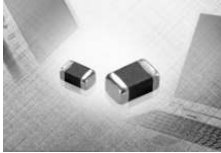


# General Chip Inductor

## 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  $+40^{\circ}\text{C}$

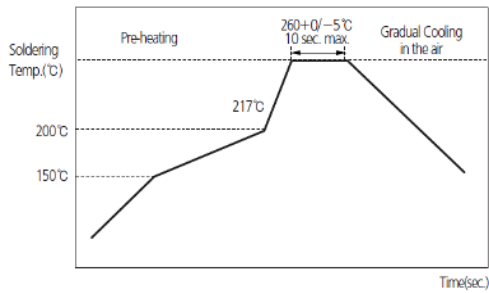
### PRODUCT IDENTIFICATION

<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)

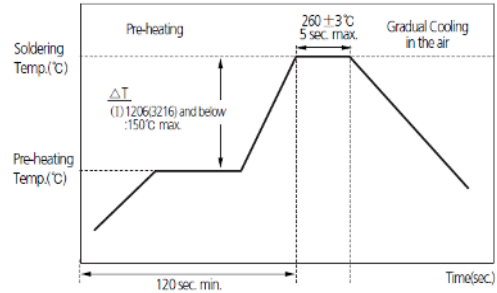
- (1) Chip Inductor
- (2) L:Ordinary type
- (3) Dimension
- (4) Material Code (N,J,Y,S)
- (5) Inductance(47N:0.047uH,2R2:2.2uH)
- (6) Tolerance(K: $\pm 10\%$ , M: $\pm 20\%$ )
- (7) Thickness option(N:Standard, A:Thinner than standard, B:Thicker than standard)
- (8) Packaging(C:paper tape, E:embossed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

RECOMMENDED SOLDERING CONDITION

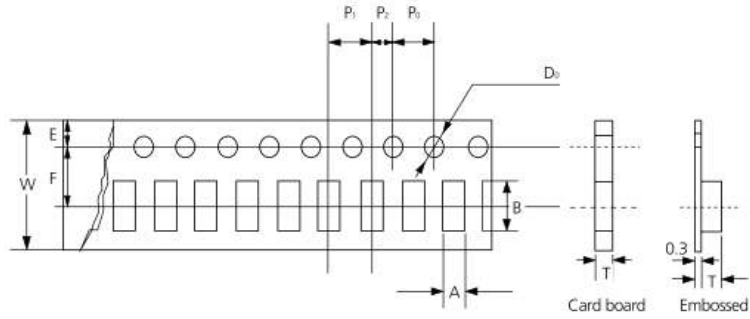
REFLOW SOLDERING



FLOW SOLDERING



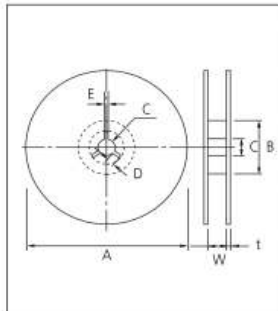
PACKAGING



Unit: mm

Type	03	05	10	21		22	31			32	41	43			
Tape	Card	Card	Card	Embossed		Card	Embossed		Embossed	Card	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	1.5 (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 <sub>1</sub>	2 ±0.05	2 ±0.05	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1	2 ±0.1
P <sub>2</sub>	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 <sub>0</sub>	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 <sub>0</sub>	φ1.5 ±0.1	φ1.5 ±0.1	φ1.5 ±0.1	φ1.5 ±0.1	φ1.5 ±0.1	φ1.5 ±0.1	φ1.5 ±0.1	φ1.5 ±0.1	φ1.5 ±0.1	φ1.5 ±0.1	φ1.5 ±0.1	φ1.5 ±0.1	φ1.5 ±0.1	φ1.5 ±0.1	φ1.5 ±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



Unit: mm

Symbol	Tape Width	A	B	C	D
7" Reel	8mm	φ180+0/-3	φ60+1/0	φ13±0.3	4±0.2
	12mm	φ180+0/-3	φ60+1/0	φ13±0.3	4±0.2
10" Reel	8mm	φ258+0/-3	φ80+1/0	φ13±0.3	4±0.2
	12mm	φ258+0/-3	φ80+1/0	φ13±0.3	4±0.2
13" Reel	8mm	φ330±2.0	φ80±1.0	φ13±0.3	4±0.2
	12mm	φ330±2.0	φ80±1.0	φ13±0.3	4±0.2

