.0	10 ± 0.5	10.3	10.3	11.0	0.7~1.3	4.5	0.3
10x12.5	10.0	13.5 ± 0.5	10.3	10.3	11.0	0.7~1.3	4.5	0.4
12.5x13.5	12.5	13.5 ± 0.5	13.0	13.0	13.7	1.1~1.4	4.5	0.4
16x16.5	16.0	16.5 ± 0.5	17.0	17.0	18.0	1.4~1.8	6.4	0.4
18x16.5	18.0	16.5 ± 1	19.0	19.0	20.0	1.4~1.8	6.4	0.4
18 × 21.5	18.0	21.5 ± 1	19.0	19.0	20.0	1.4~1.8	6.4	0.4

**STANDARD RATINGS**

D×L(mm) ; R.C.(mA rms) at 105°C 100KHz, ESR( $\Omega$  max) at 20°C 100kHz.

Cap ( $\mu\text{F}$ )	V Item	6.3			10			16			25			35		
		D x L	R.C.	ESR	D x L	R.C.	ESR	D x L	R.C.	ESR	D x L	R.C.	ESR	D x L	R.C.	ESR
100														8x10	600	0.17
150											8x10	600	0.17	8x10	600	0.17
220											8x10	600	0.17	10x10	850	0.09
330					8x10	600	0.17	8x10	600	0.17	8x10	600	0.17			
470		8x10	600	0.17	8x10	600	0.17	8x10	600	0.17	10x10	850	0.09	12.5x13.5	1100	0.06
680		8x10	600	0.17	10x10	850	0.09	10x10	850	0.09	12.5x13.5	1100	0.06	12.5x13.5	1100	0.06
1000		8x10	600	0.17	10x10	850	0.09	10x10	850	0.09	12.5x13.5	1100	0.06	16x16.5	1800	0.035
								12.5x13.5	1100	0.06				16x16.5	1800	0.035
1500		10x10	850	0.09	12.5x13.5	1100	0.06				16x16.5	1800	0.035	16x16.5	1800	0.035
2200		12.5x13.5	1100	0.06	12.5x13.5	1100	0.06				16x16.5	1800	0.035	18x16.5	2060	0.033
2700														18x21.5	2060	0.028
3300								16x16.5	1800	0.035	18x16.5	2060	0.033			
3900											18x21.5	2060	0.028			
4700					16x16.5	1800	0.035	18x16.5	2060	0.033						
5600								18x21.5	2060	0.028						
6800		16x16.5	1800	0.035	18x16.5	2060	0.033									
8200		18x16.5	2060	0.033	18x21.5	2060	0.028									
10000		18x16.5	2060	0.033												
12000		18x21.5	2060	0.028												

Cap ( $\mu\text{F}$ )	V Item	50			63			80			100		
		D x L	R.C.	ESR	D x L	R.C.	ESR	D x L	R.C.	ESR	D x L	R.C.	ESR
22											8x10	130	1.88
33								8x10	130	1.88	10x10	200	0.65
47					8x10	200	0.70	10x10	200	0.90	12.5x13.5	500	0.32
56		8x10	330	0.34	10x10	369	0.48						
68		8x10	330	0.34							12.5x13.5	500	0.32
100		8x10	330	0.34	12.5x13.5	800	0.16	12.5x13.5	500	0.32	16x16.5	793	0.17
150		10x10	670	0.18	12.5x13.5	800	0.16	12.5x13.5	500	0.32	16x16.5	793	0.17
220					12.5x13.5	800	0.16				18x16.5	917	0.153
330		12.5x13.5	900	0.12	16x16.5	1410	0.082	16x16.5	793	0.17	18x21.5	1230	0.083
470		16x16.5	1610	0.073	16x16.5	1410	0.082	18x16.5	917	0.153			
680		16x16.5	1610	0.073	18x16.5	1690	0.080						
1000		16x16.5	1610	0.073	18x21.5	1960	0.055						
1200		18x16.5	1900	0.068									
1500		18x21.5	2100	0.042									

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