

# Multilayer Chip High Q Inductor – HQ1005C Series

Operating Temp. : -55°C~+125°C



## FEATURES

- Monolithic structure for high reliability
- High self-resonant frequency
- Excellent solderability and high heat resistance
- High Q value correspond to wire wound inductor

## APPLICATIONS

- RF circuit in telecommunication and other Equipments
- Mobile phones such as GSM, CDMA, TD-LTE, FDD-LTE, PDC, 5GNR, etc.
- Bluetooth, W-LAN

## PRODUCT IDENTIFICATION

**HQ**

①

①

Type	
HQ	Chip High Q Inductor

**1005**

②

**C**

③

②

External Dimensions (LxW) (mm)	
1005 [0402]	1.0x0.5

**3N9**

④

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
G	±2%
H	±3%
J	±5%

**S**

⑤

③

Material Code	
C	

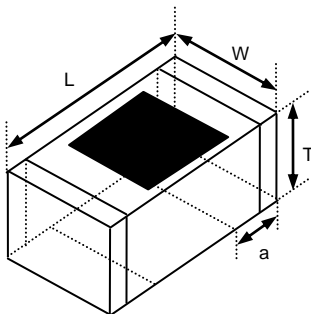
**T**

⑥

⑥

Packing	
T	Tape & Reel

## SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
HQ1005 [0402]	1.0±0.15 [0.039±0.006]	0.6±0.15 [0.024±0.006]	0.5±0.15 [0.020±0.006]	0.25±0.1 [0.010±0.004]

# SPECIFICATIONS

## HQ1005 TYPE

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq. L/Q	Typical Q @ Freq. (MHz)				Min. Self-resonance Frequency	Max. DC Resistance	Max. Rated Current	Thickness
				100	250	900	1800				
Units	nH	-	MHz	-				MHz	$\Omega$	mA	mm [inch]
Symbol	L	Q	Freq	Q				SRF	DCR	I <sub>r</sub>	T
HQ1005C1N0□T	1.0	20	250	13	22	48	75	6000	0.05	1000	0.5±0.15 [.020±.006]
HQ1005C1N2□T	1.2	20	250	13	22	48	75	6000	0.05	1000	
HQ1005C1N5□T	1.5	20	250	13	22	58	76	6000	0.05	1000	
HQ1005C1N8□T	1.8	20	250	13	22	49	78	6000	0.07	800	
HQ1005C2N0□T	2.0	20	250	14	23	49	82	6000	0.07	800	
HQ1005C2N2□T	2.2	20	250	14	23	49	82	6000	0.07	800	
HQ1005C2N4□T	2.4	20	250	14	23	47	78	6000	0.07	800	
HQ1005C2N5□T	2.5	20	250	14	23	47	78	6000	0.07	800	
HQ1005C2N7□T	2.7	20	250	14	23	48	82	6000	0.09	700	
HQ1005C2N9□T	2.9	20	250	14	23	48	82	6000	0.09	700	
HQ1005C3N0□T	3.0	20	250	14	23	50	84	6000	0.09	700	
HQ1005C3N3□T	3.3	20	250	14	24	52	90	6000	0.09	700	
HQ1005C3N6□T	3.6	20	250	15	24	55	95	6000	0.10	700	
HQ1005C3N9□T	3.9	20	250	15	25	50	89	6000	0.10	700	
HQ1005C4N1□T	4.1	20	250	15	25	49	86	6000	0.12	650	
HQ1005C4N3□T	4.3	20	250	15	25	49	86	6000	0.13	600	
HQ1005C4N7□T	4.7	20	250	15	26	50	88	6000	0.13	600	
HQ1005C5N1□T	5.1	20	250	15	26	49	84	5500	0.13	600	
HQ1005C5N6□T	5.6	20	250	15	27	50	84	5500	0.13	600	
HQ1005C5N8□T	5.8	20	250	15	27	50	82	5500	0.13	600	
HQ1005C6N2□T	6.2	20	250	15	27	50	80	5500	0.14	550	
HQ1005C6N8□T	6.8	22	250	15	27	55	89	5000	0.15	550	
HQ1005C7N3□T	7.3	22	250	15	27	54	90	5000	0.16	550	
HQ1005C7N5□T	7.5	22	250	15	27	54	90	5000	0.16	550	
HQ1005C8N2□T	8.2	22	250	15	27	56	84	5000	0.16	550	
HQ1005C8N7□T	8.7	22	250	15	27	53	80	5000	0.17	500	
HQ1005C9N1□T	9.1	22	250	15	27	53	79	4500	0.18	500	
HQ1005C9N5□T	9.5	22	250	15	27	52	77	4500	0.18	500	
HQ1005C10N□T	10	22	250	16	29	52	75	4500	0.18	500	
HQ1005C11N□T	11	22	250	16	28	52	71	4000	0.20	500	
HQ1005C12N□T	12	22	250	16	29	51	68	4000	0.20	500	
HQ1005C15N□T	15	22	250	16	29	50	60	4000	0.22	430	

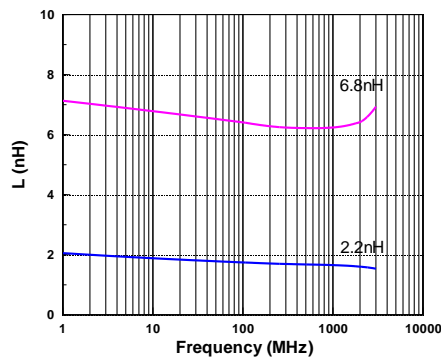
※□: Please specify the inductance tolerance. For  $L \leq 6.2\text{nH}$ , choose  $B = \pm 0.1\text{nH}$  or  $C = \pm 0.2\text{nH}$  or  $S = \pm 0.3\text{nH}$ ; For  $L > 6.2\text{nH}$ , choose  $G = \pm 2\%$  or  $H = \pm 3\%$  or  $J = \pm 5\%$ .

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

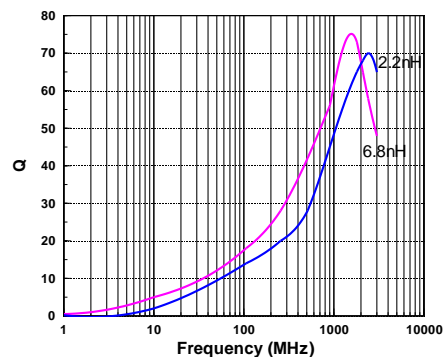
## TYPICAL ELECTRICAL CHARACTERISTICS

### HQ1005 TYPE

Inductance vs. Frequency Characteristics



Q vs. Frequency Characteristics



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