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

Multilayer Ferrite Chip Inductors - CKFI

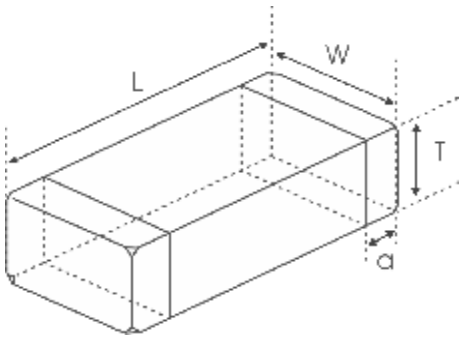
■ Features

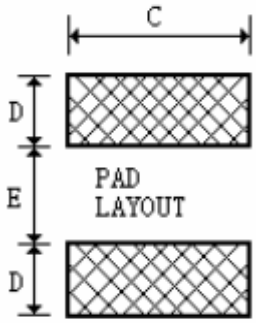
1. Monolithic structure for high reliability compact size inductor possible.
2. No cross coupling due to magnetic shield.
3. Perfect shape for mounting with no directionality.
4. Excellent solderability and high heat resistance for either wave flow or reflow soldering.

■ Applications

Prevention of electromagnetic interference to signals on the secondary side of electronic equiepmet.

■Dimensions and Construction

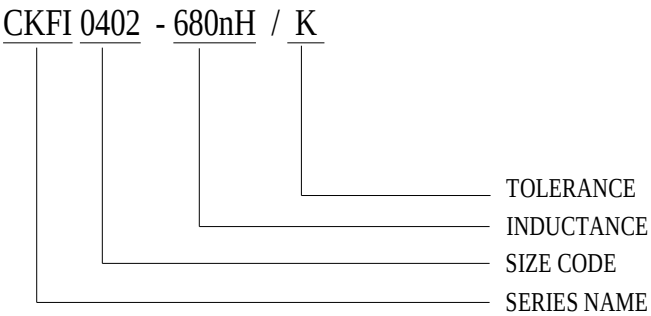




Dimensions in mm

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
0805	2.0±0.20	1.2±0.20	1.2±0.20	0.5±0.3	1.2	0.8	1.0
1206	3.2±0.20	1.6±0.20	1.0±0.30	0.5±0.3	1.6	0.8	2.0

■ Part Numbering System



■ Electrical Characteristics

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

(2) Rated Current: DC current at which the inductance drops approximate 10% from its value without current.

■ Electrical Parameters

■CKFI0402 Series

Part No.	Inductance (nH)	Test Frequency (MHz)	Q Min	DCR (Ω)Max	SRF (MHz) Min	Rated Current (mA)Max	Remark
CKFI0402-47nH/K	47±10%	50	10	0.45	220	25	
CKFI0402-56nH/K	56±10%	50	10	0.45	210	25	
CKFI0402-68nH/K	68±10%	50	10	0.45	210	25	
CKFI0402-82nH/K	82±10%	50	10	0.45	200	25	
CKFI0402-0.10uH/K	100±10%	25	15	0.70	200	25	
CKFI0402-0.12uH/K	120±10%	25	15	0.70	165	25	
CKFI0402-0.15uH/K	150±10%	25	15	0.80	140	25	
CKFI0402-0.18uH/K	180±10%	25	15	0.80	120	25	
CKFI0402-0.22uH/K	220±10%	25	15	1.00	110	25	
CKFI0402-0.27uH/K	270±10%	25	15	1.20	95	25	
CKFI0402-0.33uH/K	330±10%	25	15	1.20	85	25	
CKFI0402-0.39uH/K	390±10%	25	15	1.30	70	20	
CKFI0402-0.47uH/K	470±10%	25	15	1.50	68	20	
CKFI0402-0.56uH/K	560±10%	25	15	2.00	55	20	
CKFI0402-0.68uH/K	680±10%	25	15	2.30	50	20	
CKFI0402-0.82uH/K	820±10%	25	15	3.00	45	18	
CKFI0402-1.0uH/K	1000±10%	10	20	0.90	40	25	

