Specification

Part No.: DLC85H

DLC85H (.040" x .020")



◆Product Features

Low ESR, high working voltage, high RF power, high self-resonant frequency.

◆ Product Application

Typical function: high power filter network, combiner, coupler, matching network, output coupling, antenna coupling, DC blocking and bypass.

Typical applications: mobile communication base station, repeater, cluster communication.

◆ DLC85H Capacitance Table

Cap pF	Code	Tol.	Rated WVDC	Cap pF	Code	Tol.	Rated WVDC	Cap pF	Code	Tol.	Rated WVDC
0.1	0R1	A,B,C,D	250V Code 251	1.8	1R8	A,B,C,D	250V Code 251	7.5	7R5	A,B,C,D	200V Code 201
0.2	0R2			1.9	1R9			8.2	8R2		
0.3	0R3			2.0	2R0			9.1	9R1		
0.4	0R4			2.1	2R1			10	100	F,G,J	
0.5	0R5			2.2	2R2			11	110		
0.6	0R6			2.4	2R4			12	120		
0.7	0R7			2.7	2R7			13	130		
0.8	0R8			3.0	3R0			15	150		
0.9	0R9			3.3	3R3			16	160		
1.0	1R0			3.6	3R6		200V Code 201	18	180		
1.1	1R1			3.9	3R9			20	200		
1.2	1R2			4.3	4R3			22	220		
1.3	1R3			4.7	4R7			24	240		
1.4	1R4			5.1	5R1			27	270		
1.5	1R5			5.6	5R6			30	300		
1.6	1R6			6.2	6R2			33	330		
1.7	1R7			6.8	6R8						

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

◆ Part Numbering

DLC85H 100 J W 201 N T

DLC85: series
H: 0402

Capacitor Code:
Cap ＜10pF, e.g.: 1R0=1.0pF, R denotes decimal point.;
Cap ≥10pF, e.g.: 100=10pF, 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%

Packaging Type
T: Tape & Reel, 10000 pcs/reel

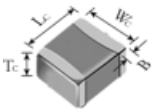
Laser Marking
N: No Marking

Rated Voltage
e.g:201=200V

Termination Type

◆ DLC85H Termination Type and Dimensions

unit: inch (millimeter)

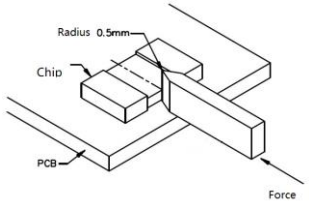
Series	Term. Code	Type/ Outlines	Capacitor Dimensions				Termina Material
			Length Lc	Width Wc	Thickness Tc	Overlap B	
85H	W		0.041±0.004 (1.05±0.10)	0.021±0.004 (0.55±0.10)	0.021±0.004 (0.55±0.10)	0.010±0.006 (0.25±0.15)	100%Sn over Nickel Plating , RoHS Compliant
	L						10%Pb90%Sn over Nickel Plating ,
	P (Non-Mag)						100%Sn over Copper Plating (Non-Mag), RoHS Compliant

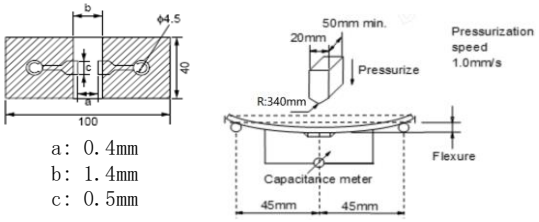
◆ Reliability Test Conditions.

No.	Item	Specification	Test method
1	Operating temperature	-55℃～150℃	
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: 1MHz±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
7	Dielectric withstanding voltage (DWV)	Shall be no evidence of breakdown or visible evidence of arcing or damage.	Test Voltage: 250% of the rated voltage Applied Time: 5 s Charge/discharge current: 50mA max.
8	Temperature coefficient	(0±30)ppm/℃	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:$2.0^{+0.5}_{0}$N Test time: 10±1 sec.

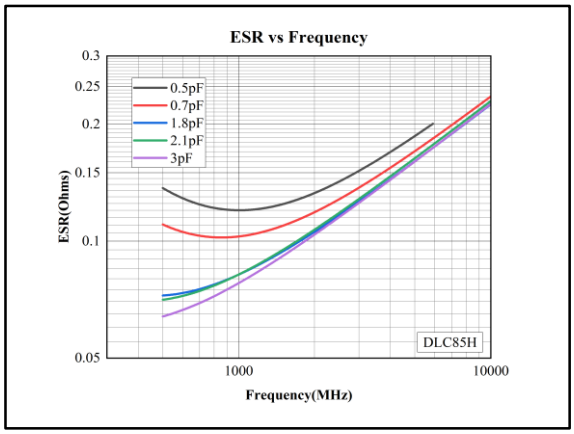
step	temperature (℃)
1	25±2
2	-55±3
3	25±2
4	150±3
5	25±2

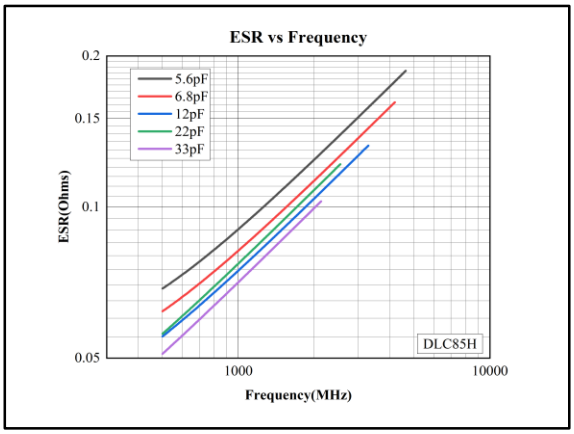
$$TC=\frac{C_X-C_3}{C_3 \times \Delta T} X10^6 \text{ ppm/℃}$$



