Specification

Part No.: DLC70G

DLC70G (.750" x .750")



◆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.

◆ DLC70G Capacitance Table

Cap. pF	Code	Tol.	Rated WVDC	Cap. pF	Code	Tol.	Rated WVDC	Cap. pF	Code	Tol.	Rated WVDC
1.0	1R0	B,C,D	5000V Code 502 or 8000V Code 802	39	390	F,G,J	5000V Code 502 or 8000V Code 802	1200	122	G,J	3000V Code 302 or 5000V Code 502
1.2	1R2			47	470			1500	152		
1.5	1R5			56	560			1800	182		
2.2	2R2			68	680			2200	222		
2.7	2R7			82	820			2700	272		
3.3	3R3			100	101			3300	332		
3.9	3R9			120	121			4700	472		
4.7	4R7			150	151			5100	512		
5.6	5R6			180	181			5100	512		
6.8	6R8			220	221			5600	562		
8.2	8R2			270	271		3000V Code 302 or 5000V Code 502	6800	682		1000V Code 102 or 3000V Code 302
10	100	F,G,J		300	301			7500	752		
12	120			390	391			8200	822		
15	150			470	471			10000	103		
18	180			560	561			12000	123		2000V Code 202
22	220			680	681			15000	153		
27	270			820	821			18000	183		
33	330			1000	102			20000	203		

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

◆ Part Numbering

DLC70G 101 J W 502 X T X 7 X

- DLC70:series
  G:7575
- Capacitor Code:
  Cap ＜10pF, e.g.: 1R0=1.0pF, R denotes decimal point.;
  Cap ≥10pF, e.g.: 101=100pF, the third number is the power of 10.
- Capacitance Tolerance: See below list

Capacitance Tolerance								
Code	A	B	C	D	F	G	J	K
Tol.	±0.05pF	±0.1pF	±0.25pF	±0.5pF	±1%	±2%	±5%	±10%

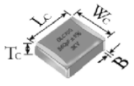
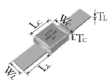
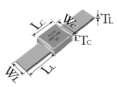
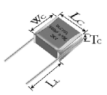
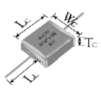
- Termination Type
- Rated Voltage
  e.g:802=8000V
- Laser Marking:
  N: No Marking
  X: Marking
- Packaging Type
  T: Tape & Reel
  B/C:Waffle Packaging
- Internal code(can be left blank)
- Operating temperature
- Internal code(can be left blank)

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

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

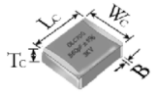
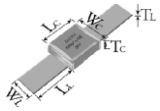
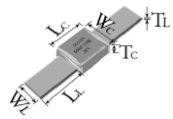
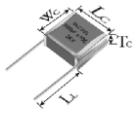
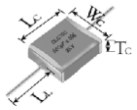
◆ DLC70G Termination Type and Dimensions

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	
70G	W	 Chip	.760 +.025～-.010 (19.30 +0.64～-0.25)	.760 +.025～-.010 (19.30 +0.64～-0.25)	.201 (5.10) max	.024～.079 (0.60～2.00)	——	——	——	100%Sn over Nickel Plating , RoHS Compliant
70G	L									90%Sn 10%Pb over Nickel Plating ,
70G	MS	 Microstrip				——	.748 (19.00) min	.591 ± .010 (15.00 ± 0.25)	.008 ± .001 (0.20 ± 0.025)	Silver- plated Copper
70G	AR	 Axial Ribbon								
70G	RW	 Radial Wire					.748 (19.00) min	.031±.006 (0.80±0.15)		Silver wire
70G	AW	 Axial Wire					.906 (23.00) min			

◆ DLC70G Termination Type and Dimensions

unit: inch（millimeter）

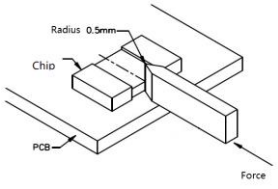
Series	Term. Code	Type/ Outlines	Capacitor Dimensions				Lead Dimensions			Termina Material
			Length Lc	Width Wc	Thickness Tc	Overlap B	Length LL	Width WL	Thickness TL	
70G	P	 Chip(Non-Mag)	.760 +.025～-.010 (19.30 +0.64～-0.25)	.760 +.025～-.010 (19.30 +0.64～-0.25)	.201 (5.10) max	.024～.079 (0.60～2.00)	–	–	–	100%Sn over Copper Plating , RoHS Compliant RoHS Compliant
70G	MN	 Microstrip(Non-Mag)				–	.748 (19.00) min	.591 ± .010 (15.00 ± 0.25)	.008 ±.001 (0.20 ±0.025)	Silver-plated Copper
70G	AN	 Axial Ribbon (Non-Mag)								
70G	RN	 Radial Wire(Non-Mag)					.748 (19.00) min	.031±.006 (0.80±0.15)		Silver wire
70G	BN	 Axial Wire (Non-Mag)					.906 (23.00) min			

