深圳市岑科實業有限公司
SHENZHEN CENKER ENTERPRISE LTD.

Multilayer Ceramic Chip Inductors - CKCI

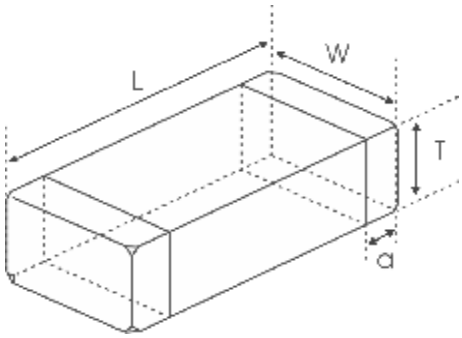
■ Features

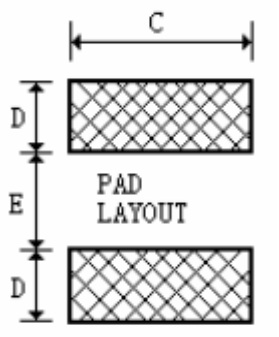
1. Monolithic structure for high reliability.
2. High self-resonant frequency.
3. Excellent solderability and high heat resistance for either wave flow or reflow soldering.

■ Applications

For high frequency applications including cellular phone, pager, computer, digital wireless phone.

■Dimensions and Construction

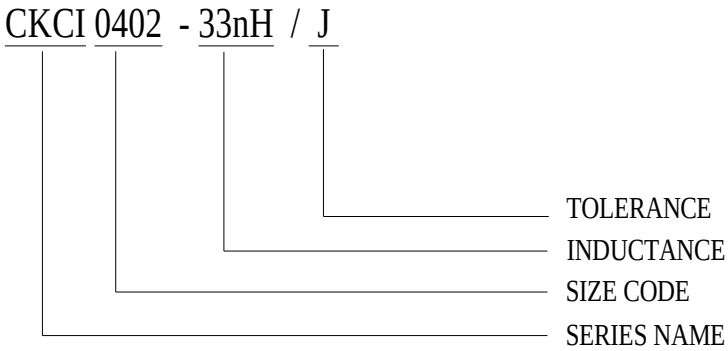




Dimensions in mm

TYPE	L	W	T	a	C	D	E
0402	1.0±0.15	0.5±0.15	0.5±0.15	0.25±0.1	0.5	0.5	0.4
0603	1.6±0.20	0.8±0.20	0.8±0.20	0.3±0.2	0.8	0.6	0.8
0805	2.0±0.20	1.2±0.20	0.9±0.20	0.5±0.3	1.2	0.8	1.0

■ Part Numbering System



■ Electrical Characteristics

(1) Operating Temperature Ranges: -25～85℃.

(2) Rated Current: DC current that causes the temperature rise (△T ≤40° C) from 25° C ambient.

