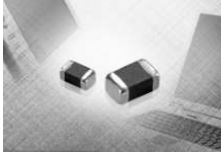


# General Chip Inductor

## CIL Series- CIL31 (3216/ EIA 1206)



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

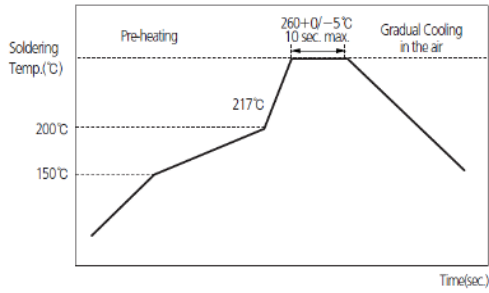
### PRODUCT IDENTIFICATION

<u>CI</u>	<u>L</u>	<u>31</u>	<u>N</u>	<u>47N</u>	<u>M</u>	<u>N</u>	<u>C</u>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

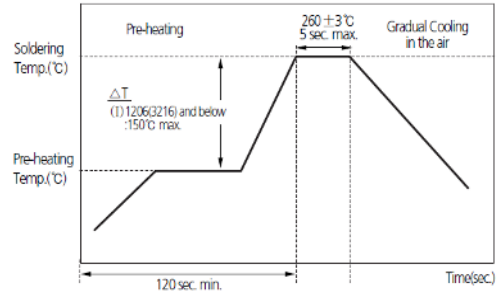
- (1) Chip Inductor
- (2) L:Ordinary type
- (3) Dimension
- (4) Material Code (N,J,Y,S)
- (5) Inductance(47N:0.047uH,2R2:2.2uH)
- (6) Tolerance(K: $\pm 10\%$ , M: $\pm 20\%$ )
- (7) Thickness option(N:Standard, A:Thinner than standard, B:Thicker than standard)
- (8) Packaging(C:paper tape, E:embossed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

RECOMMENDED SOLDERING CONDITION

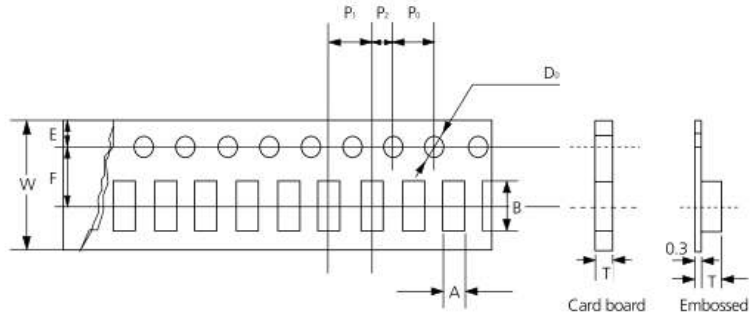
REFLOW SOLDERING



FLOW SOLDERING

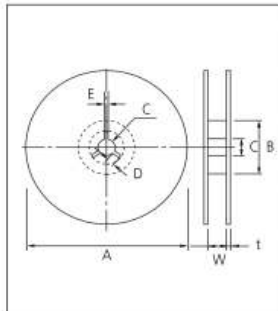


PACKAGING



Type	03	05	10	21		22	31			32	41	43			
Tape	Card	Card	Card	Embossed		Card	Embossed		Embossed	Card	Embossed	Embossed			
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>	∅1.5 ±0.1	∅1.5 ±0.1	∅1.5 ±0.1	∅1.5 ±0.1	∅1.5 ±0.1	∅1.5 ±0.1	∅1.5 ±0.1	∅1.5 ±0.1	∅1.5 ±0.1	∅1.5 ±0.1	∅1.5 ±0.1	∅1.5 ±0.1	∅1.5 ±0.1	∅1.5 ±0.1	∅1.5 ±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	∅180+0/-3	∅60+1/0	∅13±0.3	4±0.2
	12mm	∅180+0/-3	∅60+1/0	∅13±0.3	4±0.2
10" Reel	8mm	∅258+0/-3	∅80+1/0	∅13±0.3	4±0.2
	12mm	∅258+0/-3	∅80+1/0	∅13±0.3	4±0.2
13" Reel	8mm	∅330±2.0	∅80±1.0	∅13±0.3	4±0.2
	12mm	∅330±2.0	∅80±1.0	∅13±0.3	4±0.2

