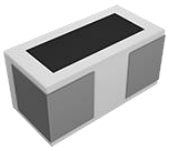
Multilayer High Q Chip Ceramic Inductor – HQ-H Series

Operating Temp. : -55℃~+125℃



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
- Mobile phones and other electronic devices
- Bluetooth, W-LAN

PRODUCT IDENTIFICATION

HQ	0402	H	3N9	B	T	01
①	②	③	④	⑤	⑥	⑦

①

Type	
HQ	High Q Chip Inductor

②

External Dimensions (L×W) (mm)	
0402[01005]	0.4×0.2
0603[0201]	0.6×0.3

③

Characteristics Code
H

④

Nominal Inductance	
Example	Nominal Value
3N9	3.9nH
10N	10nH
※N=nH	

⑤

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

⑥

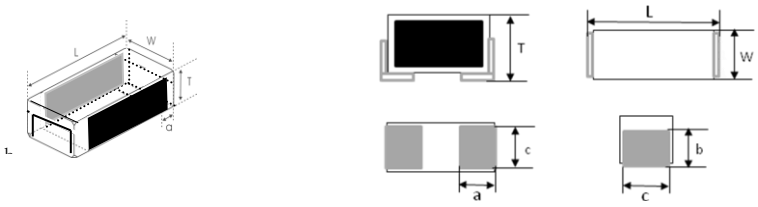
Packing	
T	Tape & Reel
P	Plastic Tape Carrier Package

⑦

Serial Code
01

SHAPE AND DIMENSIONS

Unit: mm [inch]



Type	L	W	T	a	b	c
0402 [01005]	0.4±0.02 [.016±.0008]	0.2±0.02 [.008±.0008]	0.2±0.02 [.008±.0008]	0.14±0.03 [.005±.0010]	0.14±0.03 [.005±.0010]	0.17±0.03 [.006±.0010]
0603 [0201]	0.6±0.03 [.024±.0012]	0.3±0.03 [.012±.0012]	0.3±0.02 [.012±.0008]	0.15±0.03 [.006±.0012]	0.2±0.03 [.008±.0012]	0.22±0.03 [.0088±.0012]

SPECIFICATIONS

HQ0402H Series

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq.	Typical Q @ Freq. (GHz)					Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
				0.5	0.8	1.8	2.0	2.4			
Units	nH	-	MHz	-					MHz	Ω	mA
Symbol	L	Q	Freq.	Q					S.R.F	DCR	Ir
HQ0402H0N2□◎01	0.2	-	500	-	-	-	-	-	16600	0.1	990
HQ0402H0N3□◎01	0.3	-	500	-	-	-	-	-	16600	0.1	990
HQ0402H0N4□◎01	0.4	-	500	-	-	-	-	-	16600	0.1	990
HQ0402H0N5□◎01	0.5	11	500	15	18	33	35	40	16600	0.1	730
HQ0402H0N6□◎01	0.6	11	500	15	17	32	34	40	16600	0.1	730
HQ0402H0N7□◎01	0.7	11	500	15	18	34	36	41	16600	0.1	730
HQ0402H0N8□◎01	0.8	11	500	14	18	32	35	41	16600	0.15	630
HQ0402H0N9□◎01	0.9	11	500	15	18	32	34	38	16600	0.15	580
HQ0402H1N0□◎01	1.0	11	500	14	19	32	35	42	16600	0.15	580
HQ0402H1N1□◎01	1.1	11	500	15	19	31	33	36	16600	0.15	580
HQ0402H1N2□◎01	1.2	11	500	15	20	32	34	38	16600	0.2	550
HQ0402H1N3□◎01	1.3	11	500	14	18	29	31	34	16000	0.2	400
HQ0402H1N4□◎01	1.4	11	500	15	19	30	32	38	15000	0.2	400
HQ0402H1N5□◎01	1.5	11	500	15	19	31	32	33	15000	0.2	400
HQ0402H1N6□◎01	1.6	11	500	14	18	30	31	35	15000	0.3	390
HQ0402H1N7□◎01	1.7	11	500	14	18	30	32	35	15000	0.3	380
HQ0402H1N8□◎01	1.8	11	500	14	19	30	32	34	15000	0.3	380
HQ0402H1N9□◎01	1.9	11	500	14	18	30	32	35	13000	0.3	380
HQ0402H2N0□◎01	2.0	11	500	15	19	31	33	35	13000	0.3	380
HQ0402H2N1□◎01	2.1	11	500	14	18	29	32	35	13000	0.3	380
HQ0402H2N2□◎01	2.2	11	500	15	20	32	34	34	13000	0.3	380
HQ0402H2N3□◎01	2.3	11	500	15	19	30	32	38	13000	0.4	370
HQ0402H2N4□◎01	2.4	11	500	15	20	31	33	35	13000	0.4	370
HQ0402H2N5□◎01	2.5	11	500	14	18	29	31	35	11500	0.4	370
HQ0402H2N6□◎01	2.6	11	500	14	18	30	32	35	11500	0.4	370
HQ0402H2N7□◎01	2.7	11	500	14	19	30	32	34	11500	0.4	370
HQ0402H2N8□◎01	2.8	11	500	14	18	29	31	35	10000	0.4	360
HQ0402H2N9□◎01	2.9	11	500	14	18	28	31	35	10000	0.45	360
HQ0402H3N0□◎01	3.0	11	500	14	17	28	30	34	10000	0.45	360
HQ0402H3N1□◎01	3.1	11	500	14	18	28	31	35	10000	0.9	290
HQ0402H3N2□◎01	3.2	11	500	14	18	31	32	34	10000	0.9	290
HQ0402H3N3□◎01	3.3	11	500	14	18	30	31	33	10000	0.9	290
HQ0402H3N4□◎01	3.4	11	500	14	17	27	29	33	9700	1	280
HQ0402H3N5□◎01	3.5	11	500	14	17	28	30	32	9700	1	280
HQ0402H3N6□◎01	3.6	11	500	14	17	27	29	31	9700	1	280
HQ0402H3N7□◎01	3.7	11	500	13	17	27	29	33	9700	1	270
HQ0402H3N8□◎01	3.8	11	500	14	17	27	29	32	9700	1	270
HQ0402H3N9□◎01	3.9	11	500	14	17	25	26	30	9700	1	270
HQ0402H4N0□◎01	4.0	11	500	14	16	26	28	30	9700	1	270
HQ0402H4N1□◎01	4.1	11	500	14	17	26	28	31	9000	1	270
HQ0402H4N2□◎01	4.2	11	500	14	17	27	29	31	9000	1	270
HQ0402H4N3□◎01	4.3	11	500	14	17	26	28	31	9000	1	270
HQ0402H4N7□◎01	4.7	11	500	14	17	25	27	30	8500	1	270
HQ0402H5N1□◎01	5.1	11	500	14	17	26	28	31	7800	1.2	250
HQ0402H5N6□◎01	5.6	11	500	15	18	30	31	33	7800	1.3	230
HQ0402H6N2□◎01	6.2	11	500	15	18	30	31	32	7200	1.3	220
HQ0402H6N8□◎01	6.8	11	500	15	19	29	31	33	6600	1.4	210

