

# MULTILAYER HIGH FREQUENCY CHIP INDUCTORS / HCL TYPE

## FEATURES

- ◆ Cost Effective
- ◆ Small size of 0603/ 1005/1608/2012 is suitable for small portable equipment.
- ◆ Supports operating frequency up to 6GHz with nominal inductance values from 1.0nH to 680nH.
- ◆ Excellent Q factor and SRF characteristics.

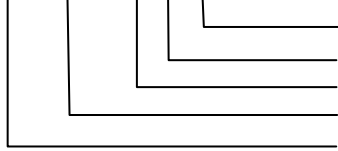


## APPLICATIONS

- ◆ Information technology equipments, computers, telecommunications, radar detectors, automotive electronics, cellular phones, pagers, PDAs, keyless remote systems.
- ◆ Use in L-C filter configurations

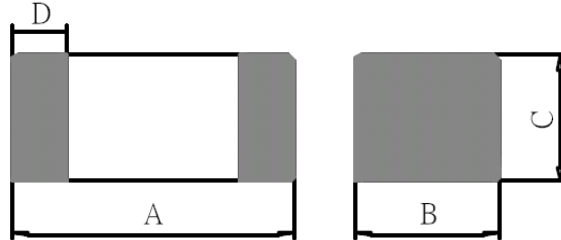
## ORDERING CODE (HIGH FREQUENCY)

HCL 1608 - 1N5 □ - N



Note: lead-free  
Tolerance (S:±0.3nH, J:±5%, K:±10%)  
Inductance  
Dimension (AxB)  
Product Symbol

## SHAPES



## DIMENSIONS UNIT: mm (inch)

Part No.	A	B	C	D
HCL 0603 (0201)	0.60 ± 0.03	0.30 ± 0.03	0.30 ± 0.03	0.10 ~ 0.20
HCL 1005 (0402)	1.00 ± 0.10	0.50 ± 0.10	0.50 ± 0.10	0.25 ± 0.10
HCL 1608 (0603)	1.60 ± 0.15	0.80 ± 0.15	0.80 ± 0.15	0.30 ± 0.20
HCL 2012 (0805)	2.00 ± 0.20	1.25 ± 0.20	0.85 ± 0.20 1.25 ± 0.20	0.50 ± 0.30



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### ELECTRICAL CHARACTERISTICS FOR HCL0603

Part No.	Inductance (nH)	Q Min	Test Freq. (MHz)	Self Resonant Freq. (GHz) Min	DC Resistance (Ω) Max	Rated Current (mA) Max
HCL 0603-1N0 □-N	1.0	4	100	10	0.11	470
HCL 0603-1N2 □-N	1.2	4	100	10	0.12	450
HCL 0603-1N5 □-N	1.5	4	100	10	0.13	430
HCL 0603-1N8 □-N	1.8	4	100	10	0.16	390
HCL 0603-2N0 □-N	2.0	4	100	8.8	0.17	380
HCL 0603-2N1 □-N	2.1	4	100	8.8	0.18	370
HCL 0603-2N2 □-N	2.2	4	100	8.8	0.19	360
HCL 0603-2N4 □-N	2.4	4	100	8.3	0.20	350
HCL 0603-2N7 □-N	2.7	4	100	7.7	0.21	340
HCL 0603-3N0 □-N	3.0	4	100	7.2	0.22	330
HCL 0603-3N3 □-N	3.3	4	100	6.7	0.23	320
HCL 0603-3N6 □-N	3.6	4	100	6.4	0.25	310
HCL 0603-3N9 □-N	3.9	4	100	6.0	0.27	300
HCL 0603-4N3 □-N	4.3	4	100	5.7	0.30	290
HCL 0603-4N7 □-N	4.7	4	100	5.3	0.31	280
HCL 0603-5N1 □-N	5.1	4	100	5.0	0.33	270
HCL 0603-5N6 □-N	5.6	4	100	4.6	0.36	260
HCL 0603-6N2 □-N	6.2	4	100	4.2	0.38	250
HCL 0603-6N8 □-N	6.8	4	100	3.9	0.39	245
HCL 0603-7N5 □-N	7.5	4	100	3.6	0.41	240
HCL 0603-8N2 □-N	8.2	4	100	3.4	0.45	230
HCL 0603-9N1 □-N	9.1	4	100	3.2	0.48	220
HCL 0603-10N □-N	10	4	100	2.9	0.51	210
HCL 0603-12N □-N	12	4	100	2.7	0.68	190
HCL 0603-15N □-N	15	4	100	2.3	0.71	180
HCL 0603-18N □-N	18	4	100	2.1	0.81	170
HCL 0603-22N □-N	22	4	100	1.8	1.00	150
HCL 0603-27N □-N	27	4	100	1.8	1.35	120
HCL 0603-33N □-N	33	4	100	1.7	1.47	110

