

# Multilayer Chip Inductors High Frequency

# CLH/LCN Series

CLH Series



LCN Series



## APPLICATIONS

High frequency circuits for portable telephones, PHS, Wireless communication, etc.

## OUTLINE

Chilisin high frequency multilayer ceramic chip inductor is formed without wound wire.

Monolithic laminated structure.

## FEATURES

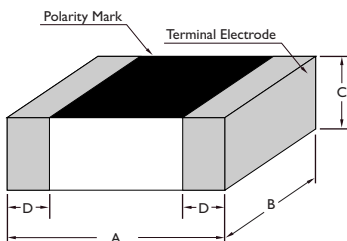
High Frequency

High Q

High IDC

## SHAPES AND DIMENSIONS

Dimensions : mm



TYPE	REMARK	A	B	C	D
CLH1005	-	1.00 ± 0.15	0.50 ± 0.15	0.50 ± 0.15	0.25 ± 0.15
CLH1608	-	1.60 ± 0.20	0.80 ± 0.15	0.80 ± 0.15	0.40 ± 0.20
CLH2012	< 180nH	2.00 ± 0.20	1.25 ± 0.20	0.90 ± 0.20	0.50 ± 0.30
	≥180nH	2.00 ± 0.20	1.25 ± 0.20	1.20 ± 0.30	0.50 ± 0.30

## ELECTRICAL CHARACTERISTICS CLH1005T SERIES

PART NO.	INDUCTANCE TOLERANCE at 100MHz (nH)		Q Min. at 100MHz	Q TYPICAL		S.R.F TYPICAL (MHz)	RDC Max. (Ω)	IDC (mA)
				at 100MHz	at 800MHz			
CLH1005T-1N0□-S	1.0	S	8	9	28	6000	0.10	300
CLH1005T-1N2□-S	1.2	S	8	9	28	6000	0.10	300
CLH1005T-1N5□-S	1.5	S	8	10	28	6000	0.10	300
CLH1005T-1N8□-S	1.8	S	8	10	28	6000	0.10	300
CLH1005T-2N2□-S	2.2	S	8	10	29	6000	0.12	300
CLH1005T-2N7□-S	2.7	S	8	11	30	6000	0.12	300
CLH1005T-3N3□-S	3.3	S, K	8	11	30	5200	0.15	300
CLH1005T-3N9□-S	3.9	S, K	8	11	31	5150	0.15	300
CLH1005T-4N7□-S	4.7	S, K	8	11	31	4800	0.18	300
CLH1005T-5N6□-S	5.6	S, K	8	11	31	4100	0.20	300
CLH1005T-6N8□-S	6.8	J, K	8	11	33	3800	0.25	300
CLH1005T-8N2□-S	8.2	J, K	8	12	32	3500	0.25	300
CLH1005T-10N□-S	10	J, K	8	12	32	3300	0.30	300
CLH1005T-12N□-S	12	J, K	8	12	31	2600	0.30	300
CLH1005T-15N□-S	15	J, K	8	12	30	2300	0.40	300
CLH1005T-18N□-S	18	J, K	8	12	29	2050	0.50	300
CLH1005T-22N□-S	22	J, K	8	12	28	1900	0.60	300
CLH1005T-27N□-S	27	J, K	8	12	27	1700	0.70	300
CLH1005T-33N□-S	33	J, K	8	10	25	1550	1.50	200
CLH1005T-39N□-S	39	J, K	8	10	25	1450	1.80	200
CLH1005T-47N□-S	47	J, K	8	9	22	1300	2.00	200
CLH1005T-56N□-S	56	J, K	8	10	21	1250	2.00	200
68N□-S	68	J, K						
82N□-S	82	J, K						
R10□-S	100	J, K						
R12□-S	120	J, K						
R15□-S	150	J, K						
R18□-S	180	J, K						
R22□-S	220	J, K						
R27□-S	270	J, K						
R33□-S	330	J, K						
R39□-S	390	J, K						
R47□-S	470	J, K						

Note : Tolerance : □ - S =  $\pm 0.3nH$       J =  $\pm 5\%$       K =  $\pm 10\%$

Test Conditions : L/Q - HP4291A      Fixture - HP16193A

SRF - HP8753D

RDC - HP4338B

## ELECTRICAL CHARACTERISTICS CLH1608T SERIES

PART NO.	INDUCTANCE TOLERANCE at 100MHz (nH)		Q Min. at 100MHz	Q TYPICAL		S.R.F TYPICAL (MHz)	RDC Max. (Ω)	IDC (mA)
				at 100MHz	at 800MHz			
CLH1608T-1N0□-S	1.0	S	10	12	50	6000	0.10	500
CLH1608T-1N2□-S	1.2	S	10	13	65	6000	0.10	500
CLH1608T-1N5□-S	1.5	S	10	13	47	6000	0.10	500
CLH1608T-1N8□-S	1.8	S	10	13	51	6000	0.10	500
CLH1608T-2N2□-S	2.2	S	11	13	46	6000	0.10	500
CLH1608T-2N7□-S	2.7	S	11	13	45	6000	0.10	500
CLH1608T-3N3□-S	3.3	S, K	11	13	51	5900	0.12	500
CLH1608T-3N9□-S	3.9	S, K	11	13	52	5600	0.14	500
CLH1608T-4N7□-S	4.7	S, K	11	13	41	4800	0.16	500
CLH1608T-5N6□-S	5.6	S, K	11	13	41	4350	0.18	500
CLH1608T-6N8□-S	6.8	J, K	11	13	44	3750	0.22	500
CLH1608T-8N2□-S	8.2	J, K	11	13	44	3300	0.24	500
CLH1608T-10N□-S	10	J, K	11	13	45	2850	0.26	400
CLH1608T-12N□-S	12	J, K	13	15	46	2500	0.28	400
CLH1608T-15N□-S	15	J, K	13	15	48	2150	0.32	400
CLH1608T-18N□-S	18	J, K	13	15	48	2100	0.35	400
CLH1608T-22N□-S	22	J, K	15	17	45	1850	0.40	400
CLH1608T-27N□-S	27	J, K	15	17	43	1680	0.45	400
CLH1608T-33N□-S	33	J, K	15	18	39	1580	0.55	400
CLH1608T-39N□-S	39	J, K	15	18	* 37	1400	0.60	300
CLH1608T-47N□-S	47	J, K	15	18	* 35	1200	0.70	300
CLH1608T-56N□-S	56	J, K	15	18	* 32	1100	0.75	300
CLH1608T-68N□-S	68	J, K	15	18	* 34	1050	0.85	300
CLH1608T-82N□-S	82	J, K	15	18	* 32	900	1.00	300
CLH1608T-R10□-S	100	J, K	15	18	* 20	850	1.20	300
CLH1608T-R12□-S	120	J, K	*** 8	*** 16	** 23	680	1.60	250
CLH1608T-R15□-S	150	J, K	*** 8	*** 14	** 23	620	2.00	250
CLH1608T-R18□-S	180	J, K	*** 8	*** 14	** 21	540	2.40	200
CLH1608T-R22□-S	220	J, K	*** 8	*** 13	** 20	450	2.80	200
R27□-S	270	J, K						
R33□-S	330	J, K						
R39□-S	390	J, K						
R47□-S	470	J, K						

Note : \*\*\* at 50MHz    \*\* at 300MHz    \* at 500MHz

Tolerance : □ – S = ±0.3nH    J = ±5%    K = ±10%

Test Conditions : L/Q – HP4291A    Fixture – HP16193A

SRF – HP8753D

RDC – HP4338B

## ELECTRICAL CHARACTERISTICS CLH2012T SERIES

PART NO.	INDUCTANCE TOLERANCE at 100MHz (nH)		Q Min. at 100MHz	Q TYPICAL		S.R.F TYPICAL (MHz)	RDC Max. (Ω)	IDC (mA)
				at 100MHz	at 800MHz			
1N0□-S								
1N2□-S								
CLH2012T-1N5□-S	1.5	S	11	13	40	6000	0.10	500
CLH2012T-1N8□-S	1.8	S	11	13	45	6000	0.10	500
CLH2012T-2N2□-S	2.2	S	11	13	48	6000	0.10	500
CLH2012T-2N7□-S	2.7	S	11	13	40	6000	0.10	500
CLH2012T-3N3□-S	3.3	S, K	13	15	56	6000	0.13	500
CLH2012T-3N9□-S	3.9	S, K	13	15	54	5400	0.15	500
CLH2012T-4N7□-S	4.7	S, K	13	15	50	4500	0.20	500
CLH2012T-5N6□-S	5.6	S, K	13	15	53	4000	0.23	500
CLH2012T-6N8□-S	6.8	J, K	13	15	51	3650	0.25	500
CLH2012T-8N2□-S	8.2	J, K	13	15	53	3000	0.28	500
CLH2012T-10N□-S	10	J, K	14	16	45	2500	0.30	500
CLH2012T-12N□-S	12	J, K	14	16	48	2450	0.35	400
CLH2012T-15N□-S	15	J, K	15	17	48	2000	0.40	400
CLH2012T-18N□-S	18	J, K	15	17	43	1750	0.45	400
CLH2012T-22N□-S	22	J, K	15	17	47	1700	0.50	400
CLH2012T-27N□-S	27	J, K	16	18	38	1550	0.55	400
CLH2012T-33N□-S	33	J, K	17	19	35	1350	0.60	400
CLH2012T-39N□-S	39	J, K	19	21	40	1300	0.65	400
CLH2012T-47N□-S	47	J, K	19	21	38	1200	0.70	400
CLH2012T-56N□-S	56	J, K	16	21	31	1150	0.75	400
CLH2012T-68N□-S	68	J, K	19	21	28	1000	0.80	400
CLH2012T-82N□-S	82	J, K	20	22	16	850	0.90	400
CLH2012T-R10□-S	100	J, K	21	23		730	1.00	400
CLH2012T-R12□-S	* 120	J, K	* 13	22		650	1.20	300
CLH2012T-R15□-S	* 150	J, K	* 13	22		550	1.40	300
CLH2012T-R18□-S	* 180	J, K	* 13	23		500	1.60	300
CLH2012T-R22□-S	* 220	J, K	* 12	20		450	1.80	300
CLH2012T-R27□-S	* 270	J, K	* 12	20		400	2.00	300
CLH2012T-R33□-S	* 330	J, K	* 12	22		380	3.00	300
CLH2012T-R39□-S	* 390	J, K	* 10	17		330	3.50	300
CLH2012T-R47□-S	* 470	J, K	* 10	17		300	4.00	300