■ Electrical Parameters

■CKCI0402 Series

Part No.	Inductance (nH)	Test Frequency (MHz)	Q Min	DCR (Ω)Max	SRF (MHz) Min	Rated Current (mA)Max	Remark
CKCI0402-1.0nH/S	1.0±0.3	100	8	0.07	10000	400	
CKCI0402-1.2nH/S	1.2±0.3	100	8	0.09	10000	400	
CKCI0402-1.5nH/S	1.5±0.3	100	8	0.10	9000	400	
CKCI0402-1.8nH/S	1.8±0.3	100	8	0.10	8700	400	
CKCI0402-2.0nH/S	2.0±0.3	100	8	0.10	8100	400	
CKCI0402-2.2nH/S	2.2±0.3	100	8	0.12	8100	400	
CKCI0402-2.4nH/S	2.4±0.3	100	8	0.15	7700	400	
CKCI0402-2.7nH/S	2.7±0.3	100	8	0.15	7700	400	
CKCI0402-3.0nH/S	3.0±0.3	100	8	0.15	6300	400	
CKCI0402-3.3nH/S	3.3±0.3	100	8	0.15	6300	400	
CKCI0402-3.6nH/S	3.6±0.3	100	8	0.15	6100	400	
CKCI0402-3.9nH/S	3.9±0.3	100	8	0.18	6100	400	
CKCI0402-4.3nH/S	4.3±0.3	100	8	0.18	6000	400	
CKCI0402-4.7nH/S	4.7±0.3	100	8	0.18	6000	400	
CKCI0402-5.6nH/S	5.6±0.3	100	8	0.20	5100	400	
CKCI0402-6.8nH/J	6.8±5%	100	8	0.24	4550	400	
CKCI0402-8.2nH/J	8.2±5%	100	8	0.24	4100	300	
CKCI0402-10nH/J	10±5%	100	8	0.26	3900	300	
CKCI0402-12nH/J	12±5%	100	8	0.40	3000	300	
CKCI0402-15nH/J	15±5%	100	8	0.50	2800	300	
CKCI0402-18nH/J	18±5%	100	8	0.55	2500	300	
CKCI0402-22nH/J	22±5%	100	8	0.70	2200	300	
CKCI0402-27nH/J	27±5%	100	8	0.80	2000	300	
CKCI0402-33nH/J	33±5%	100	8	0.90	1800	200	
CKCI0402-39nH/J	39±5%	100	8	1.00	1600	150	
CKCI0402-47nH/J	47±5%	100	8	1.20	1400	150	
CKCI0402-56nH/J	56±5%	100	8	1.30	1300	150	
CKCI0402-68nH/J	68±5%	100	8	1.50	1100	100	
CKCI0402-82nH/J	82±5%	100	8	1.60	1000	100	
CKCI0402-100nH/J	100±5%	100	8	2.00	900	100	
CKCI0402-120nH/J	120±5%	100	8	2.20	800	100	

■CKCI0603 Series

Part No.	Inductance (nH)	Test Frequency (MHz)	Q Min	DCR (Ω)Max	SRF (MHz) Min	Rated Current (mA)Max	Remark
CKCI0603-1.0nH/S	1.0±0.3	100	8	0.10	10000	600	
CKCI0603-1.2nH/S	1.2±0.3	100	8	0.10	10000	600	
CKCI0603-1.5nH/S	1.5±0.3	100	8	0.10	8000	600	
CKCI0603-1.8nH/S	1.8±0.3	100	8	0.10	8000	600	
CKCI0603-2.2nH/S	2.2±0.3	100	8	0.10	7200	600	
CKCI0603-2.7nH/S	2.7±0.3	100	10	0.10	6200	600	
CKCI0603-3.0nH/S	3.0±0.3	100	10	0.12	5200	600	
CKCI0603-3.3nH/S	3.3±0.3	100	10	0.12	5200	600	
CKCI0603-3.9nH/S	3.9±0.3	100	10	0.14	5000	600	
CKCI0603-4.7nH/S	4.7±0.3	100	10	0.16	4750	600	
CKCI0603-5.6nH/S	5.6±0.3	100	10	0.18	4100	600	
CKCI0603-6.8nH/J	6.8±5%	100	10	0.22	3750	600	
CKCI0603-8.2nH/J	8.2±5%	100	10	0.24	3300	600	
CKCI0603-10nH/J	10±5%	100	12	0.26	3000	600	
CKCI0603-12nH/J	12±5%	100	12	0.28	2600	600	
CKCI0603-15nH/J	15±5%	100	12	0.32	2500	600	
CKCI0603-18nH/J	18±5%	100	12	0.35	2400	600	
CKCI0603-22nH/J	22±5%	100	12	0.40	2000	500	
CKCI0603-27nH/J	27±5%	100	12	0.45	1900	500	
CKCI0603-33nH/J	33±5%	100	12	0.55	1600	400	
CKCI0603-39nH/J	39±5%	100	12	0.60	1400	400	
CKCI0603-47nH/J	47±5%	100	12	0.70	1300	400	
CKCI0603-56nH/J	56±5%	100	12	0.75	1100	400	
CKCI0603-62nH/J	62±5%	100	12	0.85	1050	400	
CKCI0603-68nH/J	68±5%	100	12	0.85	1050	400	
CKCI0603-82nH/J	82±5%	100	12	1.00	900	300	
CKCI0603-100nH/J	100±5%	100	12	1.20	770	300	
CKCI0603-120nH/J	120±5%	50	8	1.30	650	300	
CKCI0603-150nH/J	150±5%	50	8	1.70	550	250	
CKCI0603-180nH/J	180±5%	50	8	1.90	520	250	
CKCI0603-220nH/J	220±5%	50	8	2.00	500	250	
CKCI0603-270nH/J	270±5%	50	8	2.20	470	150	
CKCI0603-330nH/J	330±5%	50	8	2.80	320	100	
CKCI0603-390nH/J	390±5%	50	8	3.00	300	100	

