



叠层片式高频电感 Chip High Frequency Inductors

HCH 系列电感采用低温烧结陶瓷材料与 Ag 导体共烧，形成独石结构，专为高频应用而设计，在高频段具有高 Q 值、高自谐振频率的特点，低感量范围内，其电感量偏差极小。

HCH series inductors use low-temperature baking ceramic designed for high frequency applications. These inductors exhibit high Q and SRF at high frequency. These inductors have stable inductance in the low inductance value range.



特征 FEATURES

- 高自谐振频率
- 叠层独石结构，具有高可靠性
- 优良的焊接性和耐焊性，适合于回流焊和波峰焊
- High self-resonant frequency.
- Multilayer monolithic construction yields high reliability
- Excellent solderability and heat resistance for either wave or reflow soldering.

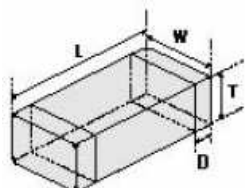
应用 APPLICATIONS

- 移动电话、寻呼机、PHS 和 PDA
- 各种高频回路
- 抑制各种高频杂波
- Portable telephone、Pagers、PHS and PDA
- Miscellaneous high-frequency circuits
- EMI countermeasure in high frequency circuits

规格型号表示方法 ORDERING CODE

<u>HCH</u>	<u>201209</u>	<u>H</u>	<u>47N</u>	<u>J</u>	<u>T</u>
①	②	③	④	⑤	⑥
产品代号	规格尺寸(L×W×T)	材料代号	感量(nH)	误差	包装方式
Product Code	Dimensions(mm)	Material Code	Inductance	Tolerance	Packaging Style
HCH	叠层片式	H	1N0	S	T
	高频电感		1.0	±0.3nH	卷带盘装
	160808		10N	D	Tape&Reel
	1.6×0.8×0.8		10	±0.5nH	
Very High	201209		R10	J	B
	2.0×1.2×0.9		100	±5%	散装
			N=0.0(nH)	K	Bluk
			R=0.0(μH)	M	
Inductors				±10%	
				±20%	

外形尺寸 SHAPE AND DIMENSIONS



unit:mm(inch)

Part NO.	L	W	T	D	Least quantity (粒/卷)
100505	1.0±0.15 (0.040±0.006)	0.5±0.15 (0.020±0.006)	0.5±0.15 (0.020±0.006)	0.25±0.10 (0.010±0.004)	10000
160808	1.6±0.2 (0.063±0.008)	0.8±0.2 (0.031±0.008)	0.8±0.2 (0.031±0.008)	0.3±0.2 (0.01±0.008)	4000
201209	2.0±0.2 (0.079±0.008)	1.2±0.2 (0.047±0.008)	0.9±0.2 (0.035±0.008)	0.5±0.3 (0.020±0.012)	4000



电性能参数 ELECTRICAL CHARACTERISTICS

1005 Series

型号规格 Part No.	感量 (nH) Inductance	Q (Min)	L、Q 测试 频率(MHz) L、Q Test Frequency	Q 值频率特性(MHz)					自谐振频率 Self-Resonant Frequency (MHz)Min	直流电阻 DC Resistance (Ω)Max	额定电流 Rated Current Max(mA)
				100	300	500	800	1000			
HCH100505H1N0S□	1.0	8	100	11	21	25	33	35	6000	0.05	400
HCH100505H1N2S□	1.2	8	100	11	21	25	33	35	6000	0.06	400
HCH100505H1N5S□	1.5	8	100	11	21	25	33	35	6000	0.07	400
HCH100505H1N8S□	1.8	8	100	10	18	21	29	32	6000	0.08	400
HCH100505H2N2S□	2.2	8	100	10	17	21	28	31	6000	0.09	400
HCH100505H2N7S□	2.7	8	100	10	17	21	28	31	5500	0.10	400
HCH100505H3N3S□	3.3	8	100	10	17	21	28	31	5500	0.12	400
HCH100505H3N9S□	3.9	8	100	10	17	21	28	31	5200	0.15	360
HCH100505H4N7S□	4.7	8	100	10	17	21	28	31	4800	0.17	360
HCH100505H5N6S□	5.6	8	100	10	17	21	25	29	4600	0.19	340
HCH100505H6N8□□	6.8	8	100	10	18	21	26	30	4000	0.30	300
HCH100505H8N2□□	8.2	8	100	10	18	21	26	30	3600	0.35	300
HCH100505H10N□□	10	8	100	10	18	21	26	30	3200	0.41	300
HCH100505H12N□□	12	8	100	10	17	21	24	27	2800	0.45	300
HCH100505H15N□□	15	8	100	10	17	20	23	26	2500	0.55	300
HCH100505H18N□□	18	8	100	10	17	20	21	23	2200	0.65	300
HCH100505H22N□□	22	8	100	10	18	21	22	23	2000	0.80	300
HCH100505H27N□□	27	8	100	10	18	20	21	22	1600	0.90	300
HCH100505H33N□□	33	8	100	10	18	20	21	21	1300	1.00	200
HCH100505H39N□□	39	8	100	10	18	19	20	17	1200	1.20	180
HCH100505H47N□□	47	8	100	10	18	19	18	—	1000	1.30	180
HCH100505H56N□□	56	8	100	10	18	19	13	—	900	1.40	180
HCH100505H68N□□	68	8	100	11	17	19	—	—	750	1.50	150
HCH100505H82N□□	82	8	100	10	17	19	—	—	600	1.60	100
HCH100505HR10□□	100	8	100	10	16	18	—	—	600	1.60	100