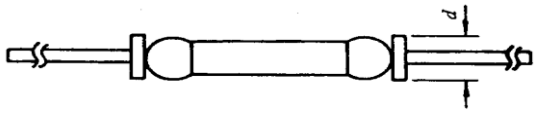
◆ Reliability Test Conditions.

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	D.F≤0.05%	
6	Insulation resistance	10^5 Megohms min. @ +25 ℃ 10^4 Megohms min. @ +125 ℃	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: Rated voltage≤500V: 250% of the rated voltage 500V<Rated voltage≤1250V: 150% of the rated voltage Rated voltage>1250V: 120% 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℃)	The capacitance change should be measured after 5 min. at each specified temp. stage. Capacitance value as a reference is the value in step 3.
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: $50.0^{+1.0}_{0}$N Test time: 10±1 sec.

step	temperature (℃)
1	25±2
2	-55±3
3	25±2
4	Tmax±3
5	25±2

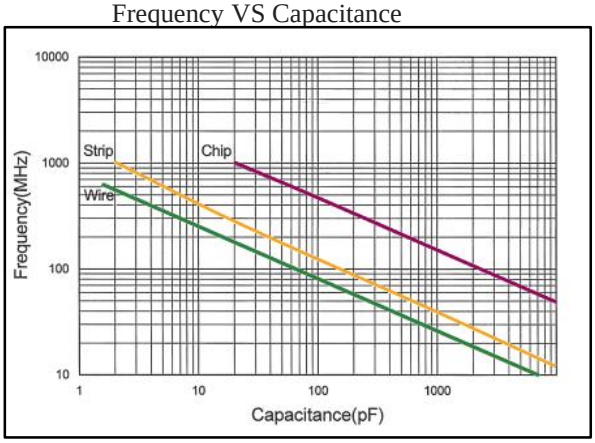
$$TC=\frac{C_T-C_3}{C_3 \times \Delta T}X10^6\ ppm/℃$$



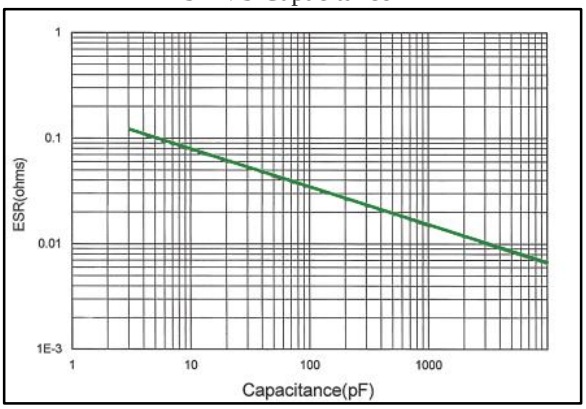
No.	Item	Specification	Test method
11	Terminal strength	Visual examination for loosening, rupturing, and permanent damage to the terminals.	Solder the capacitor on test jig as below . Then apply a horizontal force. Holding time: 5～10 s Force: 10 N minimum. d=（1.02±0.15）mm; 
12	Solderability of termination	Shall be at least 95 percent covered with a smooth solder coating.	Immerse the capacitor in a eutectic solution requirement temperature 245±2 ℃ 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℃): No less than initial requirement.	Preheat for 1 minute at 150℃ to 180℃ before immerse the capacitor in a eutectic solution at 260±5℃ 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℃): No less than 30% initial requirement. DWV: To meet initial requirement.	Perform the 5 cycles according to the four heat treatments listed in the following table. Set it for 24±2 hours at room temperature. step / Temperature(℃) / 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℃): No less than initial requirement.	With 1.5 Volts D.C. applied while subjected to an environment of 85℃ 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℃): No less than 30% initial requirement.	Test Voltage: Rated voltage≤500V: 200% of the rated voltage 500V＜Rated voltage≤1250V: 120% of the rated voltage Rated voltage>1250V: 100% of the rated voltage The charge/discharge current is less than 50mA. Temperature: Tmax℃; Time: 2000h. Measurement： Set it for 48 hours at room temperature, then measure.

