

Specification

Part No.: DLC70L

DLC70L (1.30" x 1.30")

◆ Product Features

High Q value, high power, low ESR/ESL, low noise,
high self-resonant frequency, high reliability.

◆ Product Application

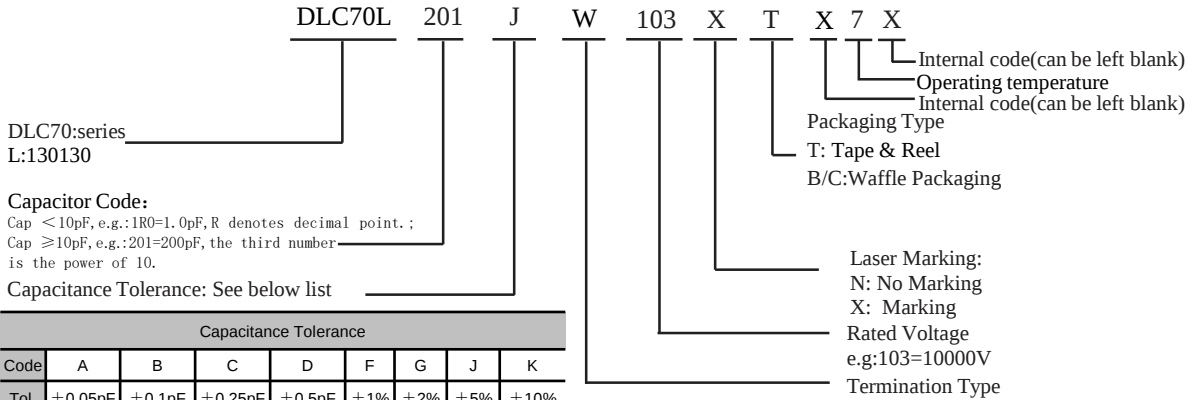
Typical applications: semiconductor RF power, MRI, repeater, high speed railway signal responsor, wireless broadcasting and TV device.

◆ DLC70L Capacitance Table

Cap	Code	Tol.	Rated	Cap	Code	Tol.	Rated	Cap	Code	Tol.	Rated	Cap	Code	Tol.	Rated
pF			WVDC	pF			WVDC	pF			WVDC	pF			WVDC
200	201	F,G,J	10000V Code 103	1000	102	F,G,J	10000V Code 103	3300	332	F,G,J	5000V Code 502	12000	123	J	3000V Code 302
220	221			1200	122			4700	472			15000	153		
270	271			1500	152			5100	512			22000	223		
300	301			1800	182			5600	562			33000	333		
330	33`			2200	222			6800	682			47000	473		
390	391			2700	272			7500	752			56000	563		
470	471							8200	822			68000	683	J	1000V Code 102
560	561							10000	103			82000	823		
680	681											100000	104		
820	821											120000	124		

Remark: special capacitance, tolerance and WVDC are available, consult with DALICAP.

◆ **Part Numbering**

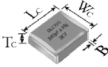
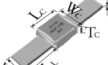
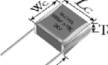
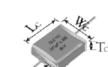


※ Operating temperature: left blank : -55°C~125°C; 5: -55°C~150°C; 7: -55°C~175°C.

Note: For welded products of types B/C/E/F/G with pin dimensions, the packaging types of B and C are barrier packaging.

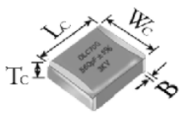
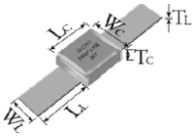
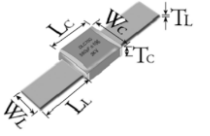
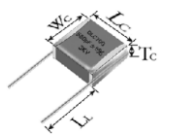
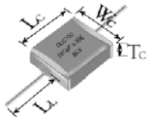
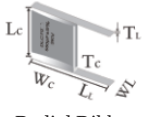
◆ **DLC70L 端头类型和尺寸**

unit: inch (millimeter)

