

Multilayer High Frequency Inductor

CIH Series CIH05 (1005 / EIA 0402)



CIH Series has dielectric material and 100% Ag as an internal conductor. Therefore, it has high Q and |Z| at high frequency. It is possible to use for high frequency over 100MHz.

FEATURES

- Lowest value of specific resistivity, good property of Q and high SRF.
- Possible to use at range above 100MHz
- Monolithic structure for high reliability.
- Do not contain lead and support lead-free soldering.
- RoHS compliant

APPLICATION

Mobile communication systems, noise suppression at high frequency and Impedance matching

SPECIFICATION

- Operating temperature range -55 to $+125^{\circ}\text{C}$
- Storage temperature range -10 to $+40^{\circ}\text{C}$

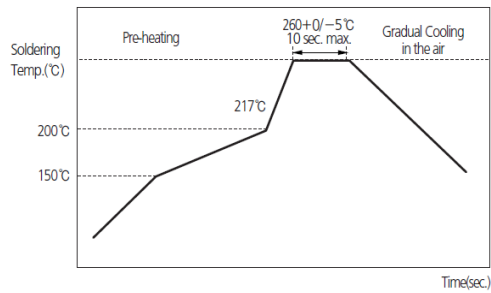
PRODUCT IDENTIFICATION

CI	H	05	T	10N	J	N	C
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

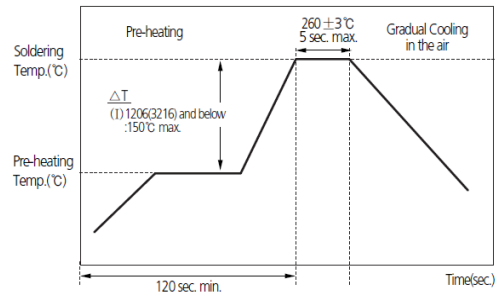
- (1) Chip Inductor
- (2) H:High frequency type
- (3) Dimension
- (4) Material code(T:Dielectric material)
- (5) Inductance(4N7:4.7nH, 10N:10nH, R10:100nH)
- (6) Tolerance(C: $\pm 0.2\text{nH}$, S: $\pm 0.3\text{nH}$, J: $\pm 5\%$, K: $\pm 10\%$)
- (7) Thickness option(N:Standard, A:Thinner than standard, B:Thicker than standard)
- (8) Packaging(C:paper tape, E:embossed tape)

RECOMMENDED SOLDERING CONDITION

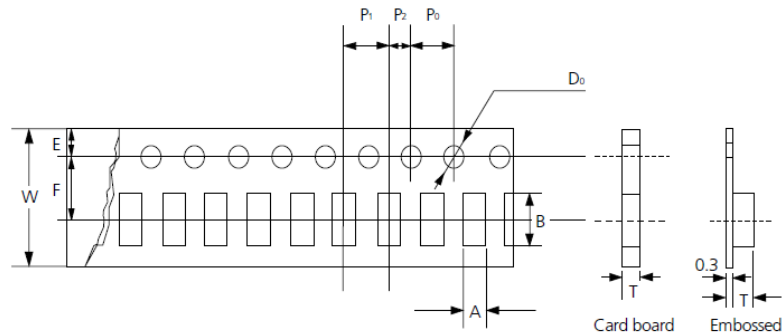
REFLOW SOLDERING



FLOW SOLDERING



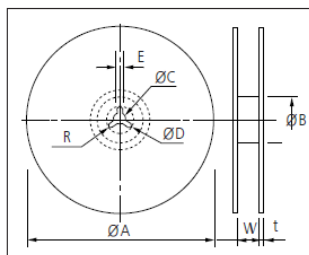
PACKAGING



Unit: mm

Type	03	05	10	21			22	31				32	41	43	
Tape	Card	Card	Card	Embossed			Card	Embossed	Embossed			Card	Embossed	Embossed	Embossed
Chip Thickness	0.3	0.5	0.8	0.85	1.0	1.25	0.85	1.2	0.6	0.8	1.1	0.85	1.3	1.6 (1.2)	1.5
Chip Cavity	A	0.40 ±0.06	0.65 ±0.1	1.0 ±0.2	1.5 ±0.2	1.5 ±0.2	1.45 ±0.1	2.39 ±0.10	1.9 ±0.2	1.9 ±0.2	1.9 ±0.2	2.0 ±0.2	2.9 ±0.2	1.9 ±0.2	3.5 ±0.2
	B	0.70 ±0.06	1.15 ±0.1	1.8 ±0.2	2.3 ±0.2	2.3 ±0.2	2.4 ±0.2	2.79 ±0.10	3.6 ±0.2	3.6 ±0.2	3.6 ±0.2	3.6 ±0.2	3.6 ±0.2	4.9 ±0.2	4.9 ±0.2
t max	0.45	0.8	1.1	1.5	2.0	2.0	0.95 ±0.1	1.80 ±0.10	1.15	1.4	1.4	1.1	1.55	1.8	1.78
W	8 ±0.2	8 ±0.2	8 ±0.2	8 ±0.2	8 ±0.2	8 ±0.2	8.0 ±0.3	8.0 ±0.3	8 ±0.2	8 ±0.2	8 ±0.2	8 ±0.2	8 ±0.2	12 ±0.2	12 ±0.2
F	3.5 ±0.05	3.5 ±0.05	3.5 ±0.05	3.5 ±0.05	3.5 ±0.05	3.5 ±0.05	3.5 ±0.05	3.5 ±0.05	3.5 ±0.05	3.5 ±0.05	3.5 ±0.05	3.5 ±0.05	3.5 ±0.05	5.5 ±0.05	5.5 ±0.05
E	1.75 ±0.1	1.75 ±0.1	1.75 ±0.1	1.75 ±0.1	1.75 ±0.1	1.75 ±0.1	1.75 ±0.1	1.75 ±0.1	1.75 ±0.1	1.75 ±0.1	1.75 ±0.1	1.75 ±0.1	1.75 ±0.1	1.75 ±0.1	1.75 ±0.1
P ₁	2 ±0.05	2 ±0.05	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	8.0 ±0.1	8.0 ±0.1
P ₂	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1	2.0 ±0.1	2.0 ±0.05	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1
P ₀	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1	4.0 ±0.1
D ₀	Ø1.5 ±0.1	Ø1.5 ±0.1	Ø1.5 ±0.1	Ø1.5 ±0.1	Ø1.5 ±0.1	Ø1.5 ±0.1	Ø1.5 ±0.1 /Ø	Ø1.5 ±0.1	Ø1.5 ±0.1	Ø1.5 ±0.1	Ø1.5 ±0.1	Ø1.5 ±0.1 /Ø	Ø1.5 ±0.1	Ø1.5 ±0.1	Ø1.5 ±0.1
Quantity / Reel (PCS)	10,000	10,000	4,000	4,000	3,000	2,000	4,000	2,000	4,000	3,000	3,000	4,000	2,500	2,000 (3,000)	1,000