■CKFI0603 Series

Part No.	Inductance (uH)	Test Frequency (MHz)	Q Min	DCR (Ω)Max	SRF (MHz) Min	Rated Current (mA)Max	Remark
CKFI0603-10nH/M	0.010±20%	50	15	0.20	300	50	
CKFI0603-33nH/M	0.033±20%	50	15	0.20	270	50	
CKFI0603-47nH/M	0.047±20%	50	15	0.30	260	50	
CKFI0603-56nH/M	0.056±20%	50	15	0.30	255	50	
CKFI0603-68nH/M	0.068±20%	50	15	0.30	250	50	
CKFI0603-82nH/M	0.082±20%	50	15	0.30	245	50	
CKFI0603-100nH/K	0.10±10%	25	25	0.50	240	50	
CKFI0603-120nH/K	0.12±10%	25	25	0.50	205	50	
CKFI0603-150nH/K	0.15±10%	25	25	0.60	180	50	
CKFI0603-180nH/K	0.18±10%	25	25	0.60	165	50	
CKFI0603-220nH/K	0.22±10%	25	25	0.80	150	50	
CKFI0603-270nH/K	0.27±10%	25	25	0.80	136	50	
CKFI0603-330nH/K	0.33±10%	25	25	0.85	125	35	
CKFI0603-390nH/K	0.39±10%	25	25	1.00	110	35	
CKFI0603-470nH/K	0.47±10%	25	25	1.35	105	35	
CKFI0603-560nH/K	0.56±10%	25	25	1.50	95	35	
CKFI0603-680nH/K	0.68±10%	25	25	1.70	85	35	
CKFI0603-820nH/K	0.82±10%	25	25	2.10	75	35	
CKFI0603-1.0uH/K	1.0±10%	10	35	0.60	65	25	
CKFI0603-1.2uH/K	1.2±10%	10	35	0.80	60	25	
CKFI0603-1.5uH/K	1.5±10%	10	35	0.80	55	25	
CKFI0603-1.8uH/K	1.8±10%	10	35	0.95	50	25	
CKFI0603-2.2uH/K	2.2±10%	10	35	1.00	45	15	
CKFI0603-2.7uH/K	2.7±10%	10	35	1.15	40	15	
CKFI0603-3.3uH/K	3.3±10%	10	35	1.30	38	15	
CKFI0603-3.9uH/K	3.9±10%	10	35	1.50	36	15	
CKFI0603-4.7uH/K	4.7±10%	10	35	1.60	33	15	
CKFI0603-5.6uH/K	5.6±10%	4	35	1.10	22	5	
CKFI0603-6.8uH/K	6.8±10%	4	35	1.30	20	5	
CKFI0603-8.2uH/K	8.2±10%	4	30	1.50	18	5	
CKFI0603-10uH/K	10±10%	2	30	1.70	17	5	
CKFI0603-12uH/K	12±10%	2	30	1.80	15	3	
CKFI0603-15uH/K	15±10%	1	20	1.50	14	1	
CKFI0603-18uH/K	18±10%	1	20	1.60	13	1	
CKFI0603-22uH/K	22±10%	1	20	1.70	11	1	

