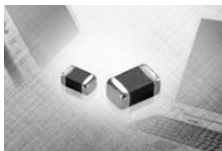


General Chip Inductor

CIL Series- CIL21 (2012/ EIA 0805)



CIL Series has ferrite body and 100% Ag internal conductor. Also, the CIL series Inductors have excellent Q characteristics and free of cross talk.

FEATURES

- Magnetic shielding eliminates crosstalk, thus permitting higher mounting density.
- Excellent solderability and high heat resistance for either flow or reflow soldering.
- Monolithic structure for high reliability

APPLICATION

- Resonance circuits, PLL circuits, Noise suppression, etc.

SPECIFICATION

- Operating temperature range -40 to $+85^{\circ}\text{C}$
- Storage temperature range -10 to $+40^{\circ}\text{C}$

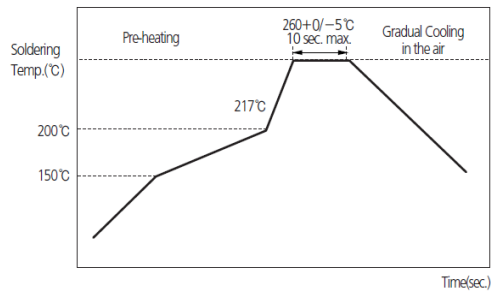
PRODUCT IDENTIFICATION

<u>CI</u>	<u>L</u>	<u>21</u>	<u>N</u>	<u>47N</u>	<u>M</u>	<u>N</u>	<u>E</u>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

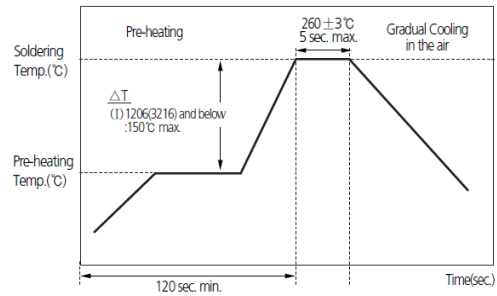
- (1) Chip Inductor
- (2) L:Ordinary type
- (3) Dimension
- (4) Material Code (N,J,Y,S)
- (5) Inductance(47N:0.047uH,2R2:2.2uH)
- (6) Tolerance(K: $\pm 10\%$, M: $\pm 20\%$)
- (7) Thickness option(N:Standard, A:Thinner than standard, B:Thicker than standard)
- (8) Packaging(C:paper tape, E:embossed tape)

RECOMMENDED SOLDERING CONDITION

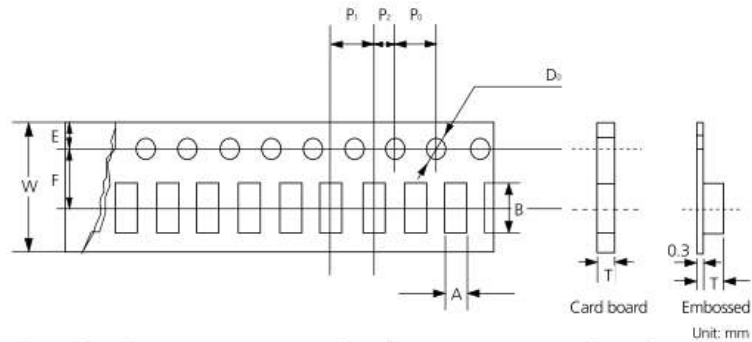
REFLOW SOLDERING



FLOW SOLDERING

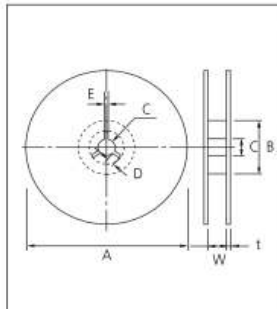


PACKAGING



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	4.9 ±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 ±0.05	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 ϕ0	Ø1.5 ±0.1	Ø1.5 ±0.1	Ø1.5 ±0.1	Ø1.5 ±0.1	Ø1.5 ±0.1 ϕ0	Ø1.5 ±0.1	Ø1.5 ±0.1	Ø1.5 ±0.1
Quantity / Reel (PCS)	10,000 (15,000)	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