• Reel dimensions



Unit: mm

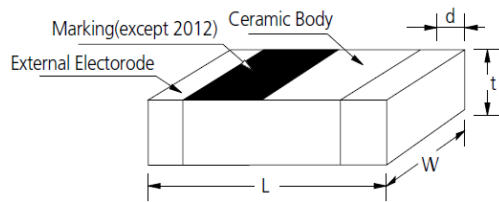
Symbol	A	B	C	D
7" Reel	Ø180+0/-3	Ø60+1/-0	Ø13±0.3	25±0.5
13" Reel	Ø330±2.0	Ø80±1.0	Ø13±0.3	25±0.5

Symbol	E	W	t	R
7" Reel	2.0±0.5	9±0.5	1.2±0.2	1.0
13" Reel	2.0±0.5	9±0.5	2.2±0.2	1.0

Multilayer High Frequency Inductor

1. Model :CIH05 Series

2. Dimension



Type	Dimension [mm]			
	L	W	t	d
05	1.0±0.05	0.5±0.05	0.5±0.05	0.25±0.1

3. Description

Part No.	Inductance (nH) @100MHz	Q (typical.)					SRF (MHz) Min	DC resistance (Ω) Max.	Rated current (mA) Max.
		500MHz	800MHz	1.8GHz	2.0GHz	2.4GHz			
CIH05T1N0S	1.0±0.3nH	23	29	48	50	56	10000	0.12	300
CIH05T1N2S	1.2±0.3nH	23	29	48	50	56	10000	0.12	300
CIH05T1N5S	1.5±0.3nH	23	29	47	50	56	6000	0.13	300
CIH05T1N8S	1.8±0.3nH	20	26	41	43	49	6000	0.14	300
CIH05T2N2S	2.2±0.3nH	22	27	44	47	52	6000	0.16	300
CIH05T2N7S	2.7±0.3nH	22	27	43	45	50	6000	0.17	300
CIH05T3N3S	3.3±10%, 0.3nH	24	30	46	48	53	6000	0.19	300
CIH05T3N9S	3.9±10%, 0.3nH	22	28	43	45	50	4000	0.22	300
CIH05T4N7S	4.7±10%, 0.3nH	23	30	45	47	50	4000	0.24	300
CIH05T5N6S	5.6±10%, 0.3nH	22	28	42	43	45	4000	0.27	300
CIH05T6N8J	6.8±5%, 10%	22	28	40	41	41	3900	0.32	300
CIH05T8N2J	8.2±5%, 10%	22	28	38	38	36	3600	0.37	300
CIH05T10NJ	10.0±5%, 10%	22	28	37	36	31	3200	0.42	300
CIH05T12NJ	12.0±5%, 10%	22	28	33	31	23	2700	0.5	300
CIH05T15NJ	15.0±5%, 10%	22	28	29	26	17	2300	0.55	300
CIH05T18NJ	18.0±5%, 10%	23	28	26	22	11	2100	0.65	250
CIH05T22NJ	22.0±5%, 10%	22	27	21	14	2	1900	0.8	250
CIH05T27NJ	27.0±5%, 10%	20	23	10	3	-	1600	0.9	250
CIH05T33NJ	33.0±5%, 10%	20	23	3	-	-	1300	1	250
CIH05T39NJ	39.0±5%, 10%	20	21	-	-	-	1200	1.2	200
CIH05T47NJ	47.0±5%, 10%	19	20	-	-	-	1000	1.3	200
CIH05T56NJ	56.0±5%, 10%	19	18	-	-	-	750	1.4	180
CIH05T68NJ	68.0±5%, 10%	17	15	-	-	-	750	1.4	180
CIH05T82NJ	82.0±5%, 10%	16	11	-	-	-	600	1.6	150
CIH05TR10J	100.0±5%, 10%	15	9	-	-	-	600	1.6	130

□ Tolerance (S :±0.3nH, J :±5%, K:±10%)

※ Test equipment: Agilent 4291B+16192A