■CKFI0805 Series

Part No.	Inductance (uH)	Test Frequency (MHz)	Q Min	DCR (Ω)Max	SRF (MHz) Min	Rated Current (mA)Max	Remark
CKFI0805-22nH/M	0.022±20%	50	20	0.20	320	300	T:0.9
CKFI0805-33nH/M	0.033±20%	50	20	0.20	320	300	T:0.9
CKFI0805-47nH/M	0.047±20%	50	20	0.20	320	300	T:0.9
CKFI0805-56nH/M	0.056±20%	50	20	0.20	320	300	T:0.9
CKFI0805-68nH/M	0.068±20%	50	20	0.20	280	300	T:0.9
CKFI0805-82nH/M	0.082±20%	50	20	0.20	255	300	T:0.9
CKFI0805-100nH/K	0.10±10%	25	25	0.30	235	250	T:0.9
CKFI0805-120nH/K	0.12±10%	25	25	0.30	220	250	T:0.9
CKFI0805-150nH/K	0.15±10%	25	25	0.40	200	250	T:0.9
CKFI0805-180nH/K	0.18±10%	25	25	0.40	185	250	T:0.9
CKFI0805-220nH/K	0.22±10%	25	25	0.50	170	250	T:0.9
CKFI0805-270nH/K	0.27±10%	25	25	0.50	150	250	T:0.9
CKFI0805-330nH/K	0.33±10%	25	25	0.55	145	250	T:0.9
CKFI0805-390nH/K	0.39±10%	25	25	0.65	135	250	T:0.9
CKFI0805-470nH/K	0.47±10%	25	25	0.65	125	250	T:0.9
CKFI0805-560nH/K	0.56±10%	25	25	0.75	115	150	T:0.9
CKFI0805-680nH/K	0.68±10%	25	25	0.80	105	150	T:0.9
CKFI0805-820nH/K	0.82±10%	25	25	1.00	100	150	T:0.9
CKFI0805-1.0uH/K	1.0±10%	10	45	0.40	75	50	T:0.9
CKFI0805-1.2uH/K	1.2±10%	10	45	0.50	65	50	T:0.9
CKFI0805-1.5uH/K	1.5±10%	10	45	0.50	60	50	T:0.9
CKFI0805-1.8uH/K	1.8±10%	10	45	0.60	55	50	T:0.9
CKFI0805-2.2uH/K	2.2±10%	10	45	0.65	50	50	T:0.9
CKFI0805-2.7uH/K	2.7±10%	10	45	0.75	45	30	T:1.2
CKFI0805-3.3uH/K	3.3±10%	10	45	0.80	41	30	T:1.2
CKFI0805-3.9uH/K	3.9±10%	10	45	0.90	38	30	T:1.2
CKFI0805-4.7uH/K	4.7±10%	10	45	1.00	35	30	T:1.2
CKFI0805-5.6uH/K	5.6±10%	4	45	0.90	32	15	T:1.2
CKFI0805-6.8uH/K	6.8±10%	4	45	1.00	29	15	T:1.2
CKFI0805-8.2uH/K	8.2±10%	4	45	1.10	26	15	T:1.2
CKFI0805-10uH/K	10±10%	2	45	1.10	24	15	T:1.2
CKFI0805-12uH/K	12±10%	2	45	1.20	22	15	T:1.2
CKFI0805-15uH/K	15±10%	1	30	0.80	19	5	T:1.2
CKFI0805-18uH/K	18±10%	1	30	0.90	18	5	T:1.2
CKFI0805-22uH/K	22±10%	1	30	1.10	16	5	T:1.2
CKFI0805-27uH/K	27±10%	1	30	1.25	13	5	T:1.2