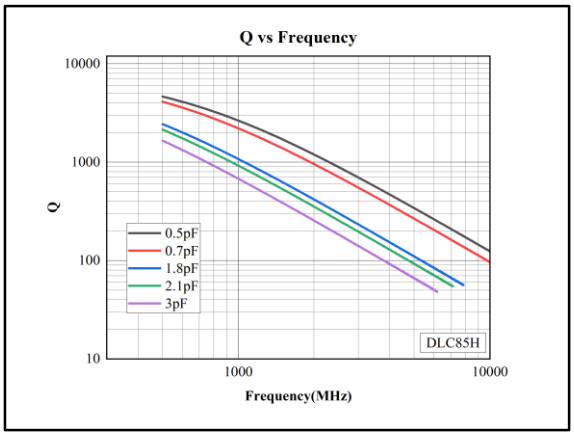
No.	Item	Specification	Test method
11	Substrate Bending test	Appearance：No defects or abnormalities. Capacitance Change： With in ±5% or ±0.3pF whichever is larger.	Mounting method: Reflow solder the capacitor on the test substrate. Pressurization Method: Shown as below. Flexure 1mm. Holding Time 5±1s  a：0.4mm b：1.4mm c：0.5mm
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: 200% of the rated voltage The charge/discharge current is less than 50mA. Temperature: 150℃; Time: 2000h. Measurement： Set it for 48 hours at room temperature, then measure.

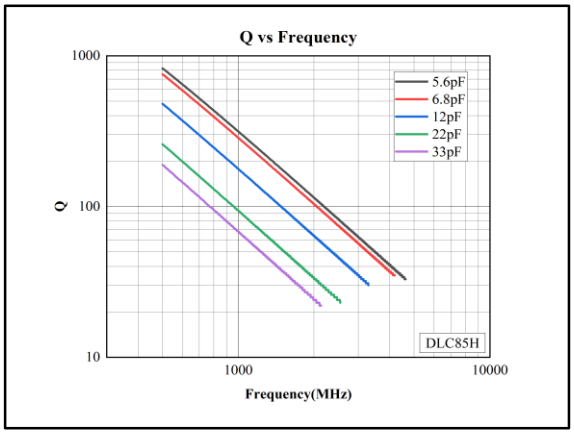
◆ DLC85H Performance Curve

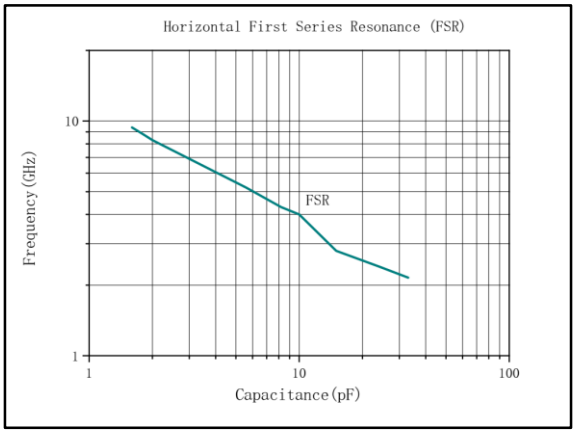




ESR Measurement: Coaxial Resonant Cavity Method.



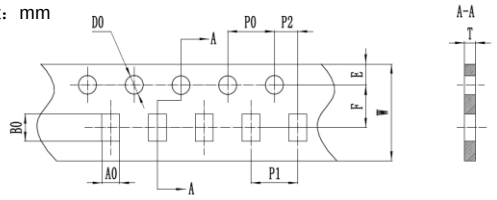




Definition and measurement conditions:
Definition: The capacitor is installed in series on the microstrip, that is, the capacitor is connected across the two ends of a 50Ω microstrip with a gap.
Measurement conditions: Ro4350 Rogers substrate with 3.48 dielectric constant, and characteristic impedance is 50Ω.

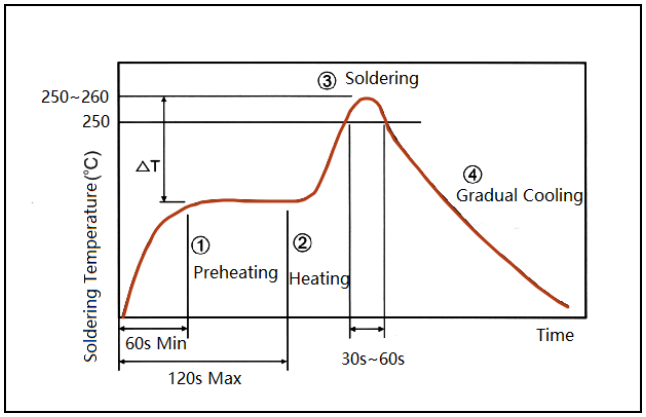
◆ Tape & Reel Specifications

Unit：mm



EIA	A0	B0	W	P0	P1	T	F	Qty/reel	Tape Material
0402	0.70	1.20	8.00	4.00	2.00	0.65	3.50	10000	Paper

◆ Recommended soldering conditions



△T≤190℃；
Maximum temperature：255℃±5℃；
Heating rate：≤4℃/s。

◆ Recommended Land Dimensions

EIA	A(mm)	B(mm)	C(mm)
0402	0.3-0.5	0.35-0.45	0.4-0.6

