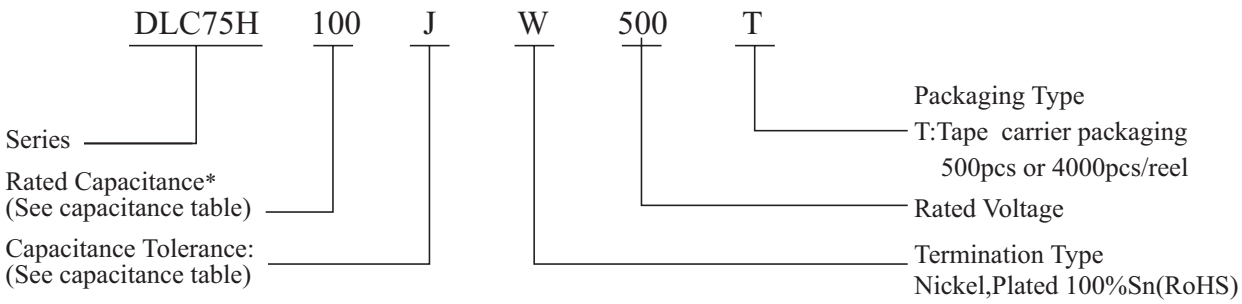
DLC75H (.040" x .020")

◆DLC75H Capacitance & Rated Voltage 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	50V Code 500 or 200V Code 201 or 250V Code 251	2.0	2R0	A,B, C,D	50V Code 500 or 200V Code 201 or 250V Code 251	10	100	F,G, J	50V Code 500 or 200V Code 201
0.2	0R2			2.1	2R1			11	110		
0.3	0R3			2.2	2R2			12	120		
0.4	0R4			2.4	2R4			13	130		
0.5	0R5			2.7	2R7			15	150		
0.6	0R6			3.0	3R0			16	160		
0.7	0R7			3.3	3R3			18	180		
0.8	0R8			3.6	3R6		50V Code 500 or 200V Code 201	20	200		
0.9	0R9			3.9	3R9			22	220		
1.0	1R0			4.3	4R3			24	240		
1.1	1R1			4.7	4R7			27	270		
1.2	1R2			5.1	5R1			30	300		50V Code 500
1.3	1R3			5.6	5R6			33	330		
1.4	1R4			6.2	6R2						
1.5	1R5			6.8	6R8	A,B, C					
1.6	1R6			7.5	7R5						
1.7	1R7			8.2	8R2						
1.8	1R8			9.1	9R1						
1.9	1R9										

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

◆Part Numbering

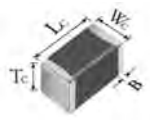


* When capacitance is less than 1.0, use "R" for decimal

Code	A	B	C	D	F	G	J
Tolerance	±0.05pF	±0.1pF	±0.25pF	±0.5pF	±1%	±2%	±5%

◆DLC75H Chip Dimensions

unit:inch(millimeter)

Series	Term. Code	Type / Outlines	Capacitor Dimensions				Plated Material
			Length (L_C)	Width (W_C)	Thickness (T_C)	Overlap (B)	
DLC70H	W	 Chip	.040±.004 (1.02±0.10)	.020±.004 (0.51±0.10)	.020±.004 (0.51±0.10)	.010±.006 (0.25±0.15)	Sn/Ni (RoHS)

◆Design Kits

These capacitors are 100% RoHS. Kits contain 10(ten) pieces per value; number of values per kit varies, depending on case size and capacitance.

Kit	Description (pF)	Values (pF)	Tolerance
DKDLC75H01	0.1 - 2.0	0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.2, 1.5, 1.6, 1.8, 2.0	±0.10pF
DKDLC75H02	1.0 - 10	1.0, 1.2, 1.5, 1.8, 2.0, 2.2, 2.4, 2.7, 3.0, 3.3, 3.9, 4.7, 5.6, 6.8, 8.2	±0.10pF
		10	±5%
DKDLC75H03	10 - 33	10, 12, 13, 15, 16, 18, 20, 22, 24, 27, 30, 33	±5%