□ 感量公差 Inductance tolerance (S: $\pm 0.3\text{nH}$, D: $\pm 0.5\text{nH}$, J: $\pm 5\%$, K: $\pm 10\%$, M: $\pm 20\%$)

□ 包装方式 Packaging Style (B、T)



1608 Series

型号规格 Part No.	感量 (nH) Inductance	Q (Min)	L、Q 测试 频率(MHz) L、Q Test Frequency	Q 值频率特性(MHz)					自谐振频率 Self-Resonant Frequency (MHz)Min	直流电阻 DC Resistance (Ω)Max	额定电流 Rated Current Max(mA)
				100	300	500	800	1000			
HCH160808H1N0S□	1.0	8	100	14	20	30	35	50	10000	0.05	500
HCH160808H1N2S□	1.2	8	100	14	20	30	35	50	10000	0.10	500
HCH160808H1N5S□	1.5	8	100	14	22	37	38	68	10000	0.10	400
HCH160808H1N8S□	1.8	8	100	14	21	33	35	61	9800	0.12	400
HCH160808H2N2S□	2.2	8	100	14	26	40	39	60	7600	0.20	400
HCH160808H2N7S□	2.7	8	100	12	23	27	37	47	7000	0.20	400
HCH160808H3N3S□	3.3	8	100	12	23	27	36	47	6200	0.20	400
HCH160808H3N9S□	3.9	8	100	12	25	28	38	47	5600	0.20	400
HCH160808H4N7S□	4.7	8	100	12	26	30	38	49	4800	0.20	400
HCH160808H5N6S□	5.6	8	100	12	26	29	35	34	4600	0.30	400
HCH160808H6N8□□	6.8	8	100	12	23	27	35	40	4200	0.30	400
HCH160808H8N2□□	8.2	8	100	12	22	26	33	39	3600	0.30	400
HCH160808H10N□□	10	8	100	13	25	31	38	45	3200	0.50	300
HCH160808H12N□□	12	8	100	13	24	28	35	39	2800	0.50	300
HCH160808H15N□□	15	8	100	13	22	27	34	40	2600	0.60	300
HCH160808H18N□□	18	8	100	13	24	28	35	38	2400	0.60	300
HCH160808H22N□□	22	8	100	15	27	32	38	43	2000	0.60	300
HCH160808H27N□□	27	8	100	14	26	29	36	45	1900	0.80	300
HCH160808H33N□□	33	8	100	14	26	29	35	34	1600	0.80	300
HCH160808H39N□□	39	8	100	14	22	25	28	28	1400	1.00	300
HCH160808H47N□□	47	8	100	15	25	29	30	25	1200	1.00	200
HCH160808H56N□□	56	8	100	17	28	31	31	25	1000	1.00	200
HCH160808H68N□□	68	8	100	17	22	24	25	15	900	1.00	200
HCH160808H82N□□	82	8	100	17	23	24	22	13	800	1.00	200
HCH160808HR10□□	100	8	100	17	25	27	24	17	700	1.00	200
HCH160808HR12□□		8	50	15	24	23	—	—	600	1.20	150
HCH160808HR15□□		8	50	13	19	—	—	—	500	1.20	150
HCH160808HR18□□		8	50	13	18	—	—	—	400	1.20	150
HCH160808HR22□□		8	50	12	16	—	—	—	400	1.30	150