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## MULTILAYER HIGH FREQUENCY CHIP INDUCTORS / HCL TYPE

### ELECTRICAL CHARACTERISTICS FOR HCL1005

Part No.	Inductance (nH)	Q Min	Test Freq. (MHz)	Self Resonant Freq. (GHz) Min	DC Resistance (Ω) Max	Rated Current (mA) Max
HCL 1005-1N0 □-N	1.0	8	100	8.0	0.10	300
HCL 1005-1N2 □-N	1.2	8	100	8.0	0.11	300
HCL 1005-1N5 □-N	1.5	8	100	8.0	0.12	300
HCL 1005-1N8 □-N	1.8	8	100	6.0	0.13	300
HCL 1005-2N0 □-N	2.0	8	100	6.0	0.14	300
HCL 1005-2N2 □-N	2.2	8	100	6.0	0.15	300
HCL 1005-2N4 □-N	2.4	8	100	6.0	0.16	300
HCL 1005-2N7 □-N	2.7	8	100	6.0	0.17	300
HCL 1005-3N0 □-N	3.0	8	100	6.0	0.18	300
HCL 1005-3N3 □-N	3.3	8	100	6.0	0.19	300
HCL 1005-3N6 □-N	3.6	8	100	6.0	0.20	300
HCL 1005-3N9 □-N	3.9	8	100	6.0	0.21	300
HCL 1005-4N3 □-N	4.3	8	100	4.0	0.22	300
HCL 1005-4N7 □-N	4.7	8	100	6.0	0.23	300
HCL 1005-5N1 □-N	5.1	8	100	6.0	0.24	300
HCL 1005-5N6 □-N	5.6	8	100	5.3	0.26	300
HCL 1005-6N2 □-N	6.2	8	100	4.3	0.27	300
HCL 1005-6N8 □-N	6.8	8	100	4.2	0.29	300
HCL 1005-7N5 □-N	7.5	8	100	4.2	0.31	300
HCL 1005-8N2 □-N	8.2	8	100	3.6	0.33	300
HCL 1005-9N1 □-N	9.1	8	100	3.4	0.34	300
HCL 1005-10N □-N	10	8	100	3.2	0.35	300
HCL 1005-12N □-N	12	8	100	2.8	0.41	300
HCL 1005-15N □-N	15	8	100	2.3	0.46	300
HCL 1005-18N □-N	18	8	100	2.1	0.51	300
HCL 1005-22N □-N	22	8	100	1.8	0.58	300
HCL 1005-27N □-N	27	8	100	1.6	0.67	300
HCL 1005-33N □-N	33	8	100	1.5	0.82	200
HCL 1005-39N □-N	39	8	100	1.2	1.06	200
HCL 1005-47N □-N	47	8	100	1.0	1.15	200
HCL 1005-56N □-N	56	8	100	0.8	1.20	200
HCL 1005-68N □-N	68	8	100	0.8	1.25	180
HCL 1005-82N □-N	82	8	100	0.6	1.60	150
HCL 1005-R10 □-N	100	8	100	0.6	1.90	150
HCL 1005- R12 □-N	120	8	100	0.6	2.20	150
HCL 1005- R15 □-N	150	8	100	0.5	2.99	140
HCL 1005- R18 □-N	180	8	100	0.5	3.38	140
HCL 1005- R22 □-N	220	8	100	0.5	3.77	120
HCL 1005- R27 □-N	270	8	100	0.4	4.90	110