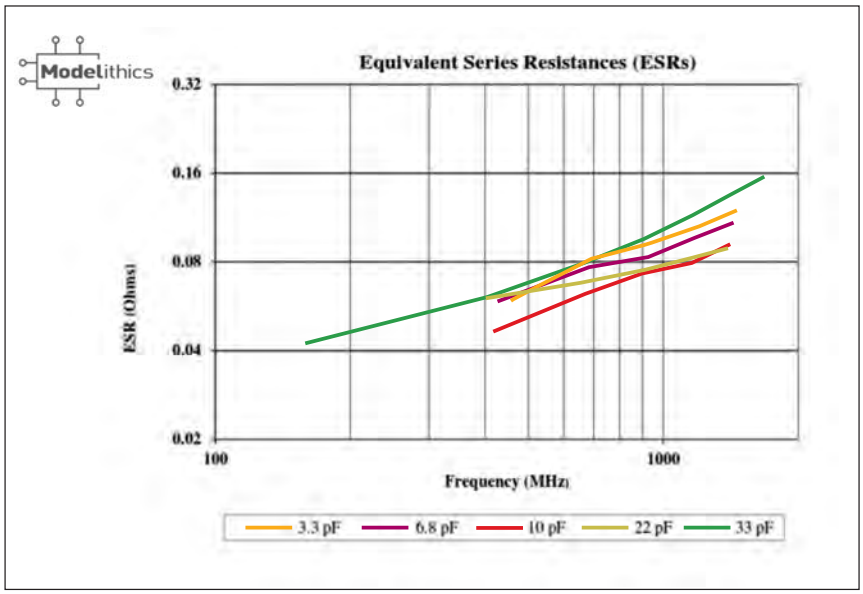
◆Performance

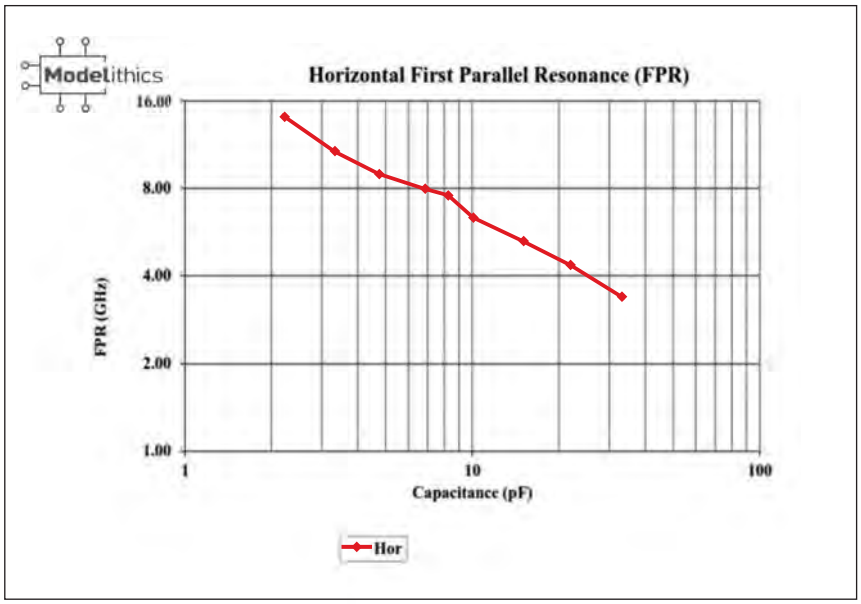
Item	Specifications
Quality Factor (Q)	2,000 min.
Insulation Resistance (IR)	10^5 Megohms min. @ +25℃ at rated WVDC. 10^4 Megohms min. @ +125℃ at rated WVDC.
Rated Voltage	See capacitance table
Dielectric Withstanding Voltage (DWV)	250% of rated voltage for 5 seconds.
Operating Temperature Range	−55℃ to +175℃
Temperature Coefficient (TC)	0±30ppm/℃
Capacitance Drift	±0.02% or ±0.02pF, whichever is greater.
Piezoelectric Effects	None