Note : \* at 50MHz

Tolerance : □ – S = ±0.3nH      J = ±5%      K = ±10%

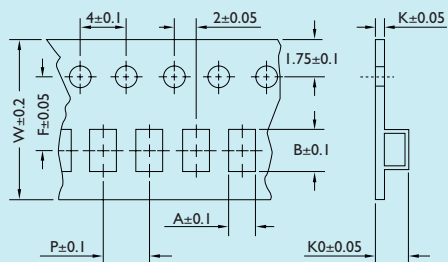
Test Conditions : L/Q – HP4291A      Fixture – HP16193A

SRF – HP8753D

RDC – HP4338B

## TAPE DIMENSIONS

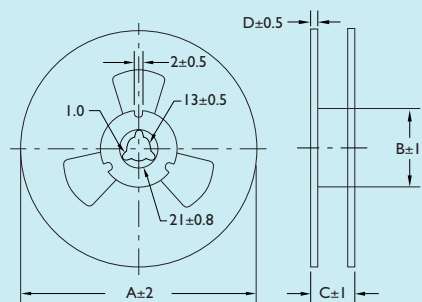
Dimensions : mm



TYPE	A	B	K0	W	P	F	K	
CLH1005	0.65	1.15	0.6	8	2	3.5	0.6	
CLH1608	1.1	1.9	0.95	8	4	3.5	0.95	
CLH2012	< 180nH	1.42	2.25	1.04	8	4	3.5	0.22
	≥ 180nH	1.42	2.25	1.4	8	4	3.5	0.22

## REEL DIMENSIONS

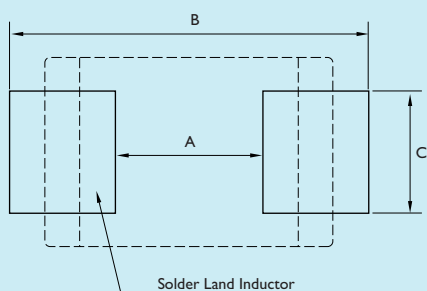
Dimensions : mm



TYPE	A	B	C	D
CLH1005	178	60	12	1.5
CLH1608	178	60	12	1.5
CLH2012	09	178	60	1.5
	12	178	60	1.5

## RECOMMENDED PATTERN

Dimensions : mm

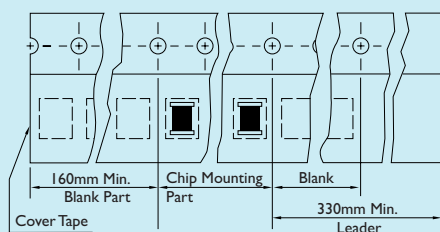


TYPE	A	B	C	
CLH1005	0.4	1.2 ~ 1.4	0.4	
CLH1608	0.8	2.4 ~ 3.4	0.6	
CLH2012	09	1.2	3.0 ~ 4.0	1.0
	12	1.2	3.0 ~ 4.0	1.0

## TAPE MATERIAL

Carrier Tape : Polystyrene

Cover Type : Polyethyene

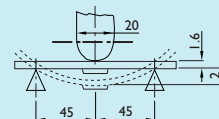


## PACKAGING QUANTITY

TYPE	BULK	CHIP/REEL
CLH100505	✓	10000
CLH160808	✓	4000
CLH201209	✓	4000
CLH201212	✓	3000

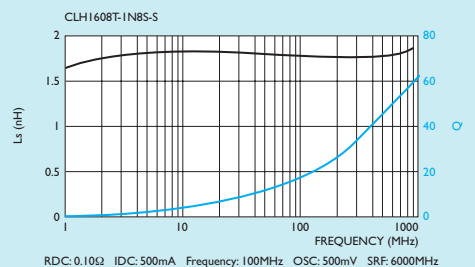
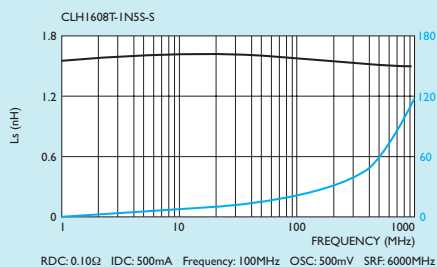
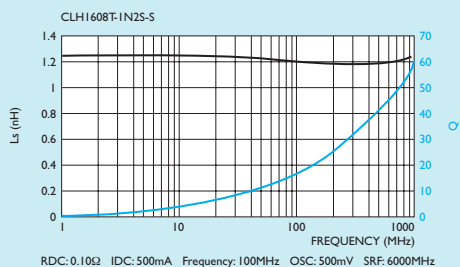
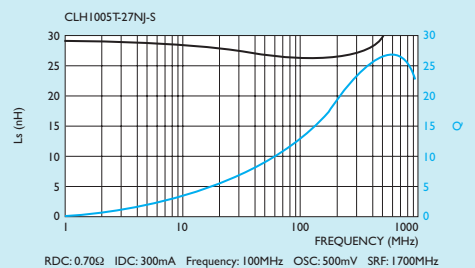
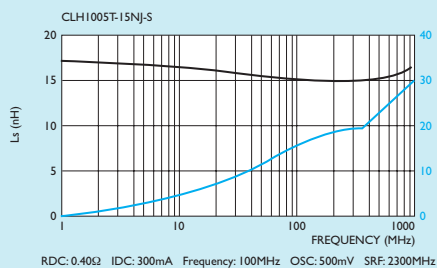
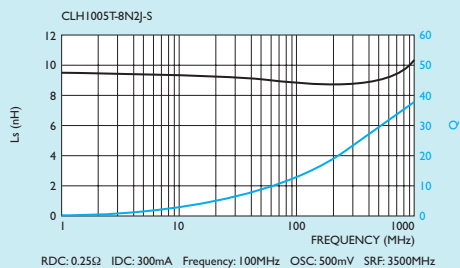
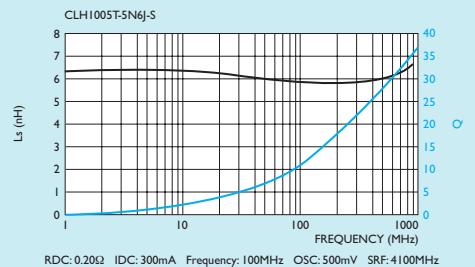
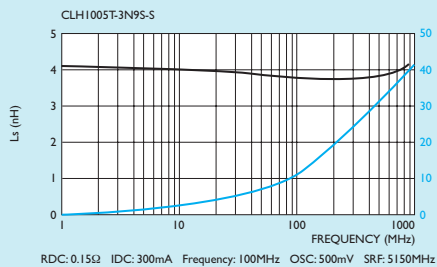
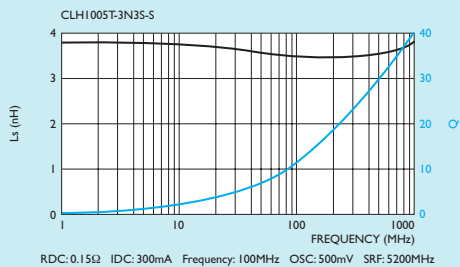
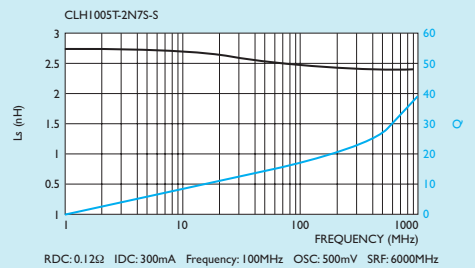
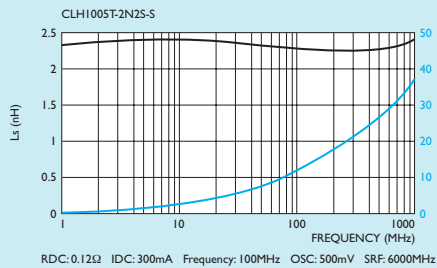
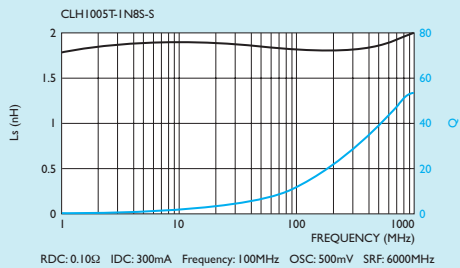
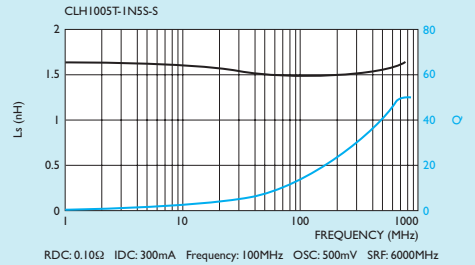
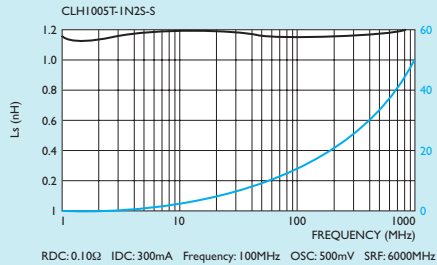
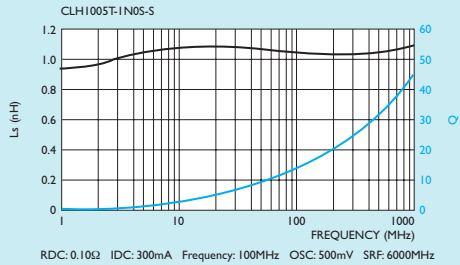
## CLH SERIES RELIABILITY TEST