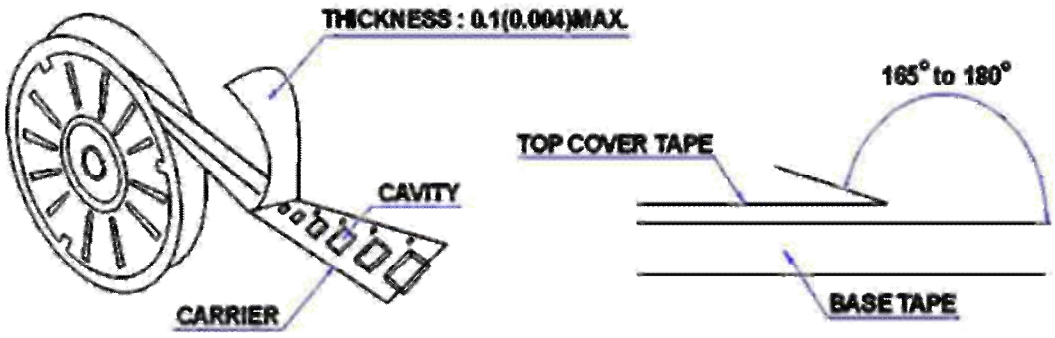
■CKFI1206 Series

Part No.	Inductance (uH)	Test Frequency (MHz)	Q Min	DCR (Ω)Max	SRF (MHz) Min	Rated Current (mA)Max	Remark
CKFI1206-47nH/M	0.047±20%	50	20	0.15	320	300	
CKFI1206-56nH/M	0.056±20%	50	20	0.25	280	300	
CKFI1206-68nH/M	0.068±20%	50	20	0.25	280	300	
CKFI1206-82nH/M	0.082±20%	50	20	0.25	250	300	
CKFI1206-100nH/K	0.10±10%	25	25	0.25	235	250	
CKFI1206-120nH/K	0.12±10%	25	25	0.30	220	250	
CKFI1206-150nH/K	0.15±10%	25	25	0.30	200	250	
CKFI1206-180nH/K	0.18±10%	25	25	0.40	185	250	
CKFI1206-220nH/K	0.22±10%	25	25	0.40	170	250	
CKFI1206-270nH/K	0.27±10%	25	25	0.50	150	250	
CKFI1206-330nH/K	0.33±10%	25	25	0.60	145	250	
CKFI1206-390nH/K	0.39±10%	25	25	0.50	135	200	
CKFI1206-470nH/K	0.47±10%	25	25	0.60	125	200	
CKFI1206-560nH/K	0.56±10%	25	25	0.70	115	150	
CKFI1206-680nH/K	0.68±10%	25	25	0.80	105	150	
CKFI1206-820nH/K	0.82±10%	25	25	0.90	100	150	
CKFI1206-1.0uH/K	1.0±10%	10	45	0.40	75	100	
CKFI1206-1.2uH/K	1.2±10%	10	45	0.50	65	100	
CKFI1206-1.5uH/K	1.5±10%	10	45	0.50	60	80	
CKFI1206-1.8uH/K	1.8±10%	10	45	0.50	55	70	
CKFI1206-2.2uH/K	2.2±10%	10	45	0.60	50	60	
CKFI1206-2.7uH/K	2.7±10%	10	45	0.60	45	60	
CKFI1206-3.3uH/K	3.3±10%	10	45	0.70	41	60	
CKFI1206-3.9uH/K	3.9±10%	10	45	0.80	38	50	
CKFI1206-4.7uH/K	4.7±10%	10	45	0.90	35	50	
CKFI1206-5.6uH/K	5.6±10%	4	45	0.70	32	25	
CKFI1206-6.8uH/K	6.8±10%	4	45	0.80	29	25	
CKFI1206-8.2uH/K	8.2±10%	4	45	0.90	26	25	
CKFI1206-10uH/K	10±10%	2	45	1.00	24	25	
CKFI1206-12uH/K	12±10%	2	45	1.00	22	15	
CKFI1206-15uH/K	15±10%	1	35	0.70	19	5	
CKFI1206-18uH/K	18±10%	1	35	0.75	18	5	
CKFI1206-22uH/K	22±10%	1	35	0.90	16	5	
CKFI1206-27uH/K	27±10%	1	35	0.90	14	5	

