

SMD Multilayer Ceramic Chip Inductors – HCL Series

FEATURES

- Monolithic structure for high reliability
- High self-resonant frequency
- Excellent solderability and high heat resistance
- High Q factor



APPLICATIONS

- RF circuit in telecommunication and other equipments

PRODUCT IDENTIFICATION

HCL

①

Type	
HCL	Chip Ceramic Inductor

0603

②

Q

③

External Dimensions (L×W) (mm)	
0603 [0201]	0.6×0.3

10N

④

J

⑤

Inductance Tolerance	
B	±0.1nH
C	±0.2nH
S	±0.3nH
G	±2%
H	±3%
J	±5%

T

⑥

Characteristics Code	
	Q

02

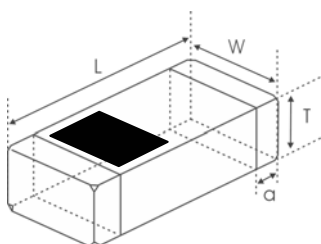
⑦

Packing	
T	Tape & Reel

Serial Code	
	02

Nominal Inductance	
Example	Nominal Value
3N9	3.9nH
10N	10nH
※R=小数点, N=nH	

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
HCL0603Q-02 [0201]	0.6±0.05 [.024±.002]	0.3±0.05 [.012±.002]	0.3±0.05 [.012±.002]	0.12±0.05 [.0048±.002]

SPECIFICATIONS

HCL0603Q-02 TYPE

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq. L/Q	Typical Q @ Freq. (GHz)					Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current	Thickness
				0.5	0.8	1.8	2.0	2.4				
Units	rH	-	MHz	-					MHz	Ω	mA	mm [inch]
Symbol	L	Q	Freq	Q					SRF	DCR	I _r	T
HCL0603Q0N6 □T02	0.6	13	500	>24	>32	>54	>57	>65	10000	0.06	600	0.3±0.05
HCL0603Q0N7 □T02	0.7	13	500	>24	>32	>54	>57	>65	10000	0.06	550	[.012±.002]