NO	ITEM	SPECIFICATION	TEST METHODS															
1	Bending Strength	Appearance : No Damage L Change : Within $\pm 10\%$ Q Change : Within $\pm 30\%$ RDC Change : Within $\pm 20\%$	Test Device shall be Soldered on the Substrate. Substrate Dimension : 95 x 23 x 1.5 mm Deflection : 2.0 mm Keeping Time : 30 Second															
2	Vibration		Test Device shall be Soldered on the Substrate. Oscillation Frequency : 10 to 55 to 10Hz for 1Min Amplitude : 1.5 mm Time : 2 Hours for Each Axis (X, Y & Z), Total 6 Hours															
3	Resistance to Soldering Heat		Pre-heating : 150°C, 1 Min Solder Composition : Sn/Pn = 60/40 Solder Temperature : 260 $\pm$ 5°C Immersion Time : 10 $\pm$ 1°C Measured after Exposure in the Room Condition for 24 Hours															
4	Solderability	The electrodes shall be at least 90% covered with new solder coating.	Pre-heating : 150°C, 1 Min Solder Composition : Sn/Pn = 60/40 Solder Temperature : 230 $\pm$ 5°C Immersion Time : 4 $\pm$ 1°C															
5	Temperature Cycle	Appearance : No Damage L Change : Within $\pm 10\%$ Q Change : Within $\pm 30\%$ RDC Change : Within $\pm 20\%$	<table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Time (Min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-55 <math>\pm</math> 3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25 <math>\pm</math> 2</td> <td>3</td> </tr> <tr> <td>3</td> <td>125 <math>\pm</math> 2</td> <td>30</td> </tr> <tr> <td>4</td> <td>25 <math>\pm</math> 2</td> <td>3</td> </tr> </tbody> </table> <p>Total : 100 Cycles Measured after Exposure in the Room Condition for 24 Hours</p>	Step	Temperature (°C)	Time (Min.)	1	-55 $\pm$ 3	30	2	25 $\pm$ 2	3	3	125 $\pm$ 2	30	4	25 $\pm$ 2	3
Step	Temperature (°C)	Time (Min.)																
1	-55 $\pm$ 3	30																
2	25 $\pm$ 2	3																
3	125 $\pm$ 2	30																
4	25 $\pm$ 2	3																
6	Humidity Resistance		Temperature : 40 $\pm$ 2°C Relative Humidity : 90 ~ 95% Time : 1000 Hours Measured after Exposure in the Room Condition for 24 Hours															
7	Heat Life		Temperature : 125 $\pm$ 2°C Relative Humidity : 20% Applied Current : Rated Current Time : 1000 Hours Measured after Exposure in the Room Condition for 24 Hours															
8	Cold Resistance		Temperature : -55 $\pm$ 3°C Time : 1000 Hours Measured after Exposure in the Room Condition for 24 Hours															



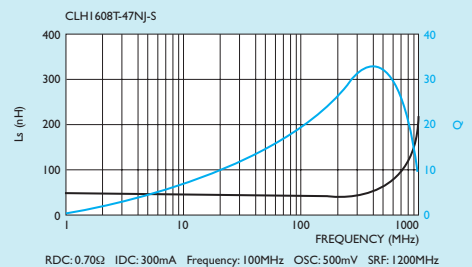
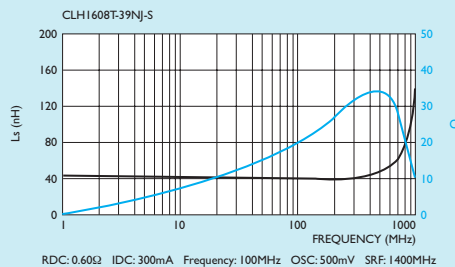
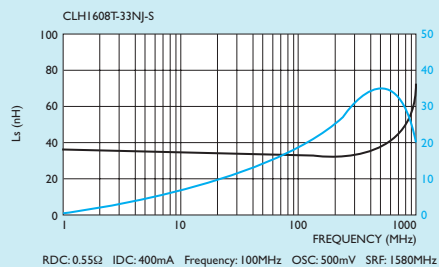
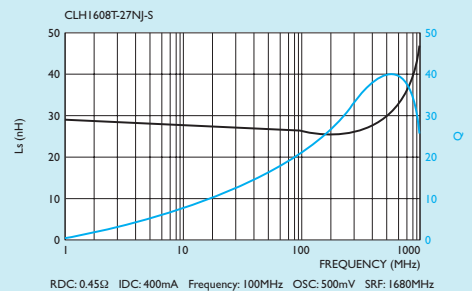
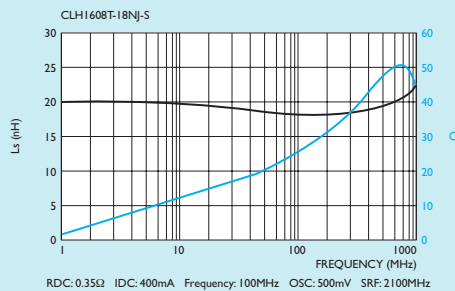
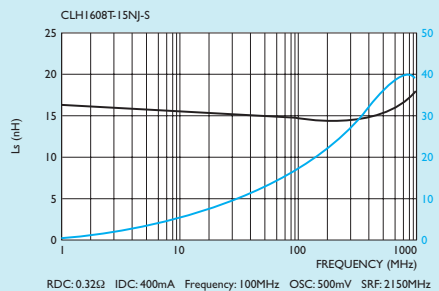
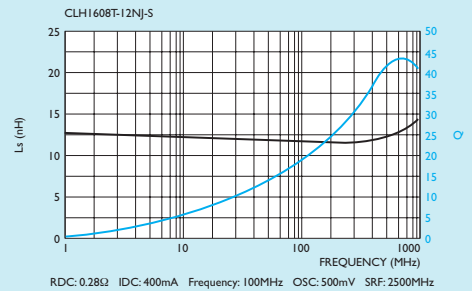
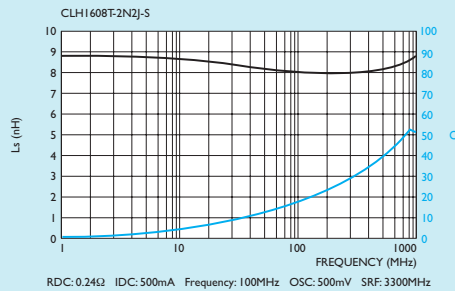
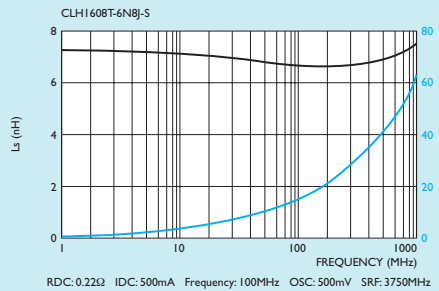
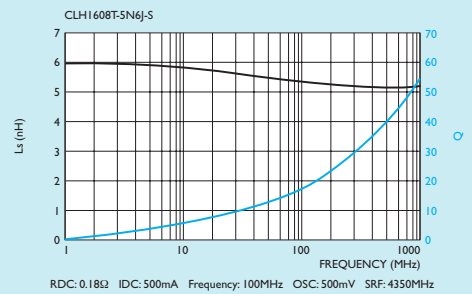
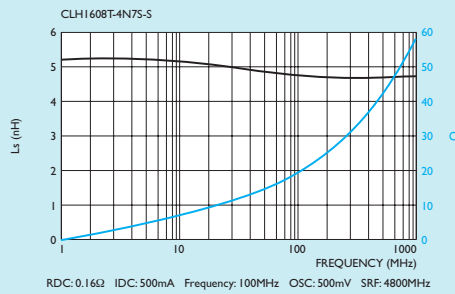
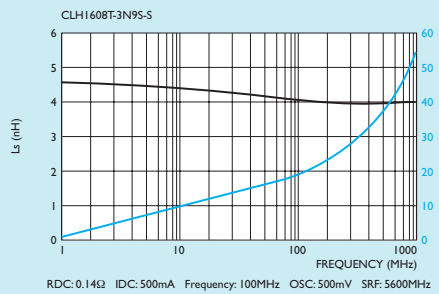
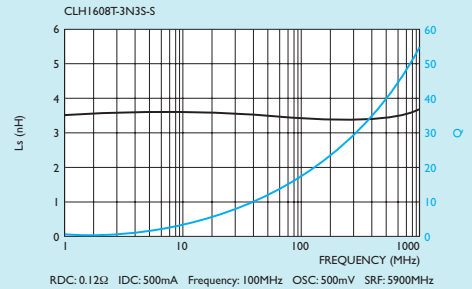
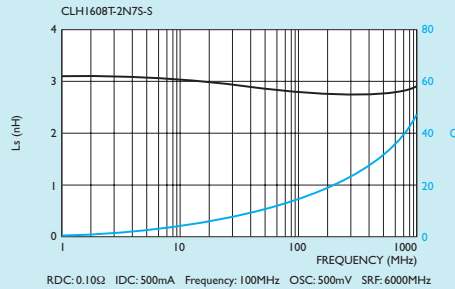
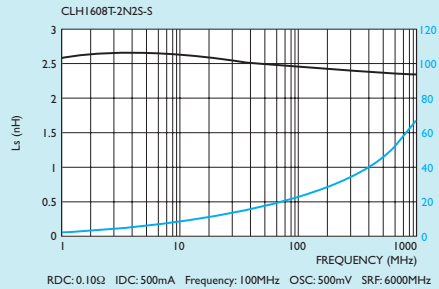
## TYPICAL ELECTRICAL CHARACTERISTICS