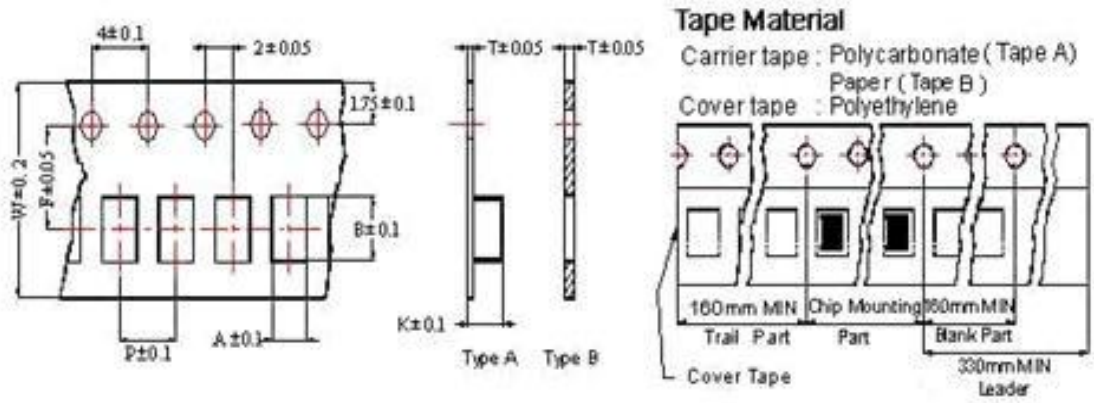
■ Packaging

1. Packaging -Cover Tape

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

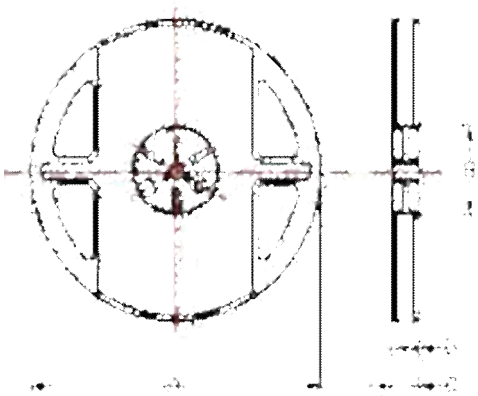


2. Tape Dimensions(Unit:mm)



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(T:0.9mm)	1.50	2.30	0.97	8	4	3.5	/	B
0805(T:1.2mm)	1.35	2.25	0.22	8	4	3.5	1.35	A
1206	1.88	3.50	0.22	8	4	3.5	1.27	A

3. Reel Dimensions (Unit:mm)



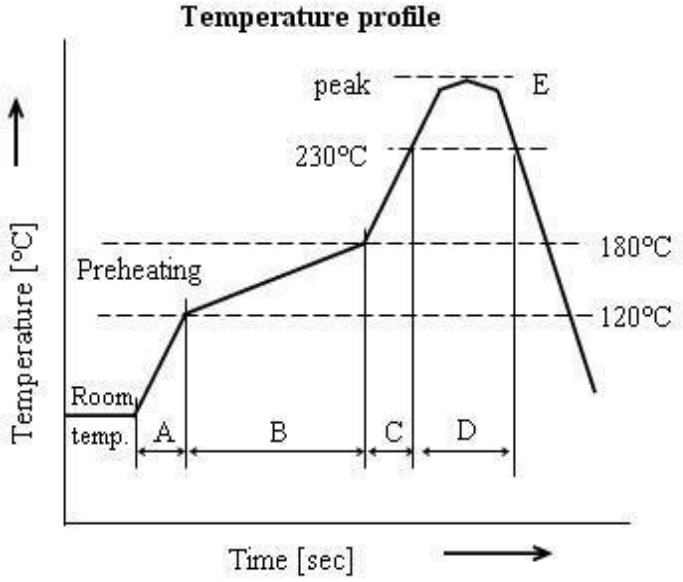
A	B	C	D
178	60	12	1.5

4. Packaging Quantity

Type	Pcs/Reel
0402	10,000
0603	4,000
0805(T:0.9mm)	4,000
0805(T:1.2mm)	3,000
1206	3,000

■ 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
Q: within ±30% of initial value
Inductance: within ±20% 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>