◆ DLC70G Performance Curve

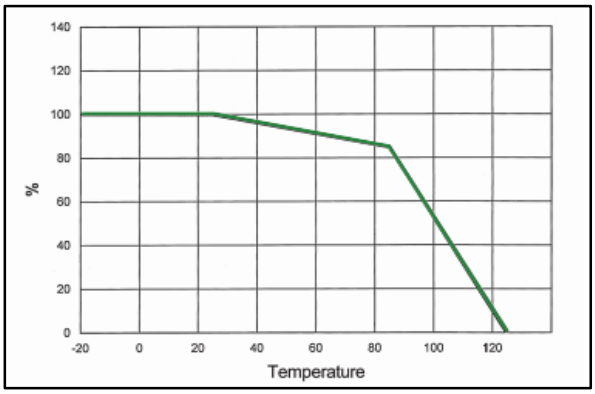
Frequency VS Capacitance



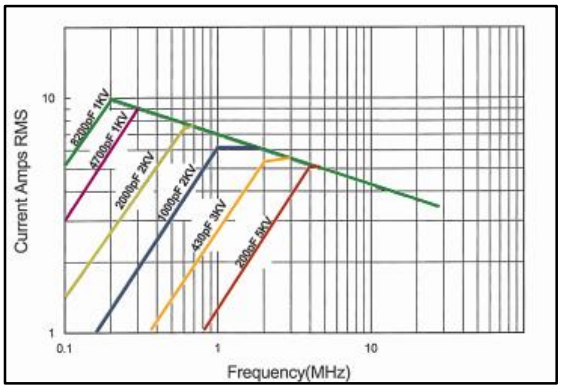
ESR VS Capacitance



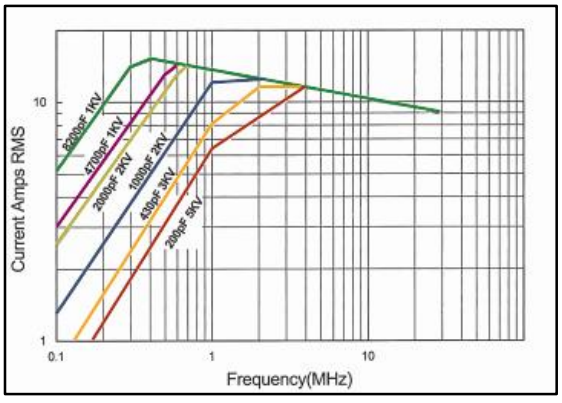
Current（max） VS Temperature



Wire Lead Current Apms RMS VS Frequency



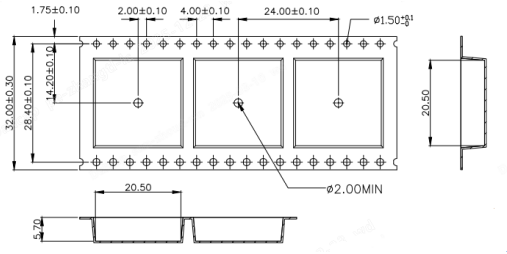
Ribbon Lead Current Apms RMS VS Frequency



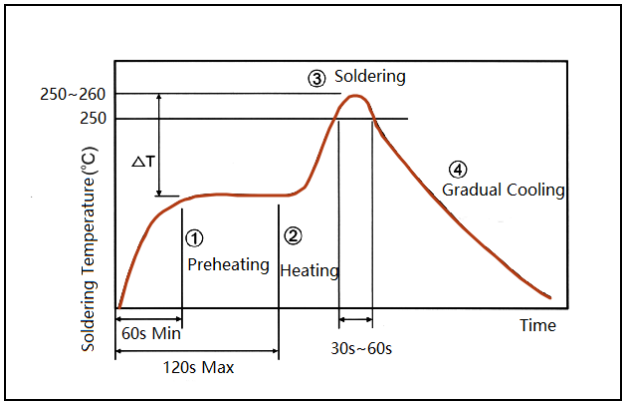
◆ Tape & Reel Specifications

Orien-tation	EIA	A0	B0	K0	W	Qty/reel	Tape Material
Horiz-ontal	7575	20.5	20.5	5.7	32	200	Plastic

Unit：mm



◆ Recommended soldering conditions



△T≤150℃；
Maximum temperature: 255℃±5℃；
Heating rate: ≤4℃/s。

◆ Recommended Land Dimensions

Horizontal Mounting

Orientation	EIA	A(mm)	B(mm)	C(mm)
Horizontal	7575	17.00	3.3	22.60

