

THIN FILM

Ceramic Chip Inductor 8431 Series

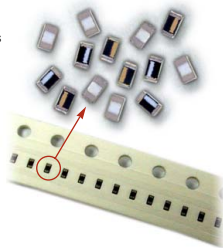


FEATURES

- Tight Tolerance of 2% or 0.2 nH
- Self Resonant Frequency controlled within 10%
- Stable Inductance in High Frequency Circuit
- Compatible with either reflow or flow soldering

APPLICATIONS

- Cellular Telephone, Pagers and GPS products
- Wireless LAN and other Communication appliances
- VCO, TCXO circuit and RF Transceiver Module



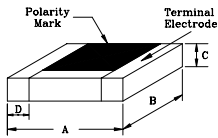
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Available in 2 sizes: 0603 for 1.0 nH to 68 nH
0402 for 1.0 nH to 22 nH

MECHANICAL AND SCHEMATIC (All dimensions in millimeters)

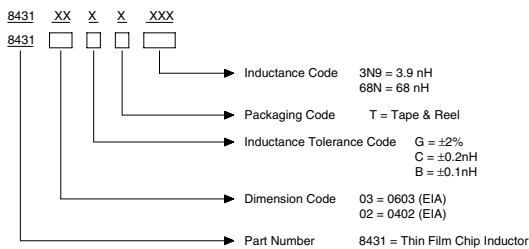


SCHEMATIC



SIZE	Range (nH)	A	B	C	D
0603	1.0 - 68	1.6±0.1	0.8±0.1	0.45±0.1	0.3±0.2
0402	1.0 - 22	1.0±0.05	0.5±0.05	0.35±0.05	0.2±0.1

PART NUMBERING



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THIN FILM

Ceramic Chip Inductor

8431 Series



ELECTRICAL SPECIFICATIONS @ 25° C

0603 Thin Film Chip Inductors

Inductance Nominal (nH)	Inductance Tolerance (% or nH)	Quality Factor (Min)	Resistance DC/Max (Ω)	Current DC/Max (mA)	Self Resonant Frequency/Min (GHz)
1.0	0.1/0.2nH	17 / 300MHz	0.2	800	6
1.2	0.1/0.2nH	17 / 300MHz	0.2	800	6
1.5	0.1/0.2nH	17 / 300MHz	0.2	800	6
1.8	0.1/0.2nH	17 / 300MHz	0.2	300	6
2.2	0.1/0.2nH	17 / 300MHz	0.2	300	6
2.7	0.1/0.2nH	17 / 300MHz	0.2	300	6
3.3	0.1/0.2nH	17 / 300MHz	0.2	300	6
3.9	0.1/0.2nH	17 / 300MHz	0.2	300	6
4.7	0.1/0.2nH	17 / 300MHz	0.2	300	5
5.6	0.1/0.2nH	17 / 300MHz	0.5	300	5
6.8	0.1/0.2nH	17 / 300MHz	0.5	300	5
8.2	0.1/0.2nH	17 / 300MHz	0.5	300	4
10	2%	15 / 300MHz	1.0	300	4
12	2%	15 / 300MHz	1.0	300	3
15	2%	15 / 300MHz	1.0	300	3
18	2%	15 / 300MHz	2.0	300	2
22	2%	15 / 300MHz	2.0	250	2
27	2%	15 / 300MHz	2.0	250	2
33	2%	15 / 300MHz	2.0	250	1.5
39	2%	15 / 300MHz	3.0	200	1.5
47	2%	15 / 300MHz	3.0	200	1.5
56	2%	15 / 300MHz	5.0	150	1
68	2%	15 / 300MHz	5.0	150	1

ELECTRICAL SPECIFICATIONS @ 25° C

0402 Thin Film Chip Inductors

Inductance Nominal (nH)	Inductance Tolerance (% or nH)	Quality Factor (Min)	Resistance DC/Max (Ω)	Current DC/Max (mA)	Self Resonant Frequency/Min (GHz)
1.0	0.1/0.2nH	13 / 500MHz	0.1	400	6
1.2	0.1/0.2nH	13 / 500MHz	0.1	390	6
1.5	0.1/0.2nH	13 / 500MHz	0.2	280	6
1.8	0.1/0.2nH	13 / 500MHz	0.2	280	6
2.2	0.1/0.2nH	13 / 500MHz	0.3	220	6
2.7	0.1/0.2nH	13 / 500MHz	0.3	220	6
3.3	0.1/0.2nH	13 / 500MHz	0.4	190	6
3.9	0.1/0.2nH	13 / 500MHz	0.5	170	6
4.7	0.1/0.2nH	13 / 500MHz	0.6	160	6
5.6	0.1/0.2nH	13 / 500MHz	0.7	140	6
6.8	0.1/0.2nH	13 / 500MHz	0.9	130	6
8.2	0.1/0.2nH	13 / 500MHz	1.1	110	5.5
10	2%	13 / 500MHz	1.3	100	4.5
12	2%	13 / 500MHz	1.6	90	3.7
15	2%	13 / 500MHz	1.8	90	3.3
18	2%	13 / 500MHz	2.0	80	3.1
22	2%	13 / 500MHz	2.6	70	2.8

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ENVIRONMENTAL CHARACTERISTICS

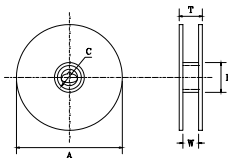
Item	Specification	Test Method
1 Bending Test	$\Delta L \leq 10\%$	Speed of applying force: 1mm/sec, Deflection: 2mm, Hold duration: 30sec
2 Vibration	$\Delta L \leq 10\%$	Oscillation frequency: 10-55-10Hz for 1 min. Total amplitude: 1.5mm, Testing time: 2 hours for 3 directions
3 Resistance to Soldering Heat	$\Delta L \leq 10\%$	270±5 °C, 10±1 second
4 High Temperature Exposure	$\Delta L \leq 10\%$	+85±2 °C, 1000 +48/-0 hours
5 Moisture Resistance	$\Delta L \leq 10\%$	40±2 °C, 90-95%RH, 1000 +48/-0 hours
6 Low Temperature Storage	$\Delta L \leq 10\%$	+40±3 °C, 1000 +48/-0 hours
7 Temperature Cycle	$\Delta L \leq 10\%$	-40/RT/85/RT, 10 cycles

PACKAGING

Packaging Quantity

Unit: pcs

Series	Packaging	pcs/wheel
8431-03		5,000
8431-02		10,000

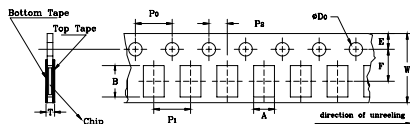


Reel Specifications

Unit: mm

Series	∅ A	∅ B	∅ C	W	T
8431-03	180	60min	13.0±1.0	9.0±1.0	11.4±2.0
8431-02	180	60min	13.0±1.0	9.0±1.0	11.4±2.0

Paper Tape Specifications



Unit: mm

Series	A	B	W	F	E	P ₁	P ₂	P ₃	∅D ₀	T
8431-03	1.1±0.1	1.9±0.1	8.0	3.50	1.75	4.00	2.00	4.00	1.50	0.64±0.1
8431-02	0.65±0.15	1.15±0.2	±0.2	±0.05	±0.01	±0.01	±0.05	±0.10	+0.01	0.7±0.1