Test Instruments : HP4291A Impedance / Material Analyzer



## TYPICAL ELECTRICAL CHARACTERISTICS

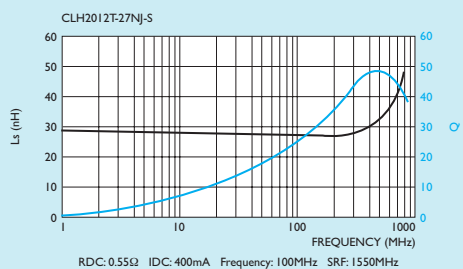
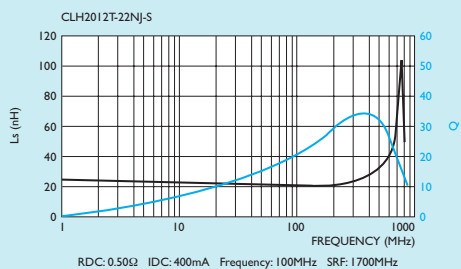
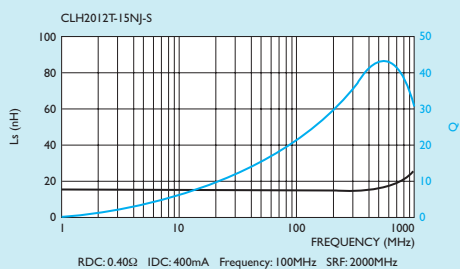
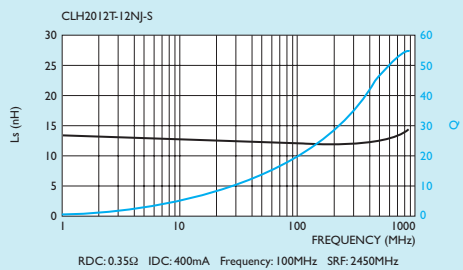
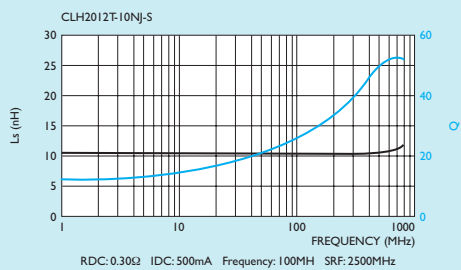
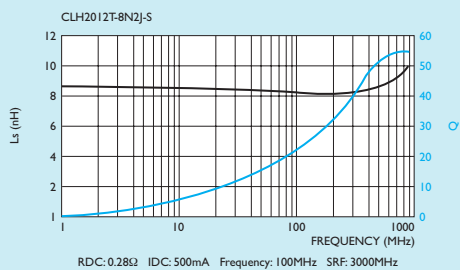
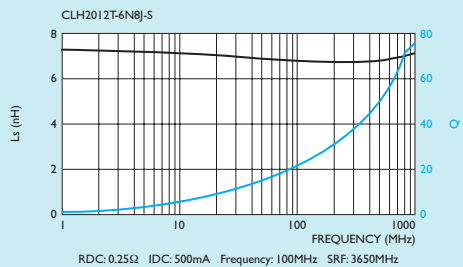
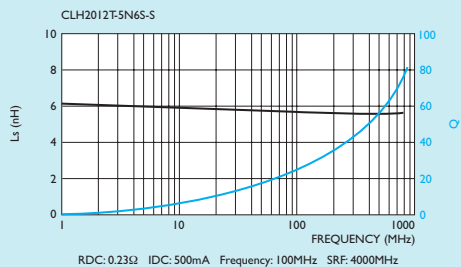
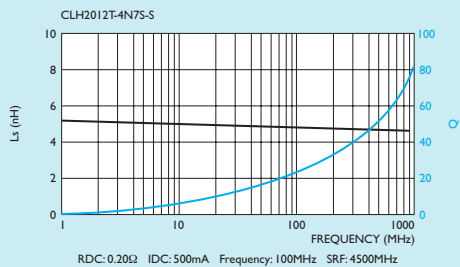
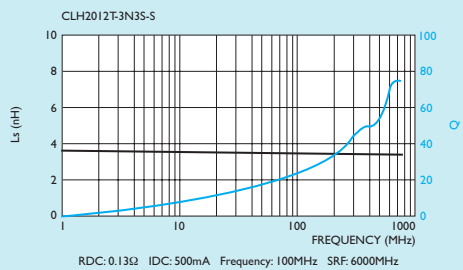
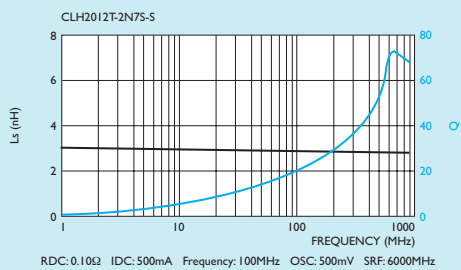
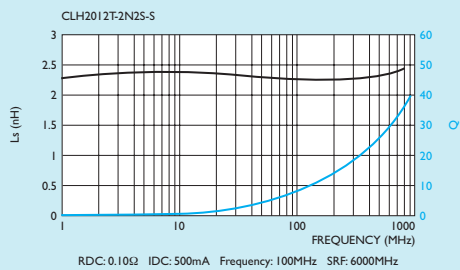
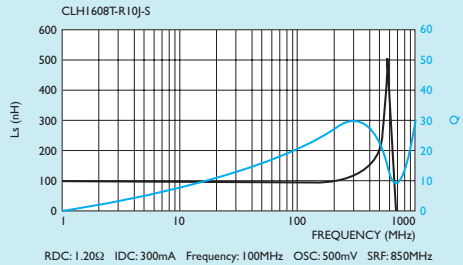
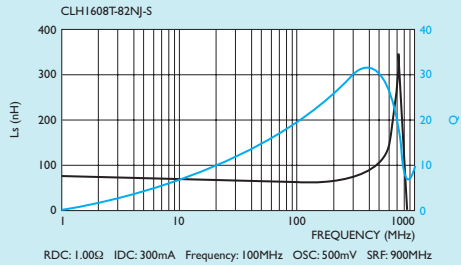
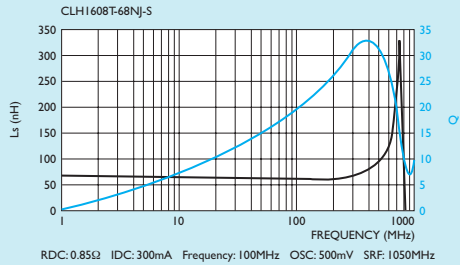
Test Instruments : HP4291A Impedance / Material Analyzer





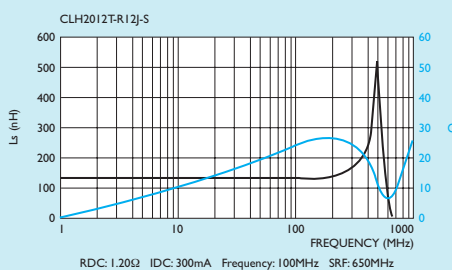
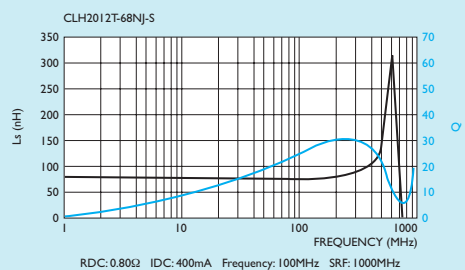
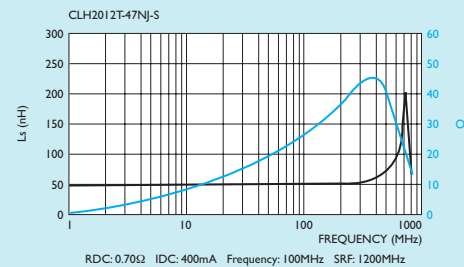
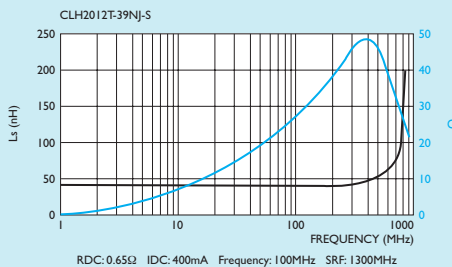
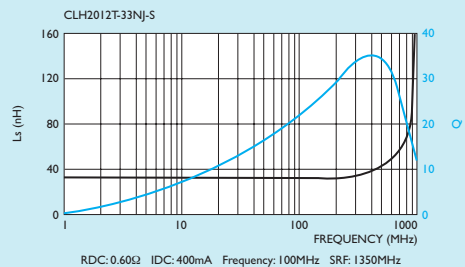
## TYPICAL ELECTRICAL CHARACTERISTICS

Test Instruments : HP4291A Impedance / Material Analyzer



## TYPICAL ELECTRICAL CHARACTERISTICS

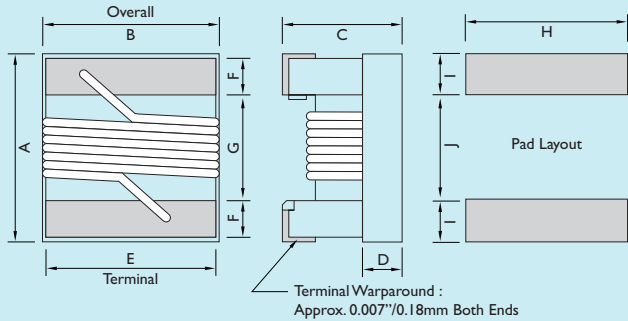
Test Instruments : HP4291A Impedance / Material Analyzer



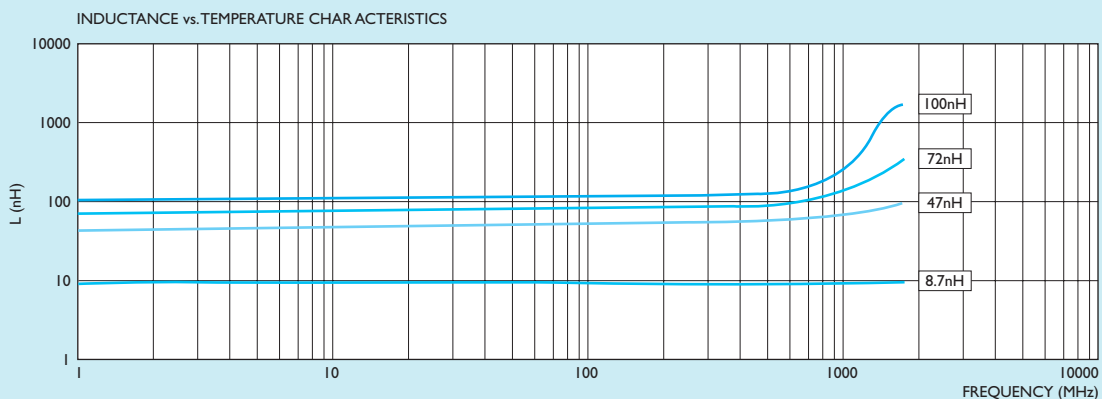
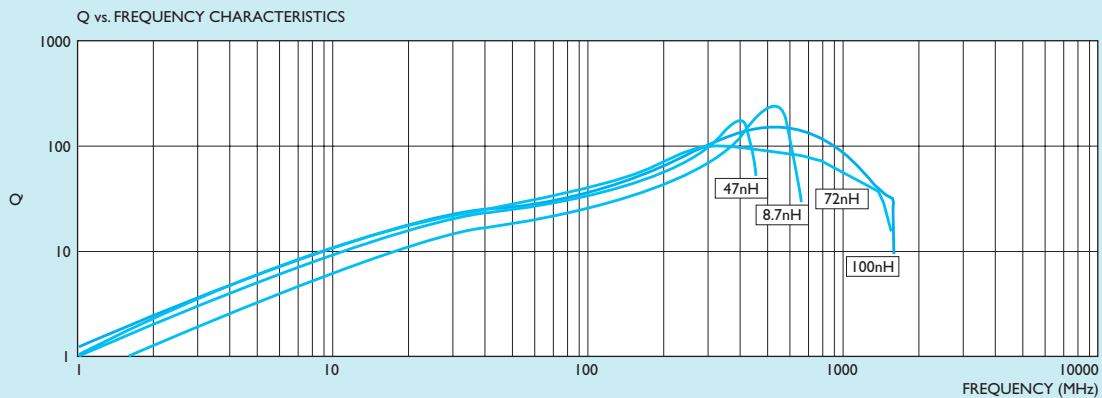
## LCN0603 SERIES

Ceramic body and wire wound construction provide highest SRFs available in 0603 size.