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SPECIFICATIONS

HCL0603Q-02 TYPE

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq. L/Q	Typical Q @ Freq. (GHz)					Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current	Thickness
				0.5	0.8	1.8	2.0	2.4				
Units	nH	-	MHz	-					MHz	Ω	mA	mm [inch]
Symbol	L	Q	Freq	Q					SRF	DCR	I _r	T
HCL0603Q0N8 □T02	0.8	13	500	>24	>32	>54	>57	>65	10000	0.07	550	0.3±0.05 [.012±.002]
HCL0603Q0N9 □T02	0.9	13	500	>24	>32	>54	>57	>65	10000	0.07	550	
HCL0603Q1N0 □T02	1.0	13	500	24	32	54	57	65	10000	0.08	520	
HCL0603Q1N1 □T02	1.1	13	500	19	26	45	47	55	10000	0.11	440	
HCL0603Q1N2 □T02	1.2	13	500	19	25	43	44	52	10000	0.12	420	
HCL0603Q1N3 □T02	1.3	13	500	19	25	40	42	47	10000	0.12	420	
HCL0603Q1N4 □T02	1.4	13	500	19	24	39	41	47	10000	0.11	440	
HCL0603Q1N5 □T02	1.5	13	500	19	24	39	41	46	10000	0.12	420	
HCL0603Q1N6 □T02	1.6	13	500	19	24	39	41	46	10000	0.13	410	
HCL0603Q1N7 □T02	1.7	13	500	19	24	39	41	46	10000	0.15	380	
HCL0603Q1N8 □T02	1.8	13	500	19	24	39	41	46	10000	0.15	380	
HCL0603Q1N9 □T02	1.9	13	500	18	24	38	40	45	10000	0.18	350	
HCL0603Q2N0 □T02	2.0	13	500	17	24	38	39	44	10000	0.23	300	
HCL0603Q2N1 □T02	2.1	13	500	17	24	37	39	44	10000	0.24	300	
HCL0603Q2N2 □T02	2.2	13	500	17	24	38	40	43	10000	0.25	290	
HCL0603Q2N3 □T02	2.3	13	500	17	24	37	39	43	10000	0.20	330	
HCL0603Q2N4 □T02	2.4	13	500	17	23	36	38	42	10000	0.22	310	
HCL0603Q2N5 □T02	2.5	13	500	17	23	35	36	40	9600	0.20	330	
HCL0603Q2N6 □T02	2.6	13	500	17	22	34	35	39	9400	0.20	330	
HCL0603Q2N7 □T02	2.7	13	500	17	22	34	35	39	9200	0.22	310	
HCL0603Q2N8 □T02	2.8	13	500	17	22	34	35	39	8900	0.24	300	
HCL0603Q2N9 □T02	2.9	13	500	17	22	34	35	39	8800	0.26	280	
HCL0603Q3N0 □T02	3.0	13	500	17	22	34	35	39	8600	0.26	280	
HCL0603Q3N1 □T02	3.1	13	500	17	22	34	35	39	8500	0.28	270	
HCL0603Q3N2 □T02	3.2	13	500	17	22	33	35	39	8200	0.28	270	
HCL0603Q3N3 □T02	3.3	13	500	18	23	34	36	40	8100	0.30	270	
HCL0603Q3N4 □T02	3.4	13	500	17	23	33	35	39	8000	0.30	270	
HCL0603Q3N5 □T02	3.5	13	500	17	23	33	35	39	7900	0.34	250	
HCL0603Q3N6 □T02	3.6	13	500	16	23	33	35	39	7700	0.38	240	
HCL0603Q3N7 □T02	3.7	13	500	16	23	33	35	38	7600	0.40	230	
HCL0603Q3N8 □T02	3.8	13	500	16	22	33	35	38	7500	0.42	230	
HCL0603Q3N9 □T02	3.9	13	500	16	22	33	35	38	7400	0.42	230	
HCL0603Q4N3 □T02	4.3	13	500	16	21	32	34	37	6800	0.44	220	
HCL0603Q4N7 □T02	4.7	13	500	16	22	33	35	38	6200	0.45	220	
HCL0603Q5N1 □T02	5.1	13	500	17	22	34	36	38	5900	0.46	210	
HCL0603Q5N6 □T02	5.6	13	500	16	21	33	34	37	5500	0.46	210	
HCL0603Q6N2 □T02	6.2	13	500	18	23	34	35	37	5100	0.48	210	
HCL0603Q6N8 □T02	6.8	13	500	17	22	32	33	35	4900	0.50	200	
HCL0603Q7N5 □T02	7.5	13	500	16	21	31	33	34	4700	0.50	200	
HCL0603Q8N2 □T02	8.2	13	500	16	21	31	32	34	4300	0.56	190	
HCL0603Q9N1 □T02	9.1	13	500	16	20	30	31	32	4100	0.72	170	
HCL0603Q10N □T02	10	13	500	16	20	28	29	31	3800	0.80	160	
HCL0603Q12N □T02	12	13	500	16	20	27	28	28	3400	0.80	160	
HCL0603Q15N □T02	15	13	500	15	19	24	24	23	2600	0.85	160	
HCL0603Q18N □T02	18	13	500	15	19	23	24	22	2300	1.00	140	
HCL0603Q22N □T02	22	13	500	15	19	22	23	20	1900	1.20	130	
HCL0603Q27N □T02	27	13	500	15	19	15	13	8	1800	1.60	120	
HCL0603Q33N □T02	33	11	300	14	15	8	5	-	1800	2.20	110	