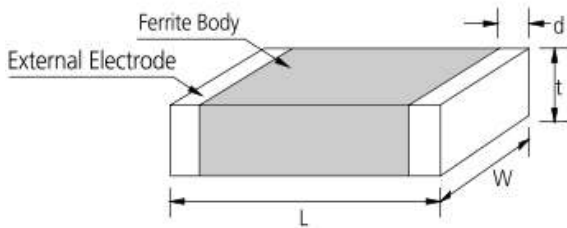
  

Symbol	Tape Width	E	W	t
7" Reel	8mm	2.0±0.5	9±0.5	1.2±0.2
	12mm	2.0±0.5	13±0.5	1.2±0.2
10" Reel	8mm	2.0±0.5	9±0.5	1.8±0.2
	12mm	2.0±0.5	13±0.5	1.8±0.2
13" Reel	8mm	2.0±0.5	9±0.5	2.2±0.2
	12mm	2.0±0.5	13±0.5	2.2±0.2

# 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

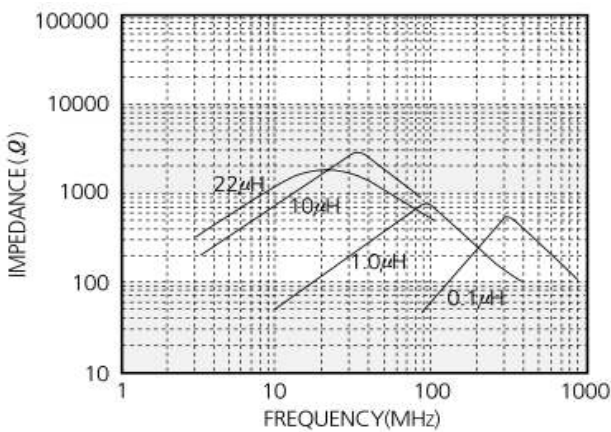
## 3. Description

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

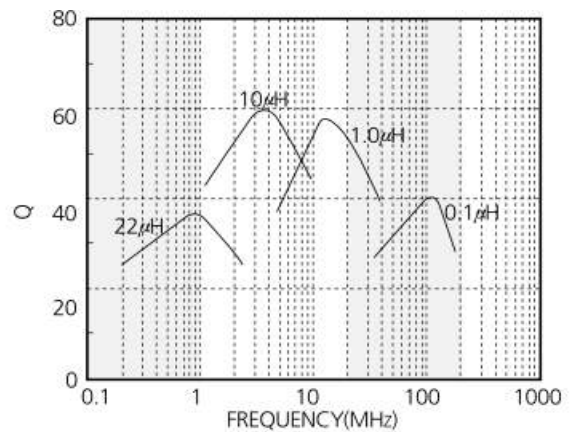
CIL21J3R9	1.25±0.2	3.9±20%,10%	45	10	38	0.80	30
CIL21J4R7	1.25±0.2	4.7±20%,10%	45	10	35	0.90	30
CIL21Y5R6	1.25±0.2	5.6±20%,10%	50	4	32	0.50	25
CIL21Y6R8	1.25±0.2	6.8±20%,10%	50	4	29	0.60	15
CIL21Y8R2	1.25±0.2	8.2±20%,10%	50	4	26	0.70	15
CIL21Y100	1.25±0.2	10.0±20%,10%	50	2	24	0.80	15
CIL21Y120	1.25±0.2	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

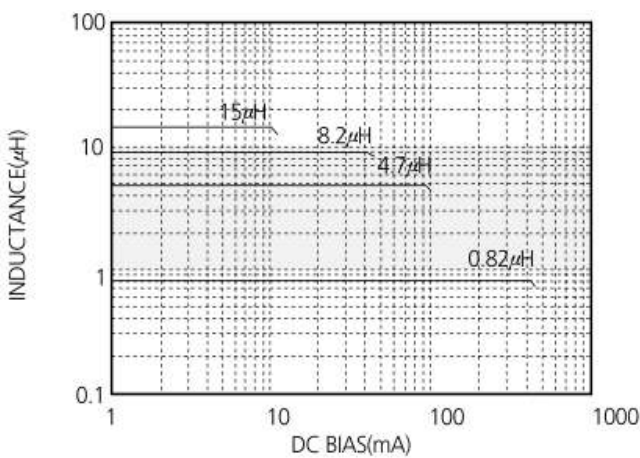
(1) Impedance Characteristics



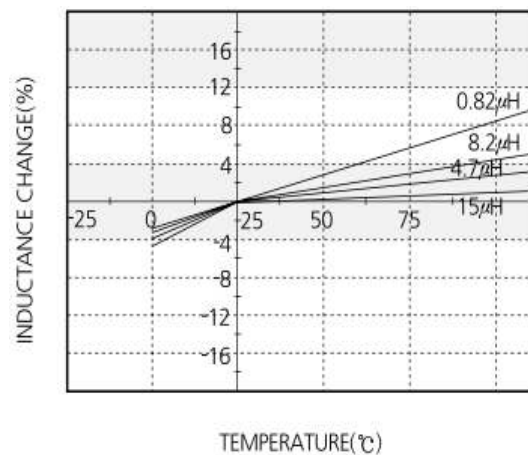
(2) Q Characteristics



(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.