□ 感量公差 Inductance tolerance (S: $\pm 0.3\text{nH}$, D: $\pm 0.5\text{nH}$, J: $\pm 5\%$, K: $\pm 10\%$, M: $\pm 20\%$)

□ 包装方式 Packaging Style (B、T)



2012 Series

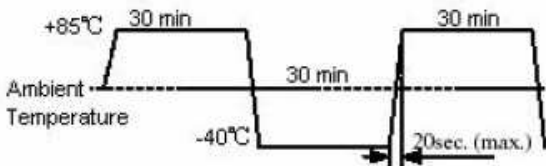
型号规格 Part No.	感 量 (nH) Inductance	Q (Min)	L、Q 测试 频率(MHz) L、Q Test Frequency	Q 值频率特性(MHz)					自谐振频率 Self-Resonant Frequency (MHz)Min	直流电阻 DC Resistance (Ω)Max	额定电流 Rated Current Max(mA)
				100	300	500	800	1000			
HCH201209H1N5S□	1.5	10	100	10	23	46	54		6000	0.10	600
HCH201209H1N8S□	1.8	10	100	13	24	46	55	85	6000	0.10	600
HCH201209H2N2S□	2.2	10	100	13	25	46	53	85	6000	0.10	600
HCH201209H2N7S□	2.7	10	100	13	25	42	45	76	6000	0.10	600
HCH201209H3N3S□	3.3	10	100	15	28	48	52	85	6000	0.13	600
HCH201209H3N9S□	3.9	10	100	15	28	49	55	85	5400	0.15	400
HCH201209H4N7S□	4.7	10	100	15	28	48	53	85	4500	0.20	400
HCH201209H5N6S□	5.6	10	100	16	30	44	45	78	4000	0.23	400
HCH201209H6N8□□	6.8	10	100	16	30	40	45	69	3650	0.25	400
HCH201209H8N2□□	8.2	10	100	16	28	42	45	69	3000	0.28	400
HCH201209H10N□□	10	10	100	16	28	43	45	71	2500	0.30	300
HCH201209H12N□□	12	10	100	16	28	43	45	50	2450	0.35	300
HCH201209H15N□□	15	10	100	18	30	43	45	56	2000	0.40	300
HCH201209H18N□□	18	10	100	18	26	40	42	59	1750	0.45	300
HCH201209H22N□□	22	13	100	17	31	45	45	59	1700	0.50	300
HCH201209H27N□□	27	15	100	17	45	45	45	54	1550	0.55	300
HCH201209H33N□□	33	15	100	18	27	41	40	44	1350	0.60	300
HCH201209H39N□□	39	15	100	19	31	42	31	20	1300	0.65	300
HCH201209H47N□□	47	15	100	20	24	33	31	29	1200	0.70	300
HCH201209H56N□□	56	15	100	21	34	43	35	25	1150	0.75	300
HCH201209H68N□□	68	15	100	19	28	37	29	—	1000	0.80	300
HCH201209H82N□□	82	15	100	19	29	30	27	—	850	0.90	300
HCH201209HR10□□	100	15	100	13	27	36	—	—	600	1.00	300
HCH201209HR12□□	120	13	50	19	27	—	—	—	500	1.50	300
HCH201209HR15□□	150	13	50	19	27	—	—	—	500	1.50	300
HCH201209HR18□□	180	13	50	19	25	—	—	—	400	2.10	300
HCH201209HR22□□	220	12	50	19	22	—	—	—	350	2.10	300
HCH201209HR27□□	270	12	50	19	—	—	—	—	300	3.00	200
HCH201209HR33□□	330	12	50	19	—	—	—	—	250	3.00	200
HCH201209HR39□□	390	12	50	19	—	—	—	—	250	3.50	200
HCH201209HR47□□	470	12	50	19	—	—	—	—	200	3.50	200