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SPECIFICATIONS

HCL0603Q-02 TYPE

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq. L/Q	Typical Q @ Freq. (GHz)					Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current	Thickness
				0.5	0.8	1.8	2.0	2.4				
Units	nH	-	MHz	-					MHz	Ω	mA	mm [inch]
Symbol	L	Q	Freq	Q					SRF	DCR	I _r	T
HCL0603Q39N □T02	39	11	300	14	15	6	-	-	1600	2.30	100	0.3±0.05 [.012±.002]
HCL0603Q47N □T02	47	11	300	14	15	-	-	-	1500	2.60	100	
HCL0603Q56N □T02	56	11	300	13	13	-	-	-	1400	2.80	80	
HCL0603Q68N □T02	68	11	300	13	11	-	-	-	1200	3.20	80	
HCL0603Q82N □T02	82	10	300	12	10	-	-	-	1100	3.80	70	
HCL0603QR10 □T02	100	10	300	12	10	-	-	-	1000	4.00	60	
HCL0603QR12 □T02	120	9	300	12	8	-	-	-	1000	5.00	50	

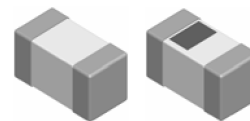
※□: Please specify the inductance tolerance. For $L \leq 6.2\text{nH}$, choose B=±0.1nH, C=±0.2nH or S=±0.3nH; For $L > 6.2\text{nH}$, choose G=±2%, H=±3% or J=±5%.



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FEATURES

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APPLICATIONS

- RF circuit in telecommunication and other equipments

PRODUCT IDENTIFICATION

<u>HCL</u>	<u>1608</u>	<u>C</u>	<u>10N</u>	<u>J</u>	<u>T</u>	<u>D</u>	<u>F</u>																												
①	②	③	④	⑤	⑥	⑦	⑧																												
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SHAPE AND DIMENSIONS

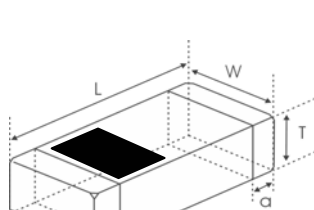


Fig.1

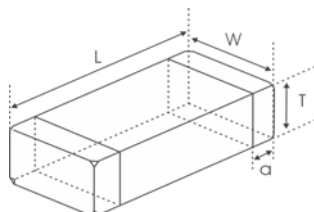


Fig.2

Unit: mm [inch]					
Type	L	W	T	a	
HCL1005 [0402]	1.0±0.15 [.039±.006]	0.5±0.15 [.020±.006]	0.5±0.15 [.020±.006]	0.25±0.1 [.010±.004]	Fig.1
HCL1608 [0603]	1.6±0.15 [.063±.006]	0.8±0.15 [.031±.006]	0.8±0.15 [.031±.006]	0.3±0.2 [.012±.008]	Fig.2
	1.65±0.15 [.065±.006]				