These ultra-compact inductors provided exceptional Q values, even at high frequencies.



UNIT	A Max.	B Max.	C Max.	D Ref.	E	F	G	H	I	J
in	0.071	0.044	0.040	0.015	0.030	0.013	0.034	0.040	0.025	0.025
mm	1.80	1.12	1.02	0.38	0.76	0.33	0.86	1.02	0.64	0.64



## WOUND CHIP INDUSTORS LCN0603 SERIES

PART NO.	INDUCTANCE (nH)	TOL. (%)	Q Min.	S.R.F Min. (MHz)	RDC Max. (Ω)	IDC Max. (mA)	900 MHz		1.7 GHz		COLOR
							L TYPE	Q TYPE	L TYPE	Q TYPE	
LCN0603T-1N6K-S	1.6@250 MHz	10	24	12500	0.030	700	1.67	49	1.65	63	Red
LCN0603T-1N8K-S	1.8@250 MHz	10	16	12500	0.045	700	1.63	35	1.66	50	Black
LCN0603T-3N6K-S	3.6@250 MHz	10	22	5900	0.063	700	3.72	53	3.71	65	Red
LCN0603T-3N9K-S	3.9@250 MHz	10	22	6900	0.080	700	3.95	49	3.96	67	Brown
LCN0603T-4N3K-S	4.3@250 MHz	10	22	5900	0.063	700	4.32	50	4.33	70	Orange
LCN0603T-4N7K-S	4.7@250 MHz	10	20	5800	0.116	700	4.72	47	4.75	57	Violet
LCN0603T-5N1K-S	5.1@250 MHz	10	20	5700	0.140	700	4.93	47	4.95	56	Green
LCN0603T-6N3K-S	6.3@250 MHz	10	20	5700	0.140	700	5.5	47	6.1	60	White
LCN0603T-6N8K-S	6.8@250 MHz	10	27	5800	0.110	700	6.75	60	7.1	81	Red
LCN0603T-7N5K-S	7.5@250 MHz	10	28	4800	0.106	700	7.70	60	7.82	65	Brown
LCN0603T-8N2J-S	8.2@250 MHz	10	28	4700	0.109	700	8.30	60	8.50	60	White
LCN0603T-8N7J-S	8.7@250 MHz	5	28	4600	0.109	700	8.86	62	9.32	58	Yellow
LCN0603T-9N5J-S	9.5@250 MHz	5	28	5400	0.135	700	9.70	59	9.92	61	Black
LCN0603T-10NJ-S	10@250 MHz	5	31	4800	0.130	700	10	66	10.6	83	Orange
LCN0603T-11NJ-S	11@250 MHz	5	33	4000	0.086	700	11	53	11.5	56	Gray
LCN0603T-12NJ-S	12@250 MHz	5	35	4000	0.130	700	12.3	72	13.5	83	Yellow
LCN0603T-15NJ-S	15@250 MHz	5	35	4000	0.170	700	15.4	64	16.8	89	Green
LCN0603T-16NJ-S	16@250 MHz	5	34	3300	0.104	700	16.2	55	17.3	52	White
LCN0603T-18NJ-S	18@250 MHz	5	35	3100	0.170	700	18.7	70	21.4	69	Black
LCN0603T-22NJ-S	22@250 MHz	5	38	3000	0.190	700	22.8	73	26.1	71	Violet
LCN0603T-24NJ-S	24@250 MHz	5	37	2650	0.135	700	24.5	45	28.7	39	Black
LCN0603T-27NJ-S	27@250 MHz	5	40	2800	0.220	600	29.2	74	34.6	65	Gray
LCN0603T-30NJ-S	30@250 MHz	5	37	2250	0.144	600	31.4	47	39.9	28	Brown
LCN0603T-33NJ-S	33@250 MHz	5	40	2300	0.220	600	36	67	49.5	42	White
LCN0603T-36NJ-S	36@250 MHz	5	38	2080	0.250	600	39.4	47	52.7	24	Red
LCN0603T-39NJ-S	39@250 MHz	5	40	2200	0.250	600	42.7	60	60.2	40	Black
LCN0603T-43NJ-S	43@250 MHz	5	39	2000	0.280	600	47	44	64.9	21	Orange
LCN0603T-47NJ-S	47@200 MHz	5	38	2000	0.280	600	52.2	62	77.2	35	Brown
LCN0603T-56NJ-S	56@200 MHz	5	38	1900	0.310	600	62.5	56	97	26	Red
LCN0603T-68NJ-S	68@200 MHz	5	37	1700	0.340	600	80.5	54	168	21	Orange
LCN0603T-72NJ-S	72@150 MHz	5	34	1700	0.490	400	82	53	135	20	Yellow
LCN0603T-82NJ-S	82@150 MHz	5	34	1700	0.540	400	96.2	54	177	21	Green
LCN0603T-R10J-S	100@150 MHz	5	34	1400	0.580	400	124	49			Black
LCN0603T-R11J-S	110@150 MHz	5	32	1350	0.610	300	138	43			Violet
LCN0603T-R12J-S	120@150 MHz	5	32	1300	0.650	300	166	39			Gray
LCN0603T-R15J-S	150@150 MHz	5	28	990	0.920	280	250	25			White
LCN0603T-R18J-S	180@100 MHz	5	25	990	1.250	240	305	22			Black
LCN0603T-R22J-S	220@100 MHz	5	25	900	1.900	200	480	8			Brown
LCN0603T-R27J-S	270@100 MHz	5	24	900	2.800	170	980	4			Red

When ordering, please specify tolerance and packaging codes.

Ex : LCN0603T-R12J-S      Tolerance : G = ±2%, J = 5%, K = 10%, M = 20%

Packaging : Clear Tape and Reel (Standard)

L : HP4191A

Q, SRF : HP4291A

RDC : Digital Multimeter SC-7401

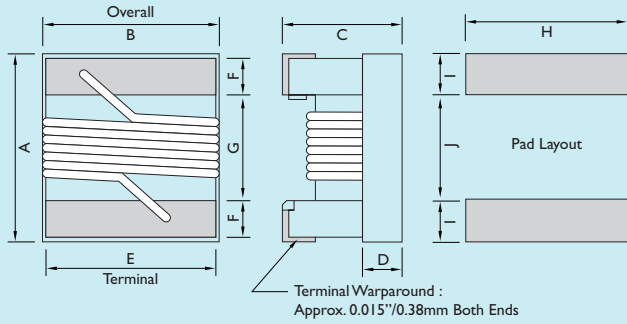
For 15°C Rise

Operating Temperature Range -40°C to 125°C

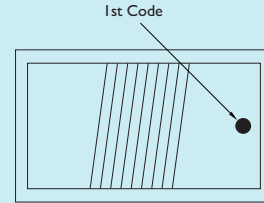
## LCN0805 SERIES

Ceramic body and wire wound construction provide highest SRFs available in 0805 size.

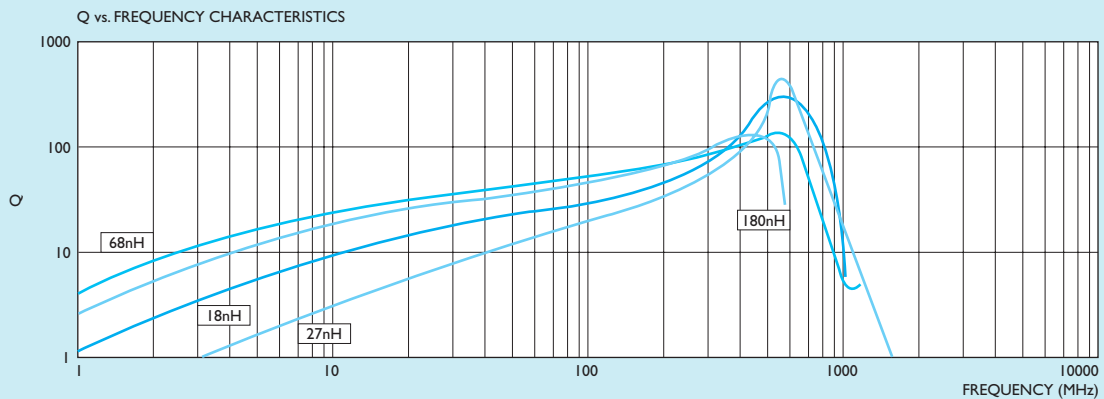
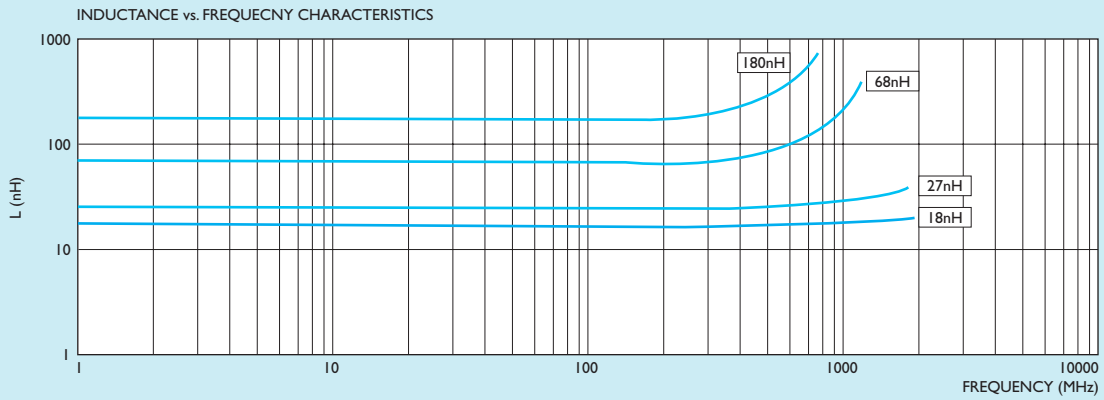
These ultra-compact inductors provided exceptional Q values, even at high frequencies.