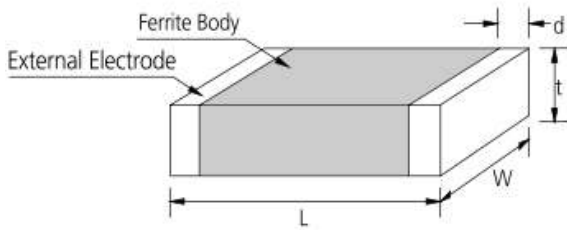
  

Symbol	Tape Width	E	W	t
7" Reel	8mm	2.0±0.5	9±0.5	1.2±0.2
	12mm	2.0±0.5	13±0.5	1.2±0.2
10" Reel	8mm	2.0±0.5	9±0.5	1.8±0.2
	12mm	2.0±0.5	13±0.5	1.8±0.2
13" Reel	8mm	2.0±0.5	9±0.5	2.2±0.2
	12mm	2.0±0.5	13±0.5	2.2±0.2

# General Chip Inductor

## 1. Model :CIL3216 Type

## 2. Dimension



Type	Dimension [mm]			
	L	W	t	d
31	3.2±0.2	1.6±0.2	0.6±0.2 1.1±0.2	0.5±0.2 -0.3

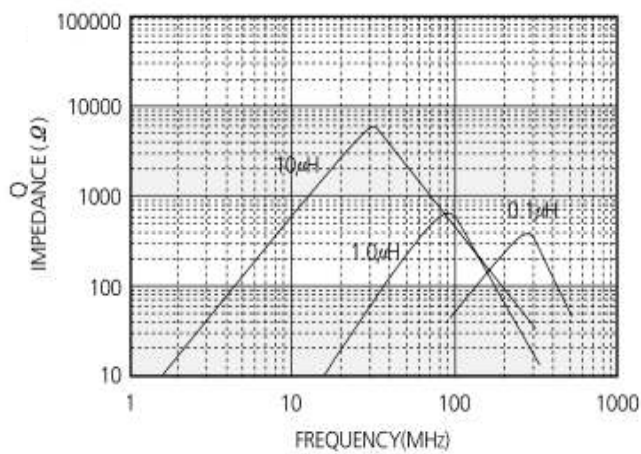
## 3. Description

Part No.	Thickness (mm)	Inductance (nH)	Q (Min.)	L,Q test frequency (MHz)	SRF (MHz) Min.	DC resistance (Ω) Max.	Rated current (mA) Max.
CIL31N47N	0.6±0.2	0.047	20	50	320	0.15	300
CIL31N68N	0.6±0.2	0.068	20	50	280	0.25	300
CIL31NR10	0.6±0.2	0.10	20	25	235	0.25	250
CIL31NR12	0.6±0.2	0.12	20	25	220	0.30	250
CIL31NR15	0.6±0.2	0.15	20	25	200	0.30	250
CIL31NR18	0.6±0.2	0.18	20	25	185	0.40	250
CIL31NR22	0.6±0.2	0.22	20	25	170	0.40	250
CIL31NR27	0.6±0.2	0.27	20	25	150	0.50	250
CIL31NR33	0.6±0.2	0.33	20	25	145	0.60	250
CIL31NR39	1.1±0.2	0.39	25	25	135	0.50	200
CIL31NR47	1.1±0.2	0.47	25	25	125	0.60	200
CIL31NR56	1.1±0.2	0.56	25	25	115	0.70	150
CIL31NR68	1.1±0.2	0.68	25	25	105	0.80	150
CIL31NR82	1.1±0.2	0.82	25	25	100	0.90	150
CIL31J1R0	0.6±0.2	1.0	45	10	75	0.40	100
CIL31J1R2	0.6±0.2	1.2	45	10	65	0.50	100
CIL31J1R5	1.1±0.2	1.5	45	10	60	0.50	50
CIL31J1R8	1.1±0.2	1.8	45	10	55	0.50	50
CIL31J2R2	1.1±0.2	2.2	45	10	50	0.60	50
CIL31J2R7	1.1±0.2	2.7	45	10	45	0.60	50
CIL31J3R3	1.1±0.2	3.3	45	10	41	0.70	50