SMD Multilayer Ceramic Chip Inductors – HCL Series

SPECIFICATIONS

HCL1005-D TYPE

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq. L/Q	Typical Q @ Freq. (MHz)			Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current	Thickness
				100	800	1000				
Units	nH	-	MHz	-			MHz	Ω	mA	mm [inch]
Symbol	L	Q	Freq	Q			S.R.F	DCR	I _r	T
HCL1005C1N0STDF	1.0±0.3	8	100	11	34	36	10000	0.10	400	0.5±0.15 [.020±.006]
HCL1005C1N1STDF	1.1±0.3	8	100	11	34	36	10000	0.10	400	
HCL1005C1N2STDF	1.2±0.3	8	100	11	34	36	10000	0.10	400	
HCL1005C1N3STDF	1.3±0.3	8	100	11	34	36	10000	0.10	400	
HCL1005C1N5STDF	1.5±0.3	8	100	11	34	36	6000	0.10	300	
HCL1005C1N6STDF	1.6±0.3	8	100	11	32	35	6000	0.10	300	
HCL1005C1N8STDF	1.8±0.3	8	100	11	30	34	6000	0.10	300	
HCL1005C2N0STDF	2.0±0.3	8	100	10	29	33	6000	0.20	300	
HCL1005C2N2STDF	2.2±0.3	8	100	10	29	33	6000	0.20	300	
HCL1005C2N4STDF	2.4±0.3	8	100	10	29	32	6000	0.20	300	
HCL1005C2N7STDF	2.7±0.3	8	100	10	29	32	6000	0.20	300	
HCL1005C3N0STDF	3.0±0.3	8	100	10	29	32	6000	0.20	300	
HCL1005C3N3STDF	3.3±0.3	8	100	10	29	32	6000	0.20	300	
HCL1005C3N6STDF	3.6±0.3	8	100	10	28	31	4000	0.20	300	
HCL1005C3N9STDF	3.9±0.3	8	100	10	28	31	4000	0.20	300	
HCL1005C4N3STDF	4.3±0.3	8	100	10	28	31	4000	0.20	300	
HCL1005C4N7STDF	4.7±0.3	8	100	10	28	31	4000	0.20	300	
HCL1005C5N1STDF	5.1±0.3	8	100	10	28	30	4000	0.30	300	
HCL1005C5N6STDF	5.6±0.3	8	100	10	28	30	4000	0.30	300	
HCL1005C6N2STDF	6.2±0.3	8	100	10	27	30	3900	0.30	300	
HCL1005C6N8 □TDF	6.8	8	100	10	27	30	3900	0.30	300	
HCL1005C7N5 □TDF	7.5	8	100	10	27	30	3700	0.40	300	
HCL1005C8N2 □TDF	8.2	8	100	10	27	30	3600	0.40	300	
HCL1005C9N1 □TDF	9.1	8	100	10	27	30	3400	0.40	300	
HCL1005C10N □TDF	10	8	100	10	27	30	3200	0.40	300	
HCL1005C12N □TDF	12	8	100	10	26	29	2700	0.50	300	
HCL1005C15N □TDF	15	8	100	10	26	28	2300	0.50	300	
HCL1005C18N □TDF	18	8	100	10	25	27	2100	0.60	300	
HCL1005C20N □TDF	20	8	100	10	25	26	2000	0.60	300	
HCL1005C22N □TDF	22	8	100	10	25	25	1900	0.60	300	
HCL1005C27N □TDF	27	8	100	10	25	23	1600	0.70	300	
HCL1005C33N □TDF	33	8	100	10	22	22	1300	0.80	200	
HCL1005C39N □TDF	39	8	100	10	22	19	1200	1.00	200	
HCL1005C43N □TDF	43	8	100	10	21	16	1100	1.10	200	
HCL1005C47N □TDF	47	8	100	10	21	16	1000	1.10	200	
HCL1005C56N □TDF	56	8	100	10	18	13	750	1.20	200	
HCL1005C68N □TDF	68	8	100	10	18	9	750	1.40	180	
HCL1005C82N □TDF	82	8	100	10	13	-	750	2.40	150	
HCL1005CR10 □TDF	100	8	100	10	12	-	700	2.60	150	
HCL1005CR12 □TDF	120	8	100	10	-	-	600	2.80	150	
HCL1005CR15 □TDF	150	8	100	10	-	-	550	3.20	100	
HCL1005CR18 □TDF	180	8	100	10	-	-	500	3.70	100	
HCL1005CR22 □TDF	220	8	100	12	-	-	450	4.00	100	
HCL1005CR27 □TDF	270	8	100	12	-	-	400	4.50	100	
HCL1005CR30 □TDF	300	6	50	12	-	-	350	7.00	50	
HCL1005CR33 □TDF	330	6	50	8	-	-	350	7.00	50	
HCL1005CR36 □TDF	360	6	50	8	-	-	300	7.50	50	

※□: Please specify the inductance tolerance code (J=±5%, K=±10%). The product with tolerance less than ±5%, ±10% is also available. Please contact your local sales.