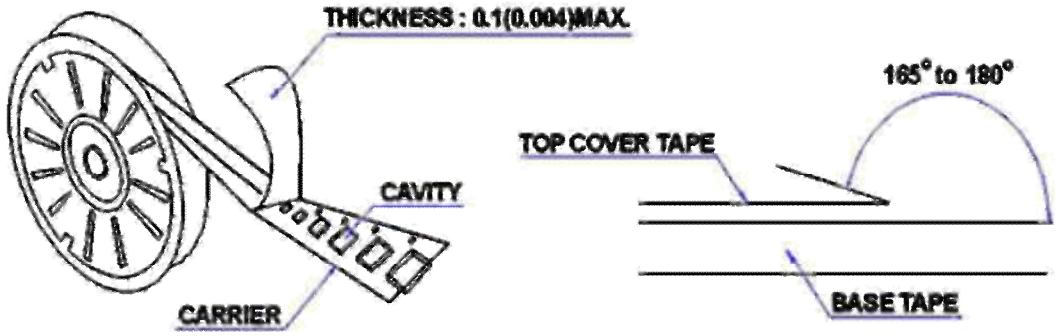
■CKCI0805 Series

Part No.	Inductance (nH)	Test Frequency (MHz)	Q Min	DCR (Ω)Max	SRF (MHz) Min	Rated Current (mA)Max	Remark
CKCI0805-1.5nH/S	1.5±0.3	100	8	0.10	6000	600	
CKCI0805-1.8nH/S	1.8±0.3	100	8	0.10	6000	600	
CKCI0805-2.2nH/S	2.2±0.3	100	8	0.10	6000	600	
CKCI0805-2.7nH/S	2.7±0.3	100	8	0.10	6000	600	
CKCI0805-3.3nH/S	3.3±0.3	100	8	0.13	6000	600	
CKCI0805-3.9nH/S	3.9±0.3	100	8	0.15	5400	600	
CKCI0805-4.7nH/S	4.7±0.3	100	8	0.20	4500	400	
CKCI0805-5.6nH/S	5.6±0.3	100	8	0.23	4000	400	
CKCI0805-6.8nH/J	6.8±5%	100	8	0.25	3650	400	
CKCI0805-8.2nH/J	8.2±5%	100	8	0.28	3000	400	
CKCI0805-10nH/J	10±5%	100	8	0.30	2500	300	
CKCI0805-12nH/J	12±5%	100	8	0.35	2450	300	
CKCI0805-15nH/J	15±5%	100	8	0.40	2000	300	
CKCI0805-18nH/J	18±5%	100	8	0.45	1750	300	
CKCI0805-22nH/J	22±5%	100	8	0.50	1700	300	
CKCI0805-27nH/J	27±5%	100	8	0.55	1550	300	
CKCI0805-33nH/J	33±5%	100	8	0.60	1350	300	
CKCI0805-39nH/J	39±5%	100	8	0.70	1300	300	
CKCI0805-47nH/J	47±5%	100	8	0.80	1200	300	
CKCI0805-56nH/J	56±5%	100	8	0.80	1150	300	
CKCI0805-68nH/J	68±5%	100	8	0.85	1000	300	
CKCI0805-82nH/J	82±5%	100	8	0.90	850	300	
CKCI0805-100nH/J	100±5%	100	8	1.00	600	300	
CKCI0805-120nH/J	120±5%	100	8	1.20	500	300	
CKCI0805-150nH/K	150±10%	100	8	1.50	500	300	
CKCI0805-180nH/K	180±10%	100	8	1.80	400	300	
CKCI0805-220nH/K	220±10%	100	8	1.80	350	300	

