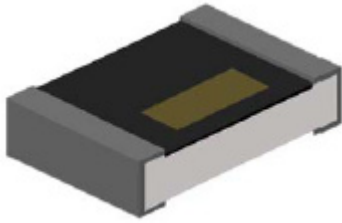


# Thin Film Chip Inductor



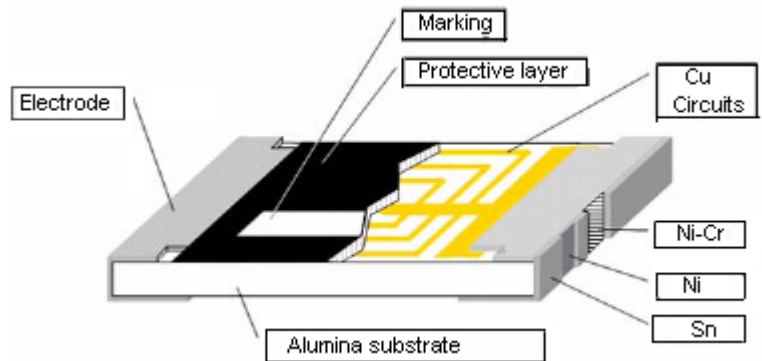
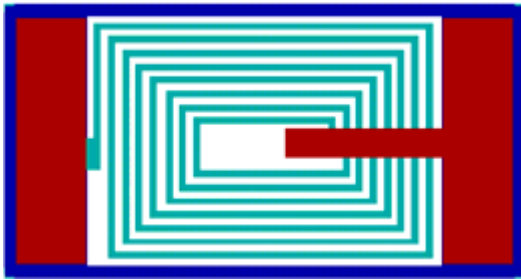
## Features:

- Photolithographic single layer ceramic chip.
- High SRF, excellent Q, superior temperature stability.
- Tight tolerance of  $\pm 1\%$  or  $\pm 0.1\text{nH}$ .
- Self resonant frequency controlled within 10%.
- Stable inductance in high frequency circuit.
- Highly stable design for critical needs.

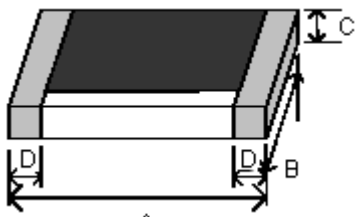
## Applications:

Cellular telephone, pagers and GPS products.  
 VCO, TCXO circuit and RF transceiver module.  
 Wireless LAN, Bluetooth module and communication appliances.

## Construction:



## Dimensions:



A  
 Dimensions : Millimetres

Size	A	B	C	D
0402	1.0 $\pm 0.05$	0.5 $\pm 0.05$	0.32 $\pm 0.05$	0.2 $\pm 0.10$
0603	1.6 $\pm 0.10$	0.8 $\pm 0.10$	0.45 $\pm 0.10$	0.3 $\pm 0.20$

Dimensions : Millimetres

# Thin Film Chip Inductor



## Standard Electrical Specifications

### 0402 Chip Inductors

Inductance (nH)	Inductance Tolerance (% or nH)	Quality Factor/Minimum MHz	Resistance DC/Maximum (Ohm)	Current DC/Maximum (mA)	Self Resonant Frequency/Minimum (GHz)
1.0	0.1/0.2/0.3nH	13/500	0.15	700	12.0
1.5			0.25		10.0
2.2			0.35	440	8.0
3.3			0.45	380	6.0
4.7			0.65	320	
6.8			1.05	260	
8.2			1/2/3/5%	1.25	220
10.0	1.35			200	4.5
15.0	1.75			130	3.3
22.0	2.65			90	2.8
33.0	5%			4.50	75

Test Equipment: HP4286A+Agilent 16196B

### 0603 Chip Inductors

Inductance (nH)	Inductance Tolerance (% or nH)	Quality Factor/Minimum MHz	Resistance DC/Maximum (Ohm)	Current DC/Maximum (mA)	Self Resonant Frequency/Minimum (GHz)	
1.0	0.1/0.2/0.3nH	15/300	0.35	800	13.0	
1.5					10.0	
2.2				8.0		
3.3			300	0.45	6.0	
4.7				0.55	5.0	
6.8				0.75	4.0	
10	1/2/3/5%		0.95	250	3.0	
15			1.35		2.0	
22			200	1.95	1.5	
33				2.75	150	
47				3.00		
68			2/3/5%	5.00	100	1.0
100				7.50	100	

Test Equipment: HP4286A+Agilent 16196A

# Thin Film Chip Inductor



## Environmental Characteristics

Item	Specification	Test Method
Bending test	As SPEC.	JIS-C-5202-6.1.4 Bending amplitude 3mm for 10 seconds
Dielectric withstand voltage	>100V	MIL-STD-202F Method 301. Apply 100VA (rms) for 1 minute.
Insulation resistance	>1000M $\Omega$	MIL-STD-202F Method 302 Apply 100V dc for 1 minute.
Resistance to soldering heat	$\Delta L \leq 10\%$	MIL-STD-202F Method 210E 260 $\pm 5^{\circ}\text{C}$ , 10 $\pm 1$ seconds
High temperature exposure		JIS-C-5202-7.2 85 $\pm 2^{\circ}\text{C}$ , 1000 +48/-0 hours
Moisture resistance		MIL-STD-202F Method 103B 40 $\pm 2^{\circ}\text{C}$ , 90 to 95%RH, 1000 +48/-0 hours
Low temperature storage		JIS-C-5202-7.1 -40 $\pm 3^{\circ}\text{C}$ , 1000 +48/-0 hours
Temperature cycle		JIS-C-5202-7.4 -40/RT/85/RT, 10 cycles
Solderability	95% minimum coverage	MIL-STD-202F Method 208H 245 $^{\circ}\text{C} \pm 5^{\circ}\text{C}$ , 3 $\pm 0.5$ (seconds)

Storage temperature : 25  $\pm 3\%$ ; Humidity <80%RH

## Part Number Table

Description	Part Number
Inductor, 0402, 1nH	MCFT000000
Inductor, 0402, 1.5nH	MCFT000001
Inductor, 0402, 2.2nH	MCFT000002
Inductor, 0402, 3.3nH	MCFT000003
Inductor, 0402, 4.7nH	MCFT000004
Inductor, 0402, 6.8nH	MCFT000005
Inductor, 0402, 8.2nH	MCFT000006
Inductor, 0402, 10nH	MCFT000007
Inductor, 0402, 15nH	MCFT000008
Inductor, 0402, 22nH	MCFT000009
Inductor, 0402, 33nH	MCFT000010
Inductor, 0603, 1nH	MCFT000011
Inductor, 0603, 1.5nH	MCFT000012
Inductor, 0603, 2.2nH	MCFT000013
Inductor, 0603, 3.3nH	MCFT000014

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# Thin Film Chip Inductor



## Part Number Table

Description	Part Number
Inductor, 0603, 4.7nH	MCFT000015
Inductor, 0603, 6.8nH	MCFT000016
Inductor, 0603, 10nH	MCFT000017
Inductor, 0603, 15nH	MCFT000018
Inductor, 0603, 22nH	MCFT000019
Inductor, 0603, 33nH	MCFT000020
Inductor, 0603, 47nH	MCFT000021
Inductor, 0603, 68nH	MCFT000022
Inductor, 0603, 100nH	MCFT000023

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