### Color Coding



UNIT	A Max.	B Max.	C Max.	D Ref.	E	F	G	H	I	J
in	0.09	0.068	0.06	0.02	0.05	0.02	0.04	0.07	0.04	0.03
mm	2.29	1.73	1.52	0.51	1.27	0.51	1.02	1.78	1.02	0.76



## WOUND CHIP INDUSTORS LCN0805 SERIES

PART NO.	INDUCTANCE (nH)	TEST FREQUENCY (MHz)	Q Min.	TEST FREQUENCY (MHz)	S.R.F Min. (MHz)	RDC Max. (Ω)	IDC Max. (mA)	COLOR CODING
LCN0805T-2N8K-S	2.8 ± 10%	250	70	1500	7900	0.06	800	Gray
LCN0805T-3N0K-S	3.0 ± 10%	250	65	1500	7900	0.06	800	White
LCN0805T-3N3K-S	3.3 ± 10%	250	50	1500	7900	0.08	600	Black
LCN0805T-5N6K-S	5.6 ± 10%	250	65	1000	5500	0.08	600	Orange
LCN0805T-6N8K-S	6.8 ± 10%	250	50	1000	5500	0.11	600	Brown
LCN0805T-7N5K-S	7.5 ± 10%	250	50	1000	4500	0.14	600	Green
LCN0805T-8N2K-S	8.2 ± 10%	250	50	1000	4700	0.12	600	Red
LCN0805T-10NK-S	10 ± 10%	250	60	500	4200	0.10	600	Blue
LCN0805T-12NK-S	12 ± 10%	250	50	500	4000	0.15	600	Orange
LCN0805T-15NJ-S	15 ± 5%	250	50	500	3400	0.17	600	Yellow
LCN0805T-18NJ-S	18 ± 5%	250	50	500	3300	0.20	600	Green
LCN0805T-22NJ-S	22 ± 5%	250	55	500	2600	0.22	500	Blue
LCN0805T-24NJ-S	24 ± 5%	250	50	500	2000	0.22	500	Gray
LCN0805T-27NJ-S	27 ± 5%	250	55	500	2500	0.25	500	Violet
LCN0805T-33NJ-S	33 ± 5%	250	60	500	2050	0.27	500	Gray
LCN0805T-36NJ-S	36 ± 5%	250	55	500	1700	0.27	500	Orange
LCN0805T-39NJ-S	39 ± 5%	250	60	500	2000	0.29	500	White
LCN0805T-43NJ-S	43 ± 5%	200	60	500	1650	0.34	500	Yellow
LCN0805T-47NJ-S	47 ± 5%	200	60	500	1650	0.31	500	Black
LCN0805T-56NJ-S	56 ± 5%	200	60	500	1550	0.34	500	Brown
LCN0805T-68NJ-S	68 ± 5%	200	60	500	1450	0.38	500	Red
LCN0805T-82NJ-S	82 ± 5%	150	65	500	1300	0.42	400	Orange
LCN0805T-91NJ-S	91 ± 5%	150	65	500	1200	0.48	400	Black
LCN0805T-R10J-S	100 ± 5%	150	65	500	1200	0.46	400	Yellow
LCN0805T-R11J-S	110 ± 5%	150	50	250	1000	0.48	400	Brown
LCN0805T-R12J-S	120 ± 5%	150	50	250	1100	0.51	400	Green
LCN0805T-R15J-S	150 ± 5%	100	50	250	920	0.56	400	Blue
LCN0805T-R18J-S	180 ± 5%	100	50	250	870	0.64	400	Violet
LCN0805T-R22J-S	220 ± 5%	100	50	250	850	0.70	400	Gray
LCN0805T-R24J-S	240 ± 5%	100	44	250	690	1.00	350	Red
LCN0805T-R27J-S	270 ± 5%	100	48	250	650	1.00	350	White
LCN0805T-R33J-S	330 ± 5%	100	48	250	600	1.40	310	Black
LCN0805T-R39J-S	390 ± 5%	100	48	250	560	1.50	290	Brown
LCN0805T-R47J-S	470 ± 5%	50	33	100	375	1.76	250	Violet
LCN0805T-R56J-S	560 ± 5%	25	23	50	340	1.90	230	Orange
LCN0805T-R68J-S	680 ± 5%	25	23	50	188	2.20	190	Green
LCN0805T-R82J-S	820 ± 5%	25	23	50	215	2.35	180	Blue

When ordering, please specify tolerance and packaging codes.

Ex : LCN0805T-R10NJ-S Tolerance : J = 5%, K = 10%, M = 20% Packaging : Clear Tape and Reel (Standard)

L, Q, RDC : HP4286A

SRF : HP8753D/HP4286A

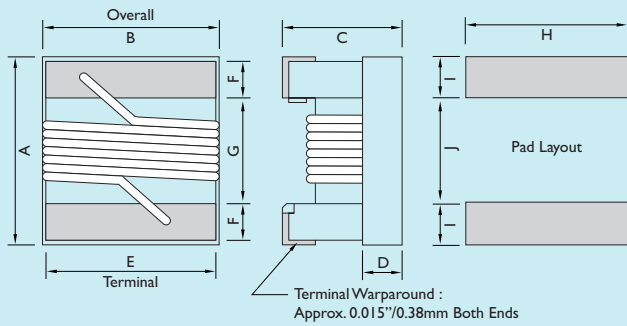
Operating Temperature Range -40°C to 125°C

## LCN0805 SERIES

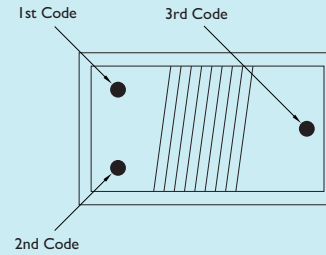
"LCN" series chip inductors have been designed especially for the needs of today's high frequency designer.

Their ceramic construction delivers the highest possible SRFs as well as excellent Q values.

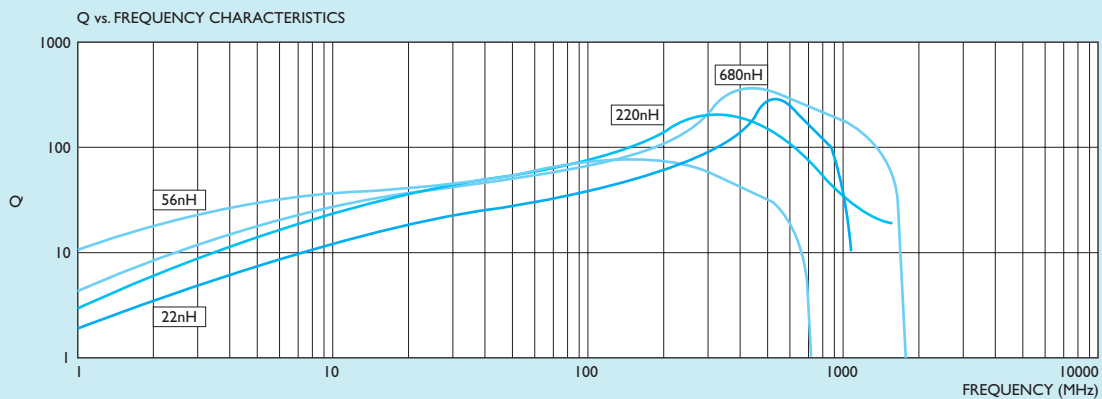
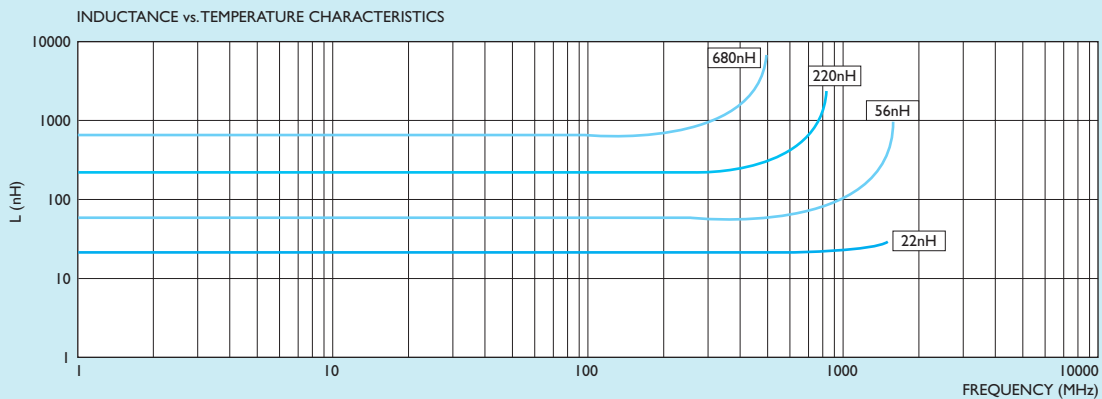
The non-magnetic coil form also assures the utmost in thermal stability, predictability and batch consistency.