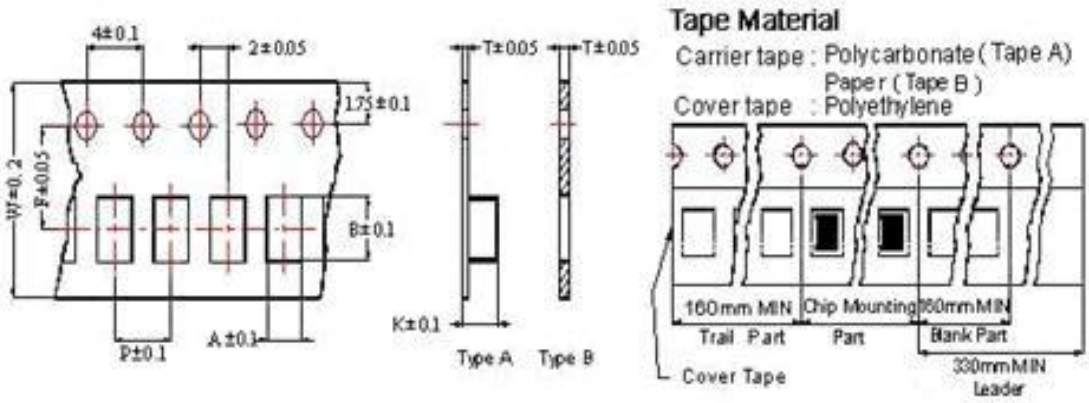
■ Packaging

1. Packaging -Cover Tape

The force for tearing off cover tape is 10 to 100 grams in the arrow direction.

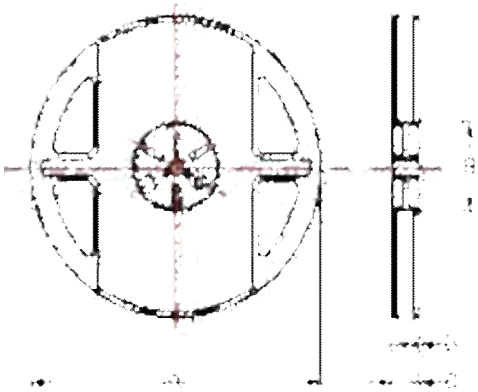


2. Tape Dimensions(Unit:mm)



Type	A	B	T	W	P	F	K	Tape Type
0402	0.62	1.12	0.60	8	2	3.5	/	B
0603	1.05	1.85	0.95	8	4	3.5	/	B
0805	1.50	2.30	0.97	8	4	3.5	/	B