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## MULTILAYER HIGH FREQUENCY CHIP INDUCTORS / HCL TYPE

### ELECTRICAL CHARACTERISTICS FOR HCL1608

Part No.	Inductance (nH)	Q Min	Test Freq. (MHz)	Self Resonant Freq. (GHz) Min	DC Resistance (Ω) Max	Rated Current (mA) Max
HCL 1608-1N0 □-N	1.0	8	100	10	0.05	300
HCL 1608-1N2 □-N	1.2	8	100	10	0.06	300
HCL 1608-1N5 □-N	1.5	8	100	6	0.07	300
HCL 1608-1N8 □-N	1.8	8	100	6	0.08	300
HCL 1608-2N2 □-N	2.2	8	100	6	0.09	300
HCL 1608-2N7 □-N	2.7	10	100	6	0.10	300
HCL 1608-3N3 □-N	3.3	10	100	6	0.12	300
HCL 1608-3N9 □-N	3.9	10	100	6	0.14	300
HCL 1608-4N7 □-N	4.7	10	100	4	0.16	300
HCL 1608-5N6 □-N	5.6	10	100	4	0.18	300
HCL 1608-6N8 □-N	6.8	10	100	4	0.22	300
HCL 1608-8N2 □-N	8.2	10	100	3.50	0.24	300
HCL 1608-10N □-N	10	12	100	3.40	0.26	300
HCL 1608-12N □-N	12	12	100	2.60	0.28	300
HCL 1608-15N □-N	15	12	100	2.30	0.32	300
HCL 1608-18N □-N	18	12	100	2.00	0.35	300
HCL 1608-22N □-N	22	12	100	1.60	0.40	300
HCL 1608-27N □-N	27	12	100	1.40	0.45	300
HCL 1608-33N □-N	33	12	100	1.20	0.55	300
HCL 1608-39N □-N	39	12	100	1.10	0.60	300
HCL 1608-47N □-N	47	12	100	0.90	0.70	300
HCL 1608-56N □-N	56	12	100	0.90	0.75	300
HCL 1608-68N □-N	68	12	100	0.70	0.85	300
HCL 1608-82N □-N	82	12	100	0.60	0.95	300
HCL 1608-R10 □-N	100	12	100	0.60	1.00	300
HCL 1608-R12 □-N	120	8	50	0.50	1.10	300
HCL 1608-R15 □-N	150	8	50	0.50	1.20	300
HCL 1608-R18 □-N	180	8	50	0.40	1.30	300
HCL 1608-R22 □-N	220	8	50	0.40	1.50	300
HCL 1608-R27 □-N	270	8	50	0.40	1.90	300
HCL 1608-R33 □-N	330	8	50	0.35	2.10	300
HCL 1608-R39 □-N	390	8	50	0.35	2.30	150
HCL 1608-R47 □-N	470	8	50	0.30	2.60	150

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### ELECTRICAL CHARACTERISTICS FOR HCL2012

Part No.	Inductance (nH)	Q Min	Test Freq. (MHz)	Self Resonant Freq. (GHz) Min	DC Resistance ( $\Omega$ ) Max	Rated Current (mA) Max
HCL 2012-1N0 □-N	1.0	10	100	10	0.10	300
HCL 2012-1N2 □-N	1.2	10	100	10	0.11	300
HCL 2012-1N5 □-N	1.5	10	100	4.00	0.12	300
HCL 2012-1N8 □-N	1.8	10	100	4.00	0.13	300
HCL 2012-2N2 □-N	2.2	10	100	4.00	0.14	300
HCL 2012-2N7 □-N	2.7	12	100	4.00	0.15	300
HCL 2012-3N3 □-N	3.3	12	100	4.00	0.16	300
HCL 2012-3N9 □-N	3.9	12	100	4.00	0.18	300
HCL 2012-4N7 □-N	4.7	12	100	3.50	0.20	300
HCL 2012-5N6 □-N	5.6	15	100	3.20	0.23	300
HCL 2012-6N8 □-N	6.8	15	100	2.80	0.25	300
HCL 2012-8N2 □-N	8.2	15	100	2.40	0.28	300
HCL 2012-10N □-N	10	15	100	2.10	0.30	300
HCL 2012-12N □-N	12	15	100	1.90	0.35	300
HCL 2012-15N □-N	15	15	100	1.60	0.40	300
HCL 2012-18N □-N	18	15	100	1.50	0.45	300
HCL 2012-22N □-N	22	18	100	1.40	0.50	300
HCL 2012-27N □-N	27	18	100	1.30	0.55	300
HCL 2012-33N □-N	33	18	100	1.20	0.60	300
HCL 2012-39N □-N	39	18	100	1.00	0.65	300
HCL 2012-47N □-N	47	18	100	0.90	0.70	300
HCL 2012-56N □-N	56	18	100	0.80	0.75	300
HCL 2012-68N □-N	68	18	100	0.70	0.80	300
HCL 2012-82N □-N	82	18	100	0.60	0.85	300
HCL 2012-R10 □-N	100	18	100	0.60	0.90	300
HCL 2012-R12 □-N	120	13	50	0.50	0.95	300
HCL 2012-R15 □-N	150	13	50	0.50	1.00	300
HCL 2012-R18 □-N	180	13	50	0.40	1.10	300
HCL 2012-R22 □-N	220	12	50	0.35	1.20	300
HCL 2012-R27 □-N	270	12	50	0.30	1.30	300
HCL 2012-R33 □-N	330	12	50	0.25	1.40	300
HCL 2012-R39 □-N	390	10	50	0.25	1.60	300
HCL 2012-R47 □-N	470	10	50	0.20	2.00	300
HCL 2012-R56 □-N	560	10	25	0.18	5.00	50
HCL 2012-R68 □-N	680	10	25	0.16	5.50	50

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