SPECIFICATIONS

HQ0402H Series

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq.	Typical Q @ Freq. (GHz)					Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
				0.5	0.8	1.8	2.0	2.4			
Units	nH	-	MHz	-					MHz	Ω	mA
Symbol	L	Q	Freq.	Q					S.R.F	DCR	Ir
HQ0402H7N5□◎01	7.5	11	500	14	19	28	31	33	6600	1.5	200
HQ0402H8N2□◎01	8.2	11	500	15	20	29	31	33	6600	1.6	190
HQ0402H9N1□◎01	9.1	11	500	15	19	28	31	32	5900	1.7	170
HQ0402H10N□◎01	10	11	500	14	18	26	29	31	5500	1.7	170
HQ0402H11N□◎01	11	11	500	14	17	25	26	28	3500	1.9	140
HQ0402H12N□◎01	12	11	500	14	17	25	26	28	3500	2.1	140
HQ0402H13N□◎01	13	10	500	13	16	23	24	24	3000	2.1	140
HQ0402H15N□◎01	15	10	500	13	16	23	24	24	3000	2.3	140
HQ0402H16N□◎01	16	10	500	12	15	21	21	21	2500	2.5	140
HQ0402H18N□◎01	18	9	500	10	12	17	17	16	2500	2.5	140
HQ0402H20N□◎01	20	9	500	10	11	16	16	15	2700	2.9	140
HQ0402H22N□◎01	22	9	500	10	11	15	15	13	2300	3.2	120
HQ0402H24N□◎01	24	9	500	10	11	15	16	13	2200	3.2	120
HQ0402H27N□◎01	27	9	500	10	12	16	17	13	2000	3.5	120
HQ0402H30N□◎01	30	6	500	10	12	13	12	10	1800	3.6	120
HQ0402H33N□◎01	33	6	300	10	12	12	11	8	1800	3.8	120

※□: Please specify the inductance tolerance. For L≤4.2nH, choose B=±0.1nH, C=±0.2nH or S=±0.3nH; For 4.2nH＜L＜5.6nH, choose, H=±3%, J=±5%.or S=±0.3nH；For L≥5.6nH, choose, H=±3%, J=±5%
※◎: For the product of 0402, please specify the Packing: T means Tape & Reel, P means Plastic Tape Carrier Package.
※: Please refer to "Measurement Notice for RF Inductors".