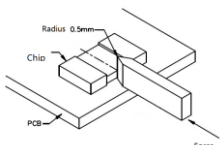
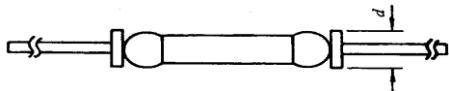
Series	Term. Code	Type/ Outlines	Capacitor Dimensions				Lead Dimensions			Termina Material			
			Length Lc	Width Wc	Thickness Tc	Overlap B	Length LL	Width WL	Thickness TL				
70L	W	 Chip	1.350 ± .050 (34.29 ± 1.27)	1.350 ± .050 (34.29 ± 1.27)	.197 (5.00) max	.039~.079 (1.00~2.00)	—	—	—	100%Sn over Nickel Plating , RoHS Compliant			
	L							90%Sn 10%Pb over Nickel Plating ,					
70L	MS	 Microstrip				—	.748 (19.00) min	1.299 ± .020 (33.00 ± 0.50)	.012 ± .001 (0.30 ± 0.025)	Silver- plated Copper			
70L	AR	 Axial Ribbon											
70L	RW	 Radial Wire									.748 (19.00) min	.031 ± .006 (0.80 ± 0.15)	Silver wire
70L	AW	 Axial Wire											
70L	FS	 Radial Ribbon				—	.748 (19.00) min	.031 ± .006 (0.80 ± 0.15)		Silver- plated Copper			

◆ **DLC70L 端头类型和尺寸**

unit: inch (millimeter)

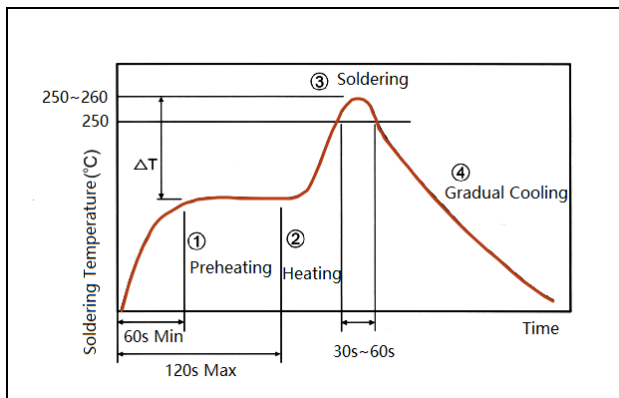
Series	Term. Code	Type/ Outlines	Capacitor Dimensions				Lead Dimensions			Terminals Material
			Length Lc	Width Wc	Thickness Tc	Overlap B	Length LL	Width WL	Thickness TL	
70L	P	 Chip(Non-Mag)	1.350 ± .050 (34.29 ± 1.27)	1.350 ± .050 (34.29 ± 1.27)	.197 (5.00) max	.039~.079 (1.00~2.00)	—	—	—	100%Sn over Copper Plating , RoHS Compliant RoHS Compliant
70L	MN	 Microstrip(Non-Mag)				—	.748 (19.00) min	1.299 ± .020 (33.00 ± 0.50)	.012 ± .001 (0.30 ± 0.025)	Silver- plated Copper
70L	AN	 Axial Ribbon (Non-Mag)								
70L	RN	 Radial Wire(Non-Mag)						.748 (19.00) min	.031 ± .006 (0.80 ± 0.15)	Silver wire
70L	BN	 Axial Wire (Non-Mag)								
70L	FN	 Radial Ribbon (Non-Mag)					.669 (17.00) min	.157 ± .010 (4.00 ± 0.25)	.012 ± .001 (0.30 ± 0.25)	Silver- plated Copper