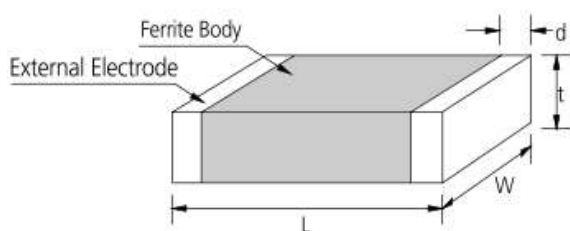


Symbol	Tape Width	A	B	C	D
7" Reel	8mm	Ø180+0/-3	Ø60+1/-0	Ø13±0.3	4±0.2
	12mm	Ø180+0/-3	Ø60+1/-0	Ø13±0.3	4±0.2
10" Reel	8mm	Ø258+0/-3	Ø80+1/-0	Ø13±0.3	4±0.2
	12mm	Ø258+0/-3	Ø80+1/-0	Ø13±0.3	4±0.2
13" Reel	8mm	Ø330±2.0	Ø80±1.0	Ø13±0.3	4±0.2
	12mm	Ø330±2.0	Ø80±1.0	Ø13±0.3	4±0.2
Symbol	Tape Width	E	W	t	
7" Reel	8mm	2.0±0.5	9±0.5	1.2±0.2	
	12mm	2.0±0.5	13±0.5	1.2±0.2	
10" Reel	8mm	2.0±0.5	9±0.5	1.8±0.2	
	12mm	2.0±0.5	13±0.5	1.8±0.2	
13" Reel	8mm	2.0±0.5	9±0.5	2.2±0.2	
	12mm	2.0±0.5	13±0.5	2.2±0.2	

General Chip Inductor

1. Model :CIL2012 Type

2. Dimension



Type	Dimension [mm]			
	L	W	t	d
21	2.0±0.2	1.25±0.2	0.85±0.2 1.25±0.2	0.5+0.2 -0.3

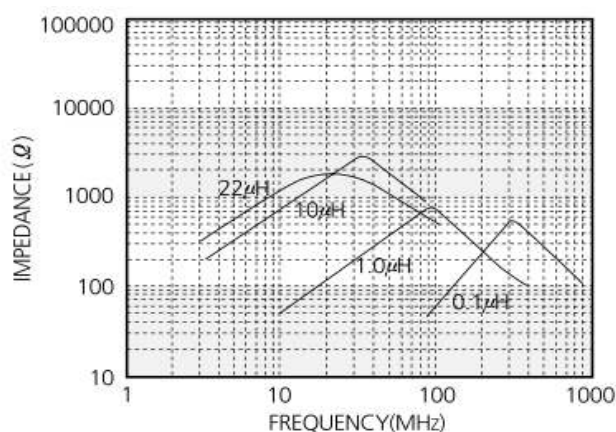
3. Description

Part No.	Thickness (mm)	Inductance (uH)	Q (Min.)	L,Q test frequency (MHz)	SRF (MHz) Min.	DC resistance (Ω) Max.	Rated current (mA) Max.
CIL21N47N	0.85±0.2	0.047±20%,10%	15	50	320	0.20	300
CIL21N68N	0.85±0.2	0.068±20%,10%	15	50	280	0.20	300
CIL21N82N	0.85±0.2	0.082±20%,10%	15	50	255	0.20	300
CIL21NR10	0.85±0.2	0.10±20%,10%	20	25	235	0.20	250
CIL21NR12	0.85±0.2	0.12±20%,10%	20	25	220	0.20	250
CIL21NR15	0.85±0.2	0.15±20%,10%	20	25	200	0.25	250
CIL21NR18	0.85±0.2	0.18±20%,10%	20	25	185	0.25	250
CIL21NR22	0.85±0.2	0.22±20%,10%	20	25	170	0.30	250
CIL21NR27	0.85±0.2	0.27±20%,10%	20	25	150	0.30	250
CIL21NR33	0.85±0.2	0.33±20%,10%	20	25	145	0.30	250
CIL21NR39	0.85±0.2	0.39±20%,10%	25	25	135	0.40	200
CIL21NR47	1.25±0.2	0.47±20%,10%	25	25	125	0.40	150
CIL21NR56	1.25±0.2	0.56±20%,10%	25	25	115	0.50	150
CIL21NR68	1.25±0.2	0.68±20%,10%	25	25	105	0.50	150
CIL21NR82	1.25±0.2	0.82±20%,10%	25	25	100	0.60	150
CIL21J1R0	0.85±0.2	1.0±20%,10%	45	10	75	0.30	50
CIL21J1R2	0.85±0.2	1.2±20%,10%	45	10	65	0.40	50
CIL21J1R5	0.85±0.2	1.5±20%,10%	45	10	30	0.40	50
CIL21J1R8	0.85±0.2	1.8±20%,10%	45	10	55	0.40	50
CIL21J2R2	0.85±0.2	2.2±20%,10%	45	10	50	0.50	30
CIL21J2R7	1.25±0.2	2.7±20%,10%	45	10	45	0.60	30
CIL21J3R3	1.25±0.2	3.3±20%,10%	45	10	41	0.60	30