SMD Multilayer Ceramic Chip Inductors – HCL Series

SPECIFICATIONS

HCL1608-D TYPE

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq. L/Q	Typical Q @ Freq. (MHz)			Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current	Thickness
				100	800	1000				
Units	nH	-	MHz	-			MHz	Ω	mA	mm [inch]
Symbol	L	Q	Freq	Q			S.R.F	DCR	I _r	T
HCL1608C1N0STDF	1.0±0.3	8	100	13	70	80	10000	0.05	500	0.8±0.15 [.031±.006]
HCL1608C1N2STDF	1.2±0.3	8	100	13	60	70	10000	0.05	500	
HCL1608C1N5STDF	1.5±0.3	8	100	13	47	68	6000	0.10	500	
HCL1608C1N8STDF	1.8±0.3	8	100	13	45	61	6000	0.10	500	
HCL1608C2N2STDF	2.2±0.3	8	100	13	45	60	6000	0.10	500	
HCL1608C2N7STDF	2.7±0.3	10	100	13	44	55	6000	0.12	500	
HCL1608C3N3STDF	3.3±0.3	10	100	13	43	50	6000	0.15	500	
HCL1608C3N9STDF	3.9±0.3	10	100	13	43	50	6000	0.16	500	
HCL1608C4N7STDF	4.7±0.3	10	100	13	43	50	6000	0.20	500	
HCL1608C5N6STDF	5.6±0.3	10	100	14	42	48	5000	0.25	500	
HCL1608C6N8 □TDF	6.8	10	100	14	43	50	5000	0.30	500	
HCL1608C8N2 □TDF	8.2	10	100	14	43	48	4500	0.35	500	
HCL1608C10N □TDF	10	12	100	15	45	50	3500	0.40	300	
HCL1608C12N □TDF	12	12	100	18	48	50	3000	0.45	300	
HCL1608C15N □TDF	15	12	100	18	48	50	2300	0.50	300	
HCL1608C18N □TDF	18	12	100	16	48	51	2200	0.55	300	
HCL1608C22N □TDF	22	12	100	16	45	48	2000	0.60	300	
HCL1608C27N □TDF	27	12	100	16	45	45	1700	0.65	300	
HCL1608C33N □TDF	33	12	100	16	45	41	1500	0.70	300	
HCL1608C39N □TDF	39	12	100	17	40	48	1400	0.70	300	
HCL1608C47N □TDF	47	12	100	17	35	35	1200	0.70	300	
HCL1608C56N □TDF	56	12	100	17	35	30	1100	0.75	300	
HCL1608C68N □TDF	68	12	100	17	30	20	900	0.85	300	
HCL1608C82N □TDF	82	8	100	15	22	-	800	1.00	300	
HCL1608CR10 □TDF	100	8	100	15	16	-	700	1.20	300	
HCL1608CR12 □TDF*	120	8	50	15	-	-	600	1.40	200	
HCL1608CR15 □TDF*	150	8	50	15	-	-	500	1.60	200	
HCL1608CR18 □TDF*	180	8	50	15	-	-	400	1.90	200	
HCL1608CR22 □TDF*	220	8	50	15	-	-	350	2.40	200	
HCL1608CR27 □TDF*	270	8	50	16	-	-	350	2.60	150	
HCL1608CR33 □TDF*	330	8	50	16	-	-	350	2.80	150	
HCL1608CR39 □TDF*	390	8	50	16	-	-	300	3.20	150	
HCL1608CR43 □TDF*	430	8	50	16	-	-	280	3.40	150	
HCL1608CR47 □TDF*	470	8	50	15	-	-	250	3.60	150	
HCL1608CR56 □TDF*	560	8	50	15	-	-	250	4.00	100	
HCL1608CR68 □TDF*	680	8	50	15	-	-	250	4.50	100	

※□: Please specify the inductance tolerance code (J=±5%, K=±10%). The product with tolerance less than ±5%, ±10% is also available. Please contact your local sales.

※*: The length: 1.65±0.15mm, for others: 1.60±0.15mm.