□ 感量公差 Inductance tolerance (S: $\pm 0.3\text{nH}$, D: $\pm 0.5\text{nH}$, J: $\pm 5\%$, K: $\pm 10\%$, M: $\pm 20\%$)

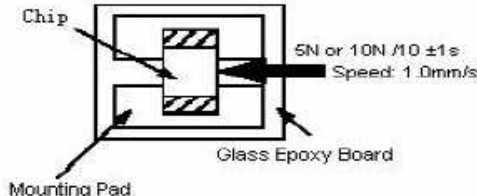
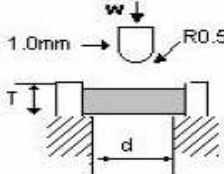
□ 包装方式 Packaging Style (B、T)



可靠性测试 (RELIABILITY TESTING) (HCH、HCF、HBG、HBW、HBH、HBY、HBA series)

Type	Item	Specified value	Test methods
1	Operating temperature range	-40 to +125℃	
2	Storage temperature range	-40 to +125℃	
3	Solderability	At least 90% of terminal electrode is covered by new solder	Solder temperature: $230 \pm 5^\circ\text{C}$ Duration: $4 \pm 1\text{S}$ Preheating temperature: 120 to 150℃ Preheating time: 60S Flux: immersion into methanol solution with colophony for 3 to 5 sec. Immersion speed: 25mm/sec
4	Resistance to soldering	Appearance: No significant abnormality. At least 75% of terminal electrode is covered by new solder Impedance change: within $\pm 20\%$ Inductor change: within $\pm 10\%$	Solder temperature: $260 \pm 5^\circ\text{C}$ Duration: $10 \pm 0.5\text{S}$ Preheating temperature: 120 to 150℃ Preheating time: 60S Flux: immersion into methanol solution with colophony for 3 to 5 sec. Immersion speed: 25mm/sec
5	Thermal shock	Appearance: No significant abnormality. Impedance change: within $\pm 20\%$ Inductor change: within $\pm 10\%$	Temperature: -40℃ for $30 \pm 3\text{min}$ +85℃ for $30 \pm 3\text{min}$ Transforming interval :max 20 sec Number of cycles: 32 
6	Loading at low temperature	Appearance: No significant abnormality. Impedance change: within $\pm 20\%$ Inductor change: within $\pm 10\%$	Temperature: $-55 \pm 2^\circ\text{C}$ Duration: 500 hrs
7	Loading at high temperature	Appearance: No significant abnormality. Impedance change: within $\pm 20\%$ Inductor change: within $\pm 10\%$	Temperature: $85 \pm 2^\circ\text{C}$ Duration: $1000 \pm_{-0}^{+4}\text{hrs}$ Applied current: Rated current
8	Loading under Damp Heat	Appearance: No significant abnormality. Impedance change: within $\pm 20\%$ Inductor change : within $\pm 10\%$	Temperature: $55 \pm 2^\circ\text{C}$ Duration: $500 \pm_{-0}^{+4}\text{hrs}$ Humidity: 90 to 95%RH Applied current: Rated current



Type	Item	Specified value	Test methods								
9	Vibration	Appearance: No significant abnormality. Impedance change: within $\pm 20\%$. Inductor change : within $\pm 10\%$	Amplitude: 1.5mm Directions: 2hrs each in X Y Z direction Frequency range: 10 to 55 to 10Hz (min)								
10	Adhesion of electrode	Impedance change: within $\pm 20\%$ Inductor change : within $\pm 10\%$ Appearance: No significant abnormality.	Applied force: 5N force for 1005 and 1608 series. 10N force for 2012、3216 、3225、4516、4532series. Keep time ; $10 \pm 1S$ 								
11	Resistance to pressure of substrate	The body shall not be damaged by forces applied on the right. <table border="1" data-bbox="359 1055 767 1133"> <tr> <td>d</td><td>1.3</td><td>1.3</td><td>2.0</td></tr> <tr> <td>w</td><td>2.0</td><td>3.0</td><td>4.0</td></tr> </table>	d	1.3	1.3	2.0	w	2.0	3.0	4.0	
d	1.3	1.3	2.0								
w	2.0	3.0	4.0								

Note: When there are questions concerning, measurement shall be made after 24 ± 2 hrs of recovery under the standard condition.