3. Reel Dimensions (Unit:mm)



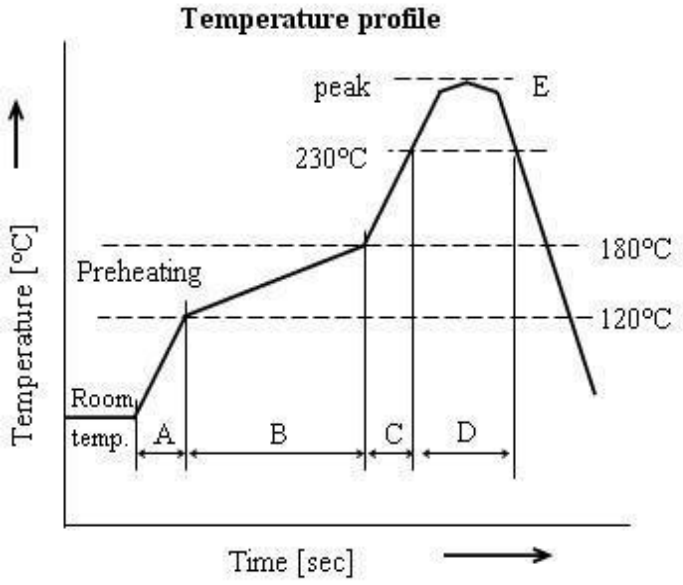
A	B	C	D
178	60	12	1.5

4. Packaging Quantity

Type	Pcs/Reel
0402	10,000
0603	4,000
0805	4,000

■ Soldering

Reflow Soldering



A	Temp. rise gradient	1~5 °C/sec
B	Heating time	50~150 sec
	Heating temperature	120~180 °C
C	Temp. rise gradient	1~5 °C/sec
D	Time over 230°C	70 sec
E	Peak temperature	260 °C
	Peak-temp. hold time	Momentary
Soldering		2 times

■ **Reliability**

<table>
<tr><th>No.</th><th>Item</th><th>Specification</th><th>Test Method</th></tr>
<tr><td>1</td><td>Flexure Strength</td><td rowspan="2">The forces applied on the right conditions must not damage the terminal electrode and the ferrite.</td><td>Test device shall be soldered on the substrate
Substrate Dimension: 100x40x1.6mm
Deflection: 2.0mm
Keeping Time: 30sec
*For 100505, substrate dimension is 100x40x0.8mm</td></tr>
<tr><td>2</td><td>Vibration</td><td>Test device shall be soldered on the substrate
Oscillation Frequency: 10 to 55 to 10Hz for 1min
Amplitude: 1.5mm
Time: 2hrs for each axis (X, Y & Z), total 6hrs</td></tr>
<tr><td>3</td><td>Resistance to Soldering Heat Appearance: No damage</td><td>More than 75% of the termina Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free) electrode should be covered with solder.
Inductance: within ±15% of initial value</td><td>Pre-heating: 150℃, 1min
Solder Temperature: 260±5℃
Immersion Time: 10±1sec</td></tr>
<tr><td>4</td><td>Solder ability</td><td>The electrodes shall be at least 95% covered with new solder coating</td><td>Pre-heating: 150℃, 1min
Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free)
Solder Temperature: 245±5℃(Pb-Free)
Immersion Time: 4±1sec</td></tr>
<tr><td>5</td><td>Temperature Cycle</td><td rowspan="4">Appearance: No damage
Inductance:within±10% of initial value
Q change:within±30% of initial value</td><td>One cycle:
<table>
<tr><th>Step</th><th>Temperature (℃)</th><th>Time (min)</th></tr>
<tr><td>1</td><td>-25±3</td><td>30</td></tr>
<tr><td>2</td><td>25±2</td><td>3</td></tr>
<tr><td>3</td><td>85±3</td><td>30</td></tr>
<tr><td>4</td><td>25±2</td><td>3</td></tr>
</table>
Total: 100cycles
Measured after exposure in the room condition for 24hrs</td></tr>
<tr><td>6</td><td>Humidity Resistance</td><td>Temperature: 40±2℃
Relative Humidity: 90 ~ 95% / Time: 1000hrs
Measured after exposure in the room condition for 24hrs</td></tr>
<tr><td>7</td><td>High Temperature Resistance</td><td>Temperature: 85±3℃
Relative Humidity: 20%
Applied Current: Rated Current / Time: 1000hrs
Measured after exposure in the room condition for 24hrs</td></tr>
<tr><td>8</td><td>Low Temperature Resistance</td><td>Temperature: -25±3℃
Relative Humidity: 0% / Time: 1000hrs
Measured after exposure in the room condition for 24hrs</td></tr>
</table>