HQ0603H Series

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq.	Typical Q @ Freq. (GHz)					Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
				0.5	0.8	1.8	2.0	2.4			
Units	nH	-	MHz	-					MHz	Ω	mA
Symbol	L	Q	Freq.	Q					S.R.F	DCR	Ir
HQ0603H0N6□T01	0.6	17	500	96	135	254	291	300	20000	0.05	1000
HQ0603H0N7□T01	0.7	17	500	85	127	259	332	304	20000	0.05	1000
HQ0603H0N8□T01	0.8	17	500	65	78	152	170	178	18000	0.05	1000
HQ0603H0N9□T01	0.9	17	500	40	52	94	103	107	18000	0.08	800
HQ0603H1N0□T01	1.0	17	500	47	63	94	107	118	17000	0.08	800
HQ0603H1N1□T01	1.1	17	500	38	52	86	93	103	17000	0.08	800
HQ0603H1N2□T01	1.2	17	500	36	46	78	84	93	17000	0.08	800
HQ0603H1N3□T01	1.3	17	500	36	48	80	85	97	17000	0.1	700
HQ0603H1N4□T01	1.4	17	500	32	42	69	73	80	16000	0.1	700
HQ0603H1N5□T01	1.5	17	500	35	44	71	76	82	15000	0.1	650
HQ0603H1N6□T01	1.6	17	500	34	44	69	75	80	15000	0.1	650
HQ0603H1N7□T01	1.7	17	500	35	44	68	72	77	15000	0.1	650
HQ0603H1N8□T01	1.8	17	500	33	41	64	68	74	15000	0.1	650
HQ0603H1N9□T01	1.9	17	500	34	41	65	68	73	12500	0.1	650
HQ0603H2N0□T01	2.0	17	500	32	40	59	62	68	12500	0.1	650
HQ0603H2N1□T01	2.1	17	500	33	41	59	61	67	11000	0.12	650
HQ0603H2N2□T01	2.2	17	500	32	39	55	57	62	11000	0.12	650
HQ0603H2N3□T01	2.3	17	500	32	40	57	58	64	11000	0.15	550
HQ0603H2N4□T01	2.4	17	500	30	37	53	55	60	11000	0.15	550
HQ0603H2N5□T01	2.5	17	500	31	38	55	57	62	10000	0.15	550
HQ0603H2N6□T01	2.6	17	500	31	38	55	57	62	10000	0.15	550
HQ0603H2N7□T01	2.7	17	500	28	35	51	52	57	10000	0.15	550
HQ0603H2N8□T01	2.8	17	500	29	36	51	53	58	10000	0.2	500

SPECIFICATIONS

HQ0603H Series

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq.	Typical Q @ Freq. (GHz)					Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
				0.5	0.8	1.8	2.0	2.4			
Units	nH	-	MHz	-					MHz	Ω	mA
Symbol	L	Q	Freq.	Q					S.R.F	DCR	Ir
HQ0603H2N9□T01	2.9	17	500	29	36	51	53	57	10000	0.2	500
HQ0603H3N0□T01	3.0	17	500	28	35	50	52	56	9500	0.2	500
HQ0603H3N1□T01	3.1	17	500	29	36	52	54	58	9500	0.24	450
HQ0603H3N2□T01	3.2	17	500	27	35	51	53	57	9500	0.24	450
HQ0603H3N3□T01	3.3	17	500	28	35	50	52	56	9500	0.24	450
HQ0603H3N4□T01	3.4	17	500	28	35	50	52	55	8000	0.25	450
HQ0603H3N5□T01	3.5	17	500	27	34	49	50	53	8000	0.25	450
HQ0603H3N6□T01	3.6	17	500	28	35	49	51	55	8000	0.25	400
HQ0603H3N7□T01	3.7	17	500	28	34	49	51	53	6500	0.25	400
HQ0603H3N8□T01	3.8	17	500	27	33	48	50	52	6500	0.25	400
HQ0603H3N9□T01	3.9	17	500	25	31	44	45	48	6500	0.25	400
HQ0603H4N0□T01	4.0	17	500	24	30	44	46	50	6500	0.35	360
HQ0603H4N1□T01	4.1	17	500	25	31	45	46	49	6500	0.35	360
HQ0603H4N2□T01	4.2	17	500	25	31	46	47	50	6500	0.35	360
HQ0603H4N3□T01	4.3	17	500	23	29	43	44	48	6500	0.35	360
HQ0603H4N7□T01	4.7	17	500	23	28	41	43	45	6500	0.35	350
HQ0603H5N1□T01	5.1	17	500	25	33	45	47	51	6500	0.39	350
HQ0603H5N6□T01	5.6	17	500	24	31	44	47	52	6000	0.39	350
HQ0603H6N2□T01	6.2	17	500	24	30	43	45	47	6000	0.55	300
HQ0603H6N8□T01	6.8	17	500	23	31	42	43	44	5400	0.55	300
HQ0603H7N5□T01	7.5	17	500	23	29	39	40	42	4800	0.55	300
HQ0603H8N2□T01	8.2	17	500	23	28	37	39	40	4800	0.65	250
HQ0603H9N1□T01	9.1	17	500	23	28	38	39	39	4500	0.65	250
HQ0603H10N□T01	10	17	500	22	27	38	38	37	4500	0.69	250
HQ0603H11N□T01	11	17	500	22	28	36	37	36	3700	0.69	250
HQ0603H12N□T01	12	17	500	22	27	34	33	32	3700	0.69	250
HQ0603H13N□T01	13	17	500	22	27	34	33	32	3700	0.69	250
HQ0603H15N□T01	15	14	500	22	27	33	32	30	3500	0.8	250
HQ0603H18N□T01	18	14	500	22	26	32	30	26	3500	1.1	200
HQ0603H20N□T01	20	14	500	21	26	30	28	24	3000	1.2	200
HQ0603H22N□T01	22	14	500	21	26	26	24	20	3000	1.2	200
HQ0603H24N□T01	24	14	500	21	26	26	23	16	2000	1.6	150
HQ0603H27N□T01	27	14	500	21	25	25	22	14	2000	1.6	150
HQ0603H30N□T01	30	11	500	21	25	24	20	12	1700	2	150
HQ0603H33N□T01	33	11	300	21	25	22	19	10	1700	2	150
HQ0603H36N□T01	36	11	300	22	26	20	16	6	1500	2.5	130
HQ0603H39N□T01	39	11	300	22	26	20	16	6	1500	2.5	130
HQ0603H43N□T01	43	11	300	22	24	10	5	6	1300	3.5	130
HQ0603H47N□T01	47	11	300	22	24	10	5	6	1300	3.5	130