◆ **Reliability Test Conditions.**

No.	Item	Specification	Test method												
1	Operating temperature	-55℃~125℃ -55℃~175℃													
2	Appearance	No defects or abnormality	Visual inspection: ×10 microscope.												
3	Dimensions	See the previous page	Caliper inspection												
4	Capacitance	Shall be within the applicable tolerance specified.	Test frequency: C≤1000pF: 1MHz±10% C>1000pF: 1KHz±10% Test voltage: 1.0±0.2Vrms												
5	D.F	DF≤0.05%													
6	Insulation resistance	10 ⁵ Megohms min. @ +25 °C 10 ⁴ Megohms min. @ +125 °C	Voltage: DC Rated Voltage (500V max)												
7	Dielectric withstanding voltage (DWV)	Shall be no evidence of breakdown or visible evidence of arcing or damage.	Test Voltage: 100% of the rated voltage Applied Time: 5 s Charge/discharge current: 50mA max.												
8	Temperature coefficient	(0±30)ppm/℃(-55℃~125℃) (0±60)ppm/℃(+125℃~175℃)	Conduct the five cycles according to the temperatures as below. <table><tr><th>step</th><th>temperature (°C)</th></tr><tr><td>1</td><td>25±2</td></tr><tr><td>2</td><td>-55±3</td></tr><tr><td>3</td><td>25±2</td></tr><tr><td>4</td><td>Tmax±3</td></tr><tr><td>5</td><td>25±2</td></tr></table> $TC = \frac{C_R - C_3}{C_3 \times \Delta T} \times 10^6 \text{ ppm/}^\circ\text{C}$	step	temperature (°C)	1	25±2	2	-55±3	3	25±2	4	Tmax±3	5	25±2
step	temperature (°C)														
1	25±2														
2	-55±3														
3	25±2														
4	Tmax±3														
5	25±2														
9	Capacitance Drift	±0.2% or ±0.05pF, whichever is larger.													
10	Adhesive Strength of Termination	No removal of the terminations or other defect should occur.	Pressurizing force: 50.0 ^{+3.0} ₀ N Test time:60±1 s. 												
11	Terminal strength	Visual examination for loosening, rupturing, and permanent damage to the terminals.	Solder the capacitor on test jig as below . Then apply a horizontal force. Holding time: 5~10s Force: 10 N minimum. d= (1.02±0.15) mm; 												

No.	Item	Specification	Test method															
12	Solderability of termination	Shall be at least 95 percent covered with a smooth solder coating.	Immerse the capacitor in a eutectic solution requirement temperature (245 ±2°C) for 2 ±0.5 seconds. Capacitor shall be immersed to a depth of 10mm.															
13	Resistance to soldering Heat	Appearance: No evidence of mechanical damage or delamination or exposed. Cap change: within -1.0%~+2.0% or ± 0.5pF whichever is larger. Q: No less than initial requirement. IR(25°C): No less than initial requirement.	Preheat for 1 minute at 150°C to 180°C before immerse the capacitor in a eutectic solution at 260 ±5°C for 10 ±1 seconds. Capacitor shall be immersed to a depth of 10mm. And following a 24 ±2 hours cooling period.															
14	Temperature Cycle	Appearance: No evidence of mechanical damage . Cap change: within ± 0.5% or ± 0.5pF whichever is larger. Q: No less than initial requirement. IR(25°C): No less than 30% initial requirement. DWV: To meet initial requirement.	Perform the five cycles according to the four heat treatments listed in the following table. Set it for 24 ±2 hours at room temperature. <table><tr><td>step</td><td>Temperature(°C)</td><td>Time(min)</td></tr><tr><td>1</td><td>-55(-3~0)</td><td>≥30</td></tr><tr><td>2</td><td>25+10</td><td>≤5</td></tr><tr><td>3</td><td>125(0~+3)</td><td>≥30</td></tr><tr><td>4</td><td>25+10</td><td>≤5</td></tr></table>	step	Temperature(°C)	Time(min)	1	-55(-3~0)	≥30	2	25+10	≤5	3	125(0~+3)	≥30	4	25+10	≤5
step	Temperature(°C)	Time(min)																
1	-55(-3~0)	≥30																
2	25+10	≤5																
3	125(0~+3)	≥30																
4	25+10	≤5																
15	Humidity, steady state	Appearance: No evidence of mechanical damage . Cap change: within ± 0.3% or ± 0.3pF whichever is larger. IR(25°C): No less than initial requirement.	With 1.5 Volts D.C. applied while subjected to an environment of 85°C with 85% relative humidity for 240 hours minimum. Removed and sit 3.5 ±0.5 hours at room temperature.															
16	High Temperature Load (Life)	Appearance: No evidence of mechanical damage . Cap change: within ± 2% or ± 0.5pF whichever is larger. Q: No less than 50% initial requirement. IR(25°C): No less than 30% initial requirement.	Test Voltage: 100% of the rated voltage The charge/discharge current is less than 50mA. Temperature: Tmax°C; Time: 2000h. Measurement: Set it for 48 hours at room temperature, then measure.															

◆ Recommended soldering conditions



$\Delta T \leq 150^{\circ}\text{C}$;

Maximum temperature: $255^{\circ}\text{C} \pm 5^{\circ}\text{C}$;

Heating rate: $\leq 4^{\circ}\text{C/s}$.

◆ Recommended Land Dimensions

Orientation	EIA	A(mm)	B(mm)	C(mm)
Horizontal	130130	31.00	3.30	36.00

