

**DLC70L (1.30" x 1.30")**

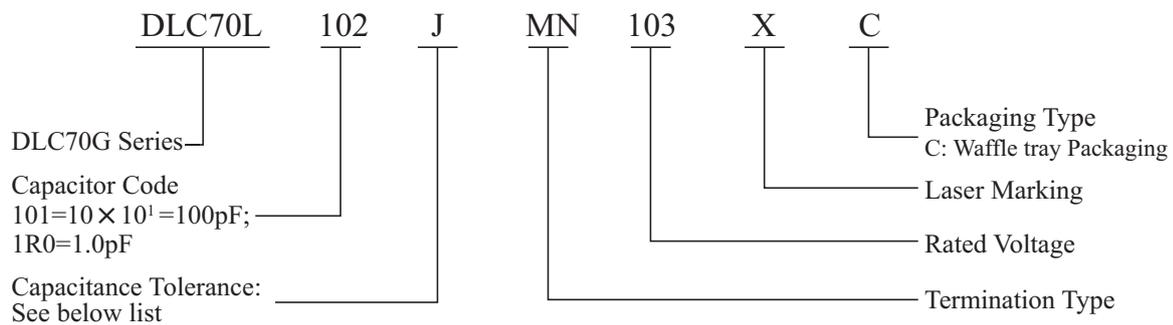
**◆ Product Features**

High Q, High RF Current/Voltage, High RF Power, Low ESR/ESL, Low Noise, Ultra-Stable Performance.

**◆ DLC70L Capacitance & Rated Voltage Table**

Cap.pF	Code	Tol.	Rated WVDC	Cap.pF	Code	Tol.	Rated WVDC	Cap.pF	Code	Tol.	Rated WVDC
200	201	G,J	10KV Code103	1800	182	G,J	10KV Code103	12000	123	J	3000V Code302
220	221			2200	222			15000	153		
270	271			2700	272			22000	223		
300	301			3300	332			33000	333		
330	331			4700	472			47000	473		
390	391			5100	512			56000	563		
470	471			5600	562		68000	683			
560	561			6800	682		82000	823			
680	681			7500	752		100000	104			
820	821			8200	822		120000	124			
1000	102			10000	103						
1200	122										
1500	152										

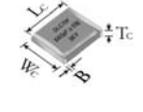
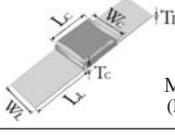
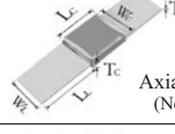
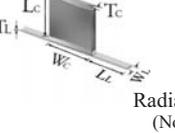
**◆ Part Numbering**



Code	G	J
Tolerance	± 2%	± 5%

◆ **DLC70L Capacitor Dimensions**

unit:inch(millimeter)

Series	Term. Code	Type/Outlines	Capacitor Dimensions				Lead Dimensions			Plated Material
			Length (L <sub>c</sub> )	Width (W <sub>c</sub> )	Thick. (T <sub>c</sub> )	Overlap (B)	Length (L <sub>L</sub> )	Width (W <sub>L</sub> )	Thickness (T <sub>L</sub> )	
70L	P	 Chip (Non-Mag)				.063 (1.60) max	—	—	—	Non-mag, Copper Plated 100% Sn
70L	MN	 Microstrip (Non-Mag)	1.30 +.015 to	1.30 ±.010 (33.40±	.197 (5.00) max	—	.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)	+0.38 to -0.25)							
70L	FN	 Radial Ribbon (Non-Mag)					.669 (17.00) min	.157 ± .008 (4.00 ±0.20)	.012 ± .001 (0.30 ±0.025)	

◆ **Performance**

Item	Specifications
Quality Factor (Q)	No less than 1000pF, Q value more than 2000, Test frequency 1MHz; More than 1000pF, Q value more than 2000, Test frequency 1KHz;
Insulation Resistance (IR)	Test Voltage: 500V 10 <sup>5</sup> Megohms min. @ +25°C at rated WVDC. 10 <sup>4</sup> Megohms min. @ +125°C at rated WVDC.
Rated Voltage	See Rated Voltage Table
Dielectric Withstanding Voltage (DWV)	250% of Rated Voltage for 5 seconds, Rated Voltage ≤ 500VDC 150% of Rated Voltage for 5 seconds, 500VDC < Rated Voltage ≤ 1250VDC 120% of Rated Voltage for 5 seconds, Rated Voltage > 1250VDC
Operating Temperature Range	-55°C to +175°C
Temperature Coefficient (TC)	0 ± 30 ppm/°C (-55°C to +125°C)
Capacitance Drift	± 0.02% or ± 0.02pF, whichever is greater.
Piezoelectric Effects	None