### Color Coding



UNIT	A Max.	B Max.	C Max.	D Ref.	E	F	G	H	I	J
in	0.115	0.11	0.08	0.02	0.08	0.02	0.06	0.10	0.04	0.05
mm	2.92	2.79	2.10	0.51	2.03	0.51	1.52	2.54	1.02	1.27



## WOUND CHIP INDUSTORS LCN1008 SERIES

PART NO.	INDUCTANCE (nH)	TEST FREQUENCY (MHz)	Q Min.	TEST FREQUENCY (MHz)	S.R.F Min. (MHz)	RDC Max. ( $\Omega$ )	IDC Max. (mA)	COLOR CODING		
								1 <sup>ST</sup>	2 <sup>ND</sup>	3 <sup>RD</sup>
LCN1008T-4N7K-S	4.7 $\pm$ 10%	50	50	500	4100	0.08	1000	Black	Yellow	Violet
LCN1008T-10NK-S	10 $\pm$ 10%	50	50	500	4100	0.08	1000	Brown	Black	Black
LCN1008T-12NK-S	12 $\pm$ 10%	50	50	500	3300	0.09	1000	Brown	Red	Black
LCN1008T-15NK-S	15 $\pm$ 10%	50	50	500	2500	0.10	1000	Brown	Green	Black
LCN1008T-18NK-S	18 $\pm$ 10%	50	50	350	2500	0.11	1000	Brown	Gray	Black
LCN1008T-22NJ-S	22 $\pm$ 5%	50	55	350	2400	0.12	1000	Red	Red	Black
LCN1008T-27NJ-S	27 $\pm$ 5%	50	55	350	1600	0.13	1000	Red	Violet	Black
LCN1008T-33NJ-S	33 $\pm$ 5%	50	60	350	1600	0.14	1000	Orange	Orange	Black
LCN1008T-39NJ-S	39 $\pm$ 5%	50	60	350	1500	0.15	1000	Orange	White	Black
LCN1008T-47NJ-S	47 $\pm$ 5%	50	65	350	1500	0.16	1000	Yellow	Violet	Black
LCN1008T-56NJ-S	56 $\pm$ 5%	50	65	350	1300	0.18	1000	Green	Blue	Black
LCN1008T-68NJ-S	68 $\pm$ 5%	50	65	350	1300	0.20	1000	Blue	Gray	Black
LCN1008T-82NJ-S	82 $\pm$ 5%	50	60	350	1000	0.22	1000	Gray	Red	Black
LCN1008T-R10J-S	100 $\pm$ 5%	25	60	350	1000	0.56	650	Brown	Black	Brown
LCN1008T-R12J-S	120 $\pm$ 5%	25	60	350	950	0.63	650	Brown	Red	Brown
LCN1008T-R15J-S	150 $\pm$ 5%	25	45	100	850	0.70	580	Brown	Green	Brown
LCN1008T-R18J-S	180 $\pm$ 5%	25	45	100	750	0.77	620	Brown	Gray	Brown
LCN1008T-R22J-S	220 $\pm$ 5%	25	45	100	700	0.84	500	Red	Red	Brown
LCN1008T-R27J-S	270 $\pm$ 5%	25	45	100	600	0.91	500	Red	Violet	Brown
LCN1008T-R33J-S	330 $\pm$ 5%	25	45	100	570	1.05	450	Orange	Orange	Brown
LCN1008T-R39J-S	390 $\pm$ 5%	25	45	100	500	1.12	470	Orange	White	Brown
LCN1008T-R47J-S	470 $\pm$ 5%	25	45	100	450	1.19	470	Yellow	Violet	Brown
LCN1008T-R56J-S	560 $\pm$ 5%	25	45	100	415	1.33	400	Green	Blue	Brown
LCN1008T-R62J-S	620 $\pm$ 5%	25	45	100	375	1.40	300	Blue	Red	Brown
LCN1008T-R68J-S	680 $\pm$ 5%	25	45	100	375	1.47	400	Blue	Gray	Brown
LCN1008T-R75J-S	750 $\pm$ 5%	25	45	100	360	1.54	360	Violet	Green	Brown
LCN1008T-R82J-S	820 $\pm$ 5%	25	45	100	350	1.61	400	Gray	Red	Brown
LCN1008T-R91J-S	910 $\pm$ 5%	25	35	50	320	1.68	380	White	Brown	Brown
LCN1008T-1R0J-S	1000 $\pm$ 5%	25	35	50	290	1.75	370	Brown	Black	Brown
LCN1008T-1R2J-S	1200 $\pm$ 5%	7.9	35	50	250	2.0	310	Brown	Red	Red
LCN1008T-1R5J-S	1500 $\pm$ 5%	7.9	28	50	200	2.3	330	Brown	Green	Red
LCN1008T-1R8J-S	1800 $\pm$ 5%	7.9	28	50	160	2.6	300	Brown	Gray	Red
LCN1008T-2R2J-S	2200 $\pm$ 5%	7.9	28	50	160	2.8	280	Red	Red	Red
LCN1008T-2R7J-S	2700 $\pm$ 5%	7.9	22	25	140	3.2	290	Red	Violet	Red
LCN1008T-3R3J-S	3300 $\pm$ 5%	7.9	22	25	110	3.4	290	Orange	Orange	Red
LCN1008T-3R9J-S	3900 $\pm$ 5%	7.9	20	25	100	3.6	260	Orange	White	Red
LCN1008T-4R7J-S	4700 $\pm$ 5%	7.9	20	25	90	4.0	260	Yellow	Violet	Red

When ordering, please specify tolerance and packaging codes.

Ex : LCN0805T-R10NJ-S Tolerance : J = 5%, K = 10% Packaging : Clear Tape and Reel (Standard)