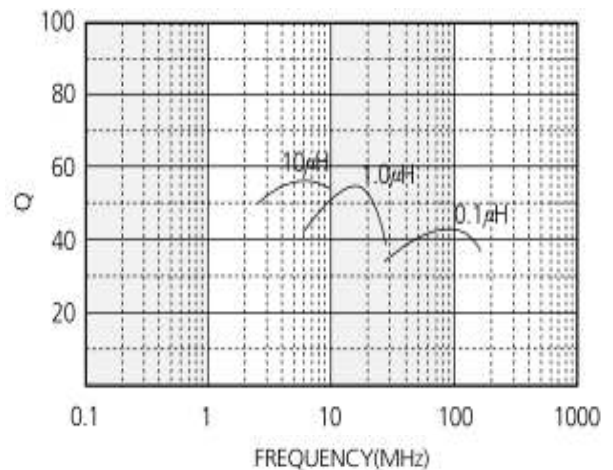
CIL31J3R9	1.1±0.2	3.9	45	10	38	0.80	50
CIL31J4R7	1.1±0.2	4.7	45	10	35	0.90	50
CIL31Y5R6	1.1±0.2	5.6	50	4	32	0.70	25
CIL31Y6R8	1.1±0.2	6.8	50	4	29	0.80	25
CIL31Y8R2	1.1±0.2	8.2	50	4	26	0.90	25
CIL31Y100	1.1±0.2	10.0	50	2	24	1.00	25
CIL31Y120	1.1±0.2	12.0	50	2	22	1.05	15
CIL31S150	1.1±0.2	15.0	35	1	19	0.70	5
CIL31S180	1.1±0.2	18.0	35	1	18	0.70	5
CIL31S220	1.1±0.2	22.0	35	1	16	0.90	5
CIL31S270	1.1±0.2	27.0	35	1	14	0.90	5
CIL31S330	1.1±0.2	33.0	35	0.4	13	1.05	5

#### 4.Characteristics data

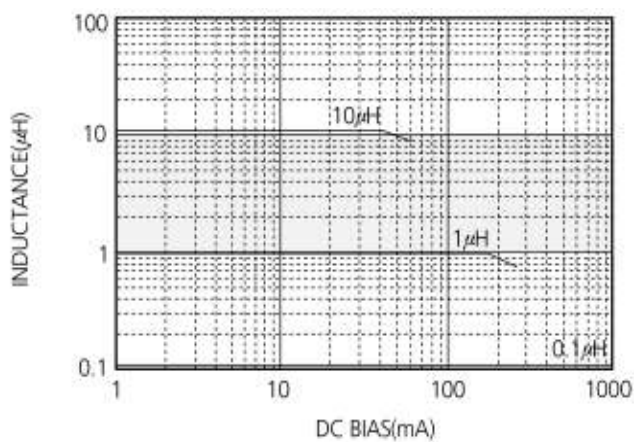
##### (1) Impedance Characteristics



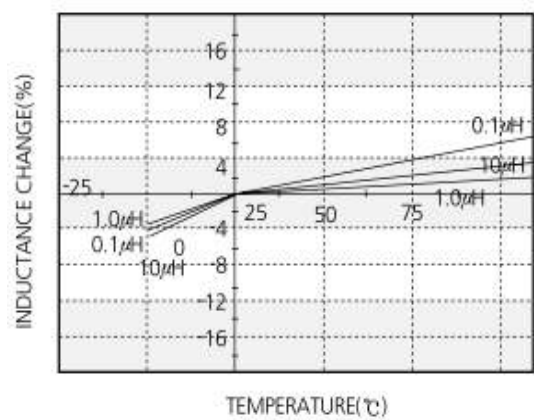
##### (2) Q Characteristics



##### (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.