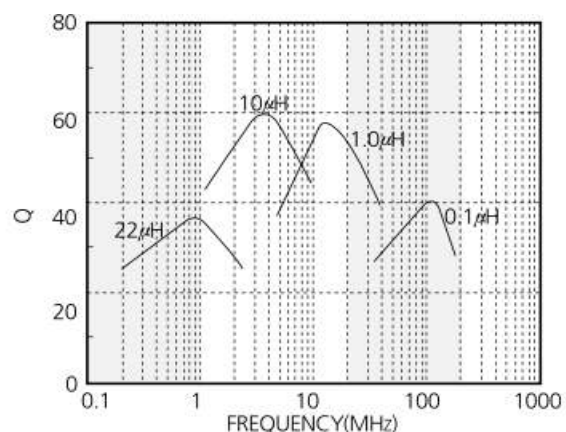
CIL21J3R9	1.25±0.2	3.9±20%,10%	45	10	38	0.80	30
CIL21J4R7	1.25±0.2	4.7±20%,10%	45	10	35	0.90	30
CIL21Y5R6	1.25±0.2	5.6±20%,10%	50	4	32	0.50	25
CIL21Y6R8	1.25±0.2	6.8±20%,10%	50	4	29	0.60	15
CIL21Y8R2	1.25±0.2	8.2±20%,10%	50	4	26	0.70	15
CIL21Y100	1.25±0.2	10.0±20%,10%	50	2	24	0.80	15
CIL21Y120	1.25±0.2	12.0±20%,10%	50	2	22	0.90	15
CIL21S150	1.25±0.2	15.0±20%,10%	30	1	19	0.80	5
CIL21S180	1.25±0.2	18.0±20%,10%	30	1	18	0.90	5
CIL21S220	1.25±0.2	22.0±20%,10%	30	1	16	1.10	5
CIL21S270	1.25±0.2	27.0±20%,10%	30	1	14	1.15	5
CIL21S330	1.25±0.2	33.0±20%,10%	30	0.4	13	1.25	5

4.Characteristics data

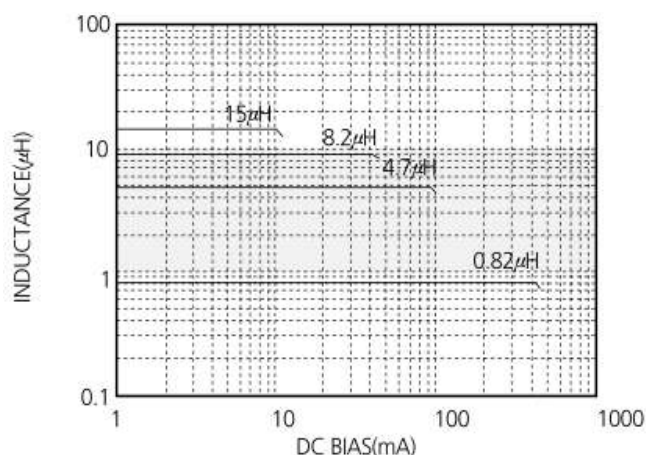
(1) Impedance Characteristics



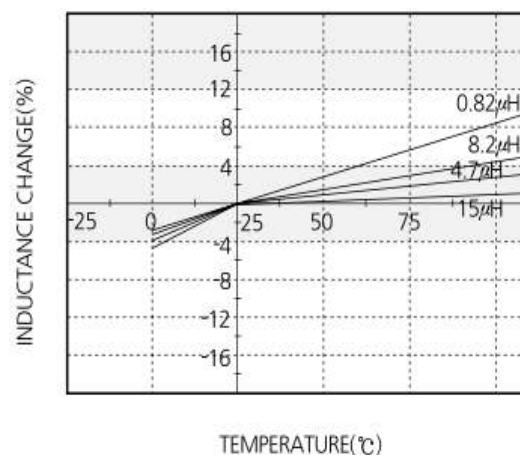
(2) Q Characteristics



(3) DC Bias Characteristics



(4) Temperature Characteristics



■ NOTICE :All specifications are subject to change without previous notice. Please contact with product representatives or engineers to check specifications.