L, Q, RDC : HP4286A

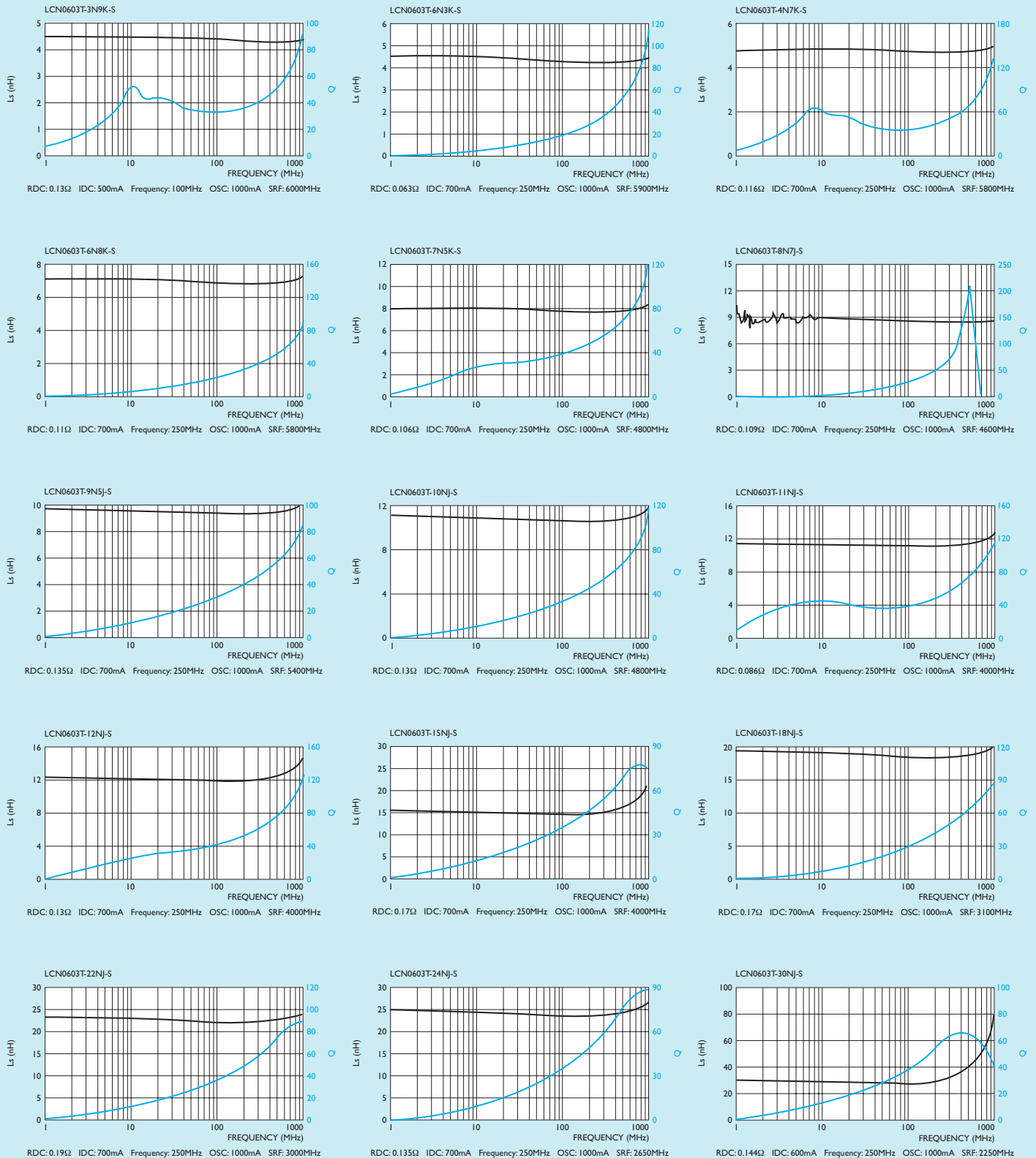
SRF : HP8753D/HP4286A

Operating Temperature Range -40°C to 125°C



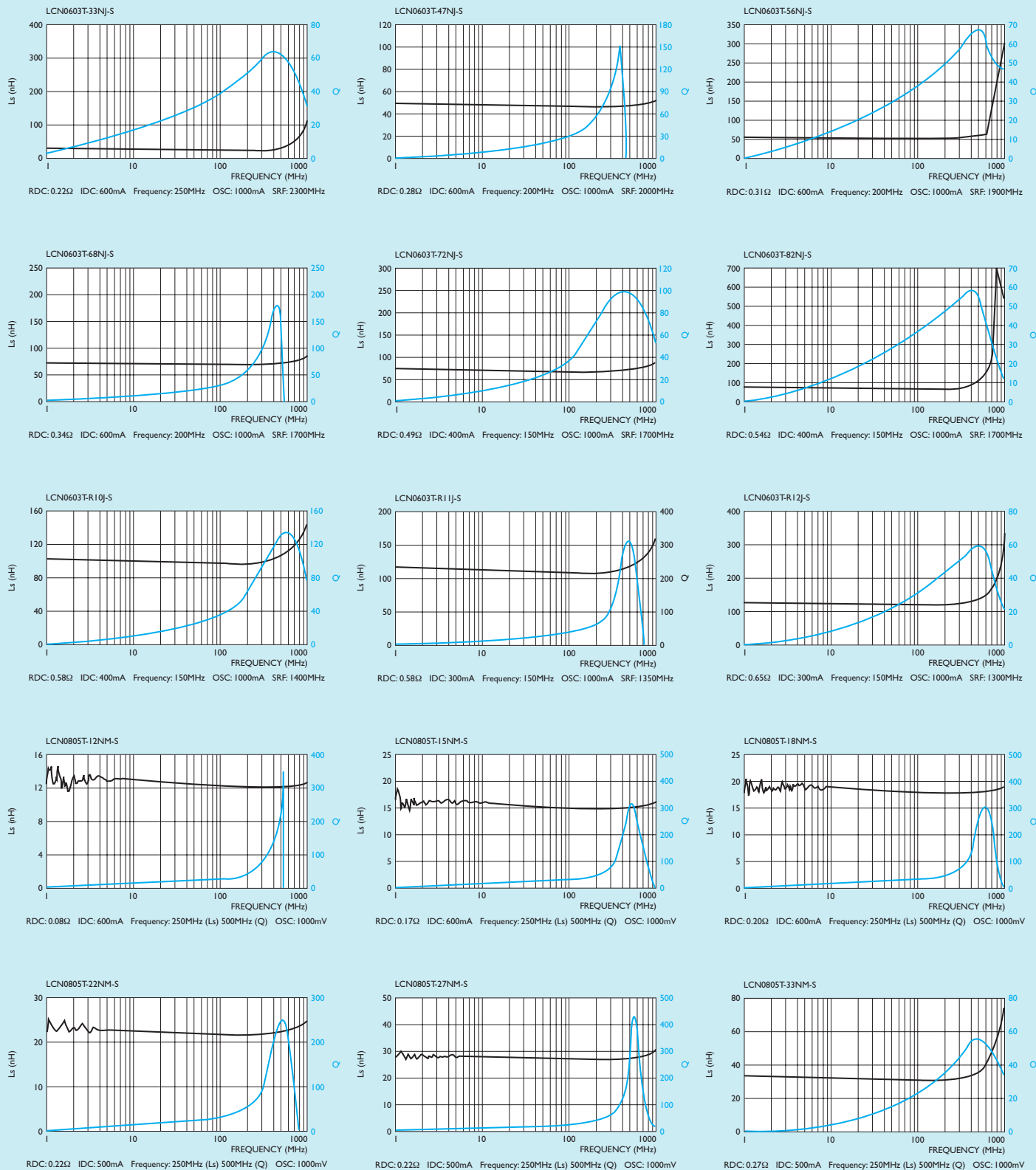
## TYPICAL ELECTRICAL CHARACTERISTICS

Test Instruments : HP4291A Impedance / Material Analyzer



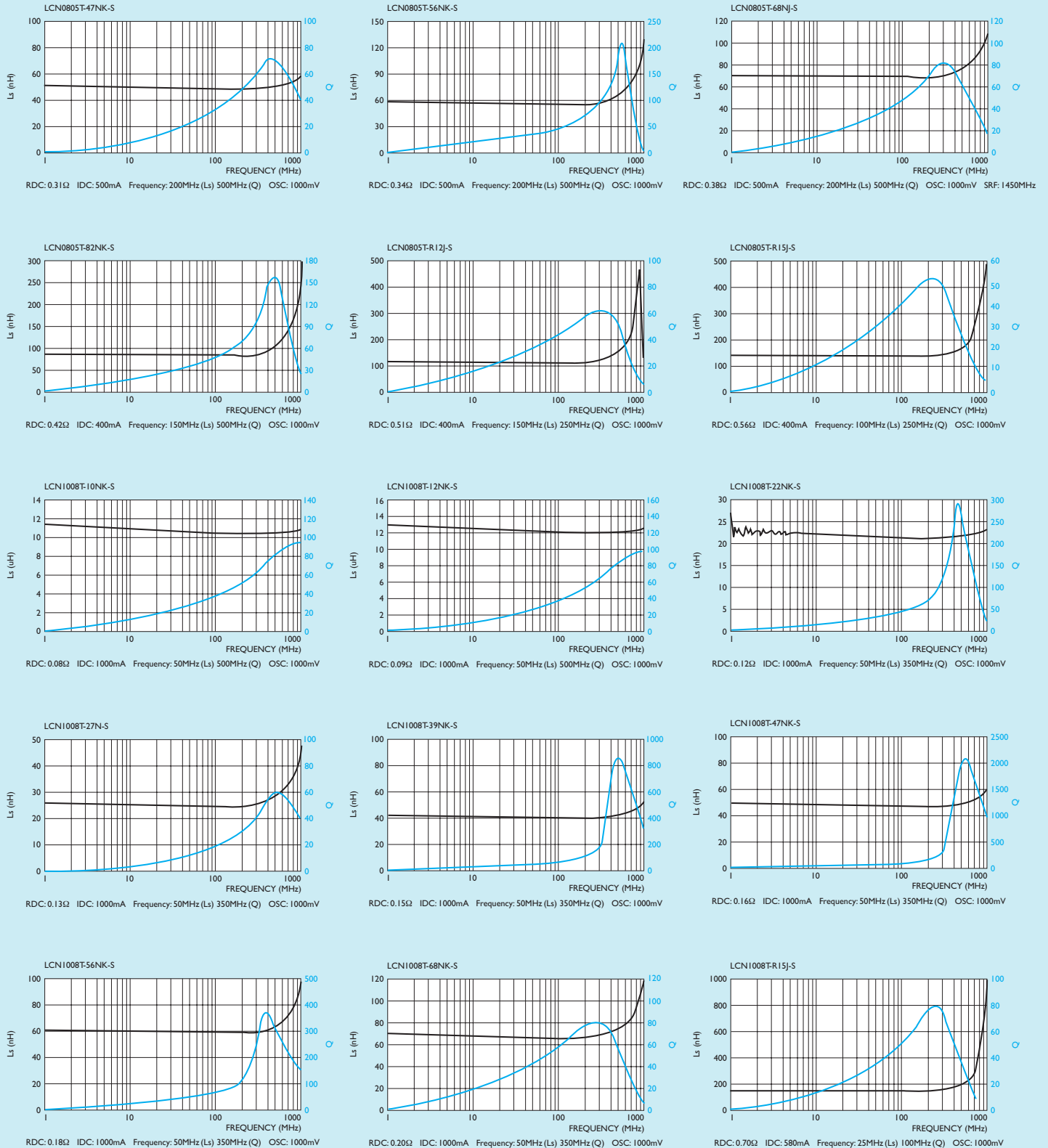
## TYPICAL ELECTRICAL CHARACTERISTICS

Test Instruments : HP4291A Impedance / Material Analyzer



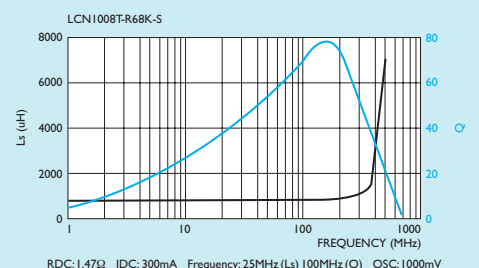
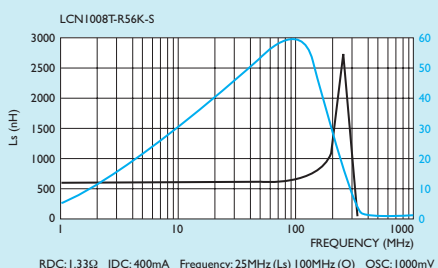
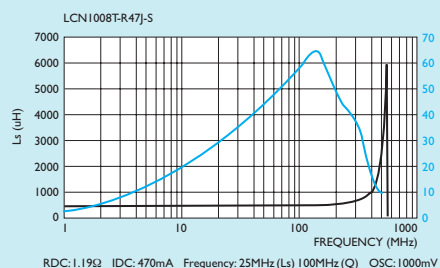
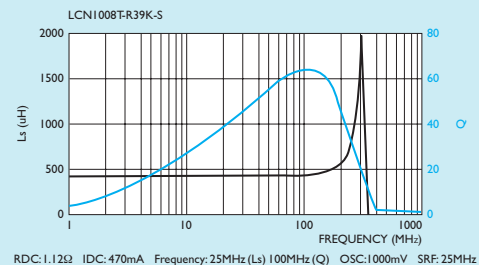
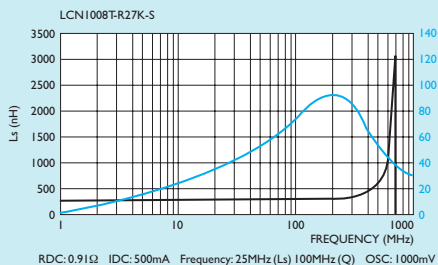
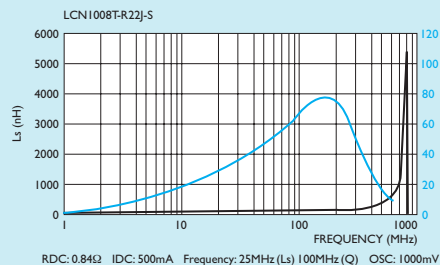
## TYPICAL ELECTRICAL CHARACTERISTICS

Test Instruments : HP4291A Impedance / Material Analyzer

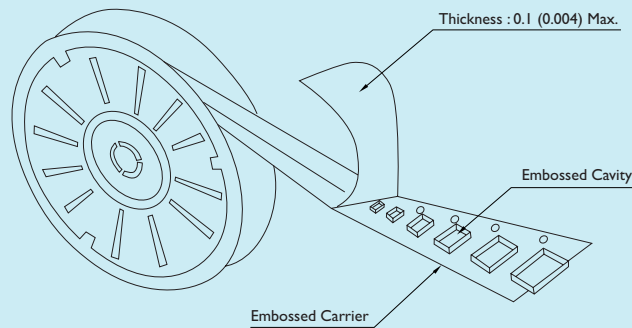


## TYPICAL ELECTRICAL CHARACTERISTICS

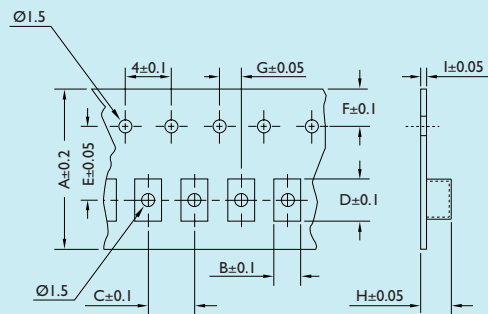
Test Instruments : HP4291A Impedance / Material Analyzer



## PACKAGING



## TAPE DIMENSIONS



Tape Material :

Carrier Tape : Polystyrene

TAPE	A	B	C	D	E	F	G	H	I	PCS/PER WHEEL
LCN1008	8	2.73	4	2.88	3.5	1.75	2	2.33	0.2	2000
LCN0805	8	1.88	4	2.38	3.5	1.75	2	1.48	0.2	2500
LCN0603	8	1.1	4	1.75	3.5	1.75	2	1.15	0.25	4000