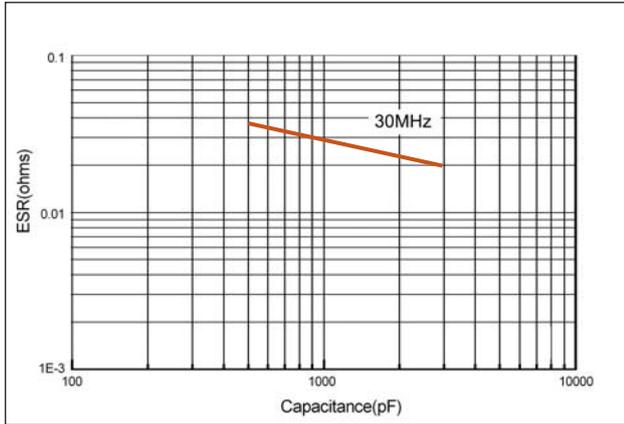
Capacitors are designed and manufactured to meet the requirements of MIL-PRF-55681 and MIL-PRF-123.

◆ **Environmental Tests**

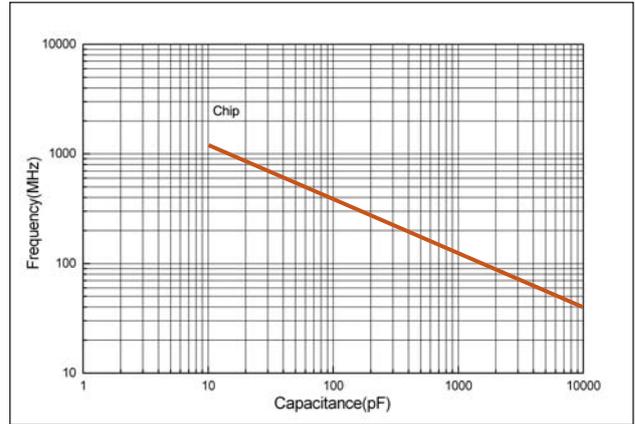
Item	Specifications	Method
Thermal Shock	DWV: the initial value IR: Shall not be less than 30% of the initial value Capacitance change: no more than 0.5% or 0.5pF, whichever is greater.	MIL-STD-202, Method 107, Condition A. At the maximum rated temperature (-55°C and 125°C) stay 30 minutes. The time of removing shall not be more than 3 minutes. Perform the five cycles.
Moisture Resistance		MIL-STD-202, Method 106.
Humidity (steady state)	DWV: the initial value IR: the initial value Capacitance change: no more than 0.3% or 0.3pF, whichever is greater.	MIL-STD-202, Method 103, Condition A, with 1.5 Volts D.C. applied while subjected to an environment of 85°C with 85% relative humidity for 240 hours minimum.
Life	IR: Shall not be less than 30% of the initial value Capacitance change: no more than 2.0% or 0.5pF, whichever is greater.	MIL-STD-202, Method 108, for 2000 hours, at 125°C. 200% of Rated Voltage for Capacitors, Rated Voltage ≤ 500VDC 120% of Rated Voltage for Capacitors, 500VDC < Rated Voltage ≤ 1250VDC 100% of Rated Voltage for Capacitors, Rated Voltage > 1250VDC
Terminal Strength	Microstrip: more than 20 N;	MIL-STD-202, Method 211.

◆ **DLC70L Performance Curve**

ESR vs Capacitance  
measured @ 30MHz



Self Resonant Frequency vs  
Capacitance



**Test Conditions:**

Typical responses for sample placed across a 1.1-inch gap in a 114-mil-wide Micro-strip on 60 mil FR4 PCB.

Measurements de-embedded to sample edges using TRL calibration procedures.

70L Rated Current vs Frequency