◆Environmental Tests

Item	Specifications	Method
Terminal Adhesion	Termination should not pull off. Ceramic should remain undamaged.	Linear pull force exerted on axial leads soldered to each terminal. 2.0lbs.
Resistance to soldering heat	No mechanical damage Capacitance change: －1.0% ～+2.0% Q>500 I.R. >10 G Ohms Breakdown voltage: 2.5 x WVDC	Preheat device to 150°C-180°C for 60 sec. Dip in 260°±5°C solder for 10±1 sec. Measure after 24±2 hours cooling period.
Thermal Shock	No mechanical damage Capacitance change:±0.5% or 0.5pF max Q>2000 I.R. >10 G Ohms Breakdown voltage: 2.5 x WVDC	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.
Humidity, Steady State	No mechanical damage Capacitance change: ±0.5% or 0.5pF max. Q>300 I.R. >1 G Ohms Breakdown voltage: 2.5 x WVDC	MIL-STD-202, Method 106.
Low Voltage Humidity	No mechanical damage Capacitance change: ±0.3% or 0.3pF max. Q>300 I.R. >1 G Ohms Breakdown voltage: 2.5 x WVDC	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	No mechanical damage Capacitance change: ±2.0% or 0.5pF max. Q>500 I.R. >1 G Ohms Breakdown voltage: 2.5 x WVDC	MIL-STD-202, Method 108, for 1000 hours, at 125°C. 200% Rated voltage D.C. applied.

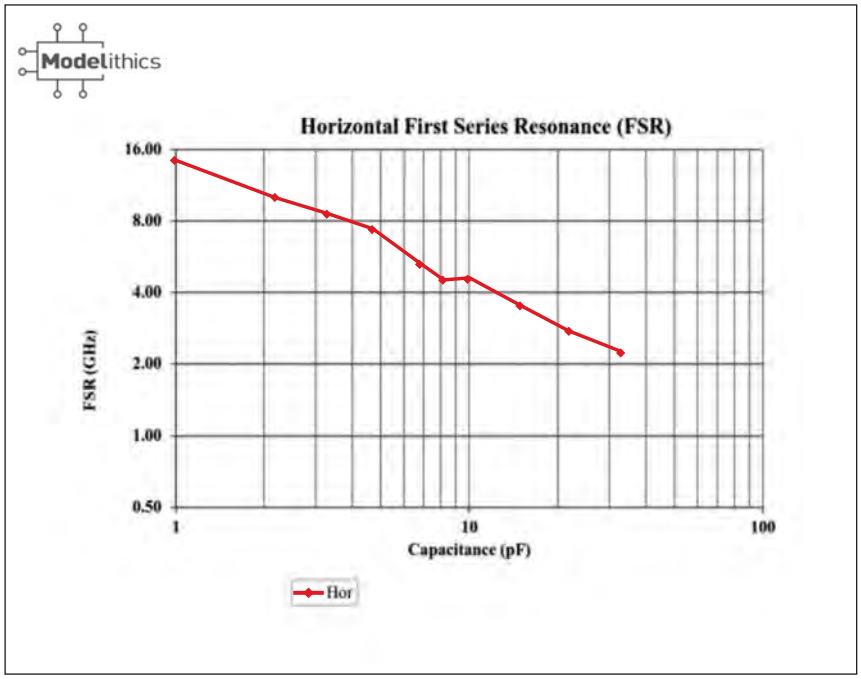
◆DLC75H Performance Curve





The First Parallel Resonance, FPR, is defined as the lowest frequency at which a suckout or notch appears in |S21|. It is generally independent of substrate thickness or dielectric constant, but does depend on capacitor orientation. A horizontal orientation means the electrode planes are parallel to the substrate.

◆DLC75H Performance Curve



The First Series Resonance, FSR, is defined as the lowest frequency at which the imaginary part of the input impedance, Im[Zin], equals zero. Should Im[Zin] or the real part of the input impedance, Re[Zin], not be monotonic with frequency at frequencies lower than those at which Im[Zin] = 0, the FSR shall be considered as undefined. FSR is dependent on internal capacitor structure; substrate thickness and dielectric constant; capacitor orientation, as defined alongside the FPR plot; and mounting pad dimensions.

Definitions and Measurement conditions:

The definitions on the charts are for a capacitor in a series configuration, i.e., mounted across a gap in a microstrip trace with a 50-Ohm termination. The measurement conditions are: substrate -- Rogers RO4350; substrate dielectric constant = 3.48; substrate thickness (mils) = 10; gap in microstrip trace (mils) = 15; microstrip trace width (mils) = 22; **Reference planes at sample edges.**

All data has been derived from electrical models created by Modelithics, Inc., a specialty vendor contracted by DLC. The models are derived from measurements on a large number of parts disposed on several different substrates.