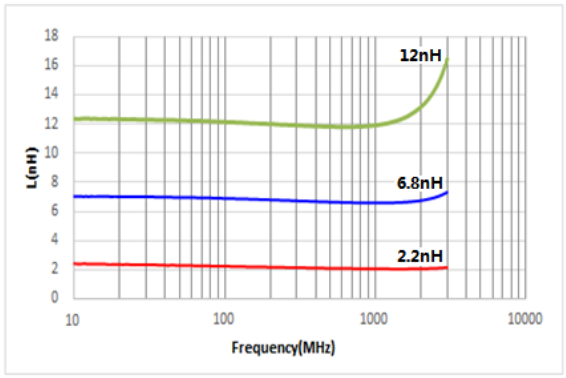
※□: Please specify the inductance tolerance. For L≤4.2nH, choose B=±0.1nH, C=±0.2nH or S=±0.3nH; For L＞4.2nH choose, H=±3%, J=±5%.

※: Please refer to "Measurement Notice for RF Inductors".

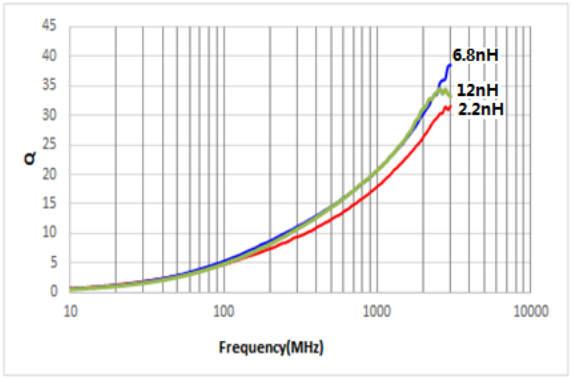
TYPICAL ELECTRICAL CHARACTERISTICS

HQ0402H Series

Inductance vs. Frequency Characteristics

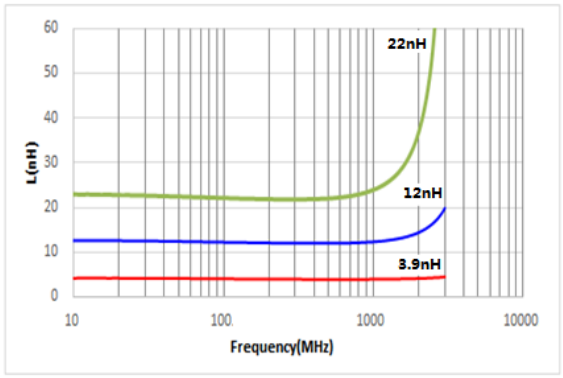


Q vs. Frequency Characteristics



HQ0603H Series

Inductance vs. Frequency Characteristics



Q vs. Frequency Characteristics