



# Chip Inductors - 0403HQ (1008)

- Very high Q factors and excellent current handling
- Intermediate L values not found in other series

Part number <sup>1</sup>	Inductance <sup>2</sup> (nH)	Percent tolerance	Q min <sup>3</sup>	900 MHz		1.7 GHz		SRF typ <sup>4</sup> (GHz)	DCR max <sup>5</sup> (Ohms)	Irms <sup>6</sup> (A)
				L typ	Q typ	L typ	Q typ			
0403HQ-1N9XJL_	1.9	<b>5</b>	40	1.9	62	1.9	94	11.84	0.012	2.2
0403HQ-2N1XJL_	2.1	<b>5</b>	35	2.1	56	2.1	88	12.40	0.019	1.8
0403HQ-3N4XJL_	3.4	<b>5</b>	40	3.4	66	3.5	96	8.97	0.016	1.9
0403HQ-3N7XJL_	3.7	<b>5</b>	40	3.7	64	3.8	95	8.65	0.018	1.8
0403HQ-5N5XJL_	5.5	<b>5</b>	40	5.5	62	5.7	93	8.60	0.022	1.5
0403HQ-6N6XJL_	6.6	<b>5</b>	40	6.6	60	6.9	92	7.30	0.046	1.1
0403HQ-8N2XJL_	8.2	<b>5</b>	40	8.2	63	8.5	92	6.73	0.040	1.2
0403HQ-9N0XJL_	9.0	<b>5</b>	40	9.1	66	9.5	90	6.85	0.055	1.0
0403HQ-12NXJL_	12	<b>5</b>	40	12.1	60	12.7	90	5.82	0.065	0.80
0403HQ-15NXJL_	15	<b>5</b>	35	15.2	60	16.0	90	5.82	0.188	0.50
0403HQ-18NXJL_	18	<b>5</b>	35	18.2	62	19.6	93	5.15	0.185	0.50

1. When ordering, please specify **termination** and **packaging** codes:

0403HQ-18NXJLW

**Termination:** L = RoHS compliant silver-palladium-platinum-glass frit.  
Special order: T = RoHS tin-silver-copper (95.5/4/0.5)  
or S = non-RoHS tin-lead (63/37).

**Packaging:** W = 7" machine-ready reel. EIA-481 punched paper  
tape (2000 parts per full reel).

U = Less than full reel. In tape, but not machine ready.  
To have a leader and trailer added (\$25 charge),  
use code letter W instead.

- Inductance measured at 500 MHz using a Coilcraft SMD-F fixture in an Agilent/HP 4286 impedance analyzer with Coilcraft-provided correlation pieces.
- Q measured at 500 MHz using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
- SRF measured using an Agilent/HP 8722ES network analyzer and a test fixture with a 0.017<sup>2</sup> air gap.
- DCR measured on a micro-ohmmeter and a Coilcraft CCF858 test fixture.
- Current that causes a 30°C temperature rise from 25°C ambient. See Qualification Standards section for environmental and test data. Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**Designer's Kit C371** contains 20 of each value

**Core material** Ceramic

**Terminations** RoHS compliant silver-palladium-platinum-glass frit.  
Other terminations available at additional cost.

**Weight** 1.29 – 1.60 mg

**Ambient temperature** –40°C to +125°C with Irms current, +125°C to +155°C with derated current

**Storage temperature** Component: –40°C to +155°C.  
Tape and reel packaging: –40°C to +80°C

**Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

**Temperature Coefficient of Inductance (TCL)** +25 to +125 ppm/°C

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**

One per billion hours / one billion hours, calculated per Telcordia SR-332

**Packaging** 2000 per 7" reel; 7500 per 13" reel;

Paper tape: 8 mm wide, 1.0 mm thick, 4 mm pocket spacing,

**PCB washing** Only pure water or alcohol recommended



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Document 300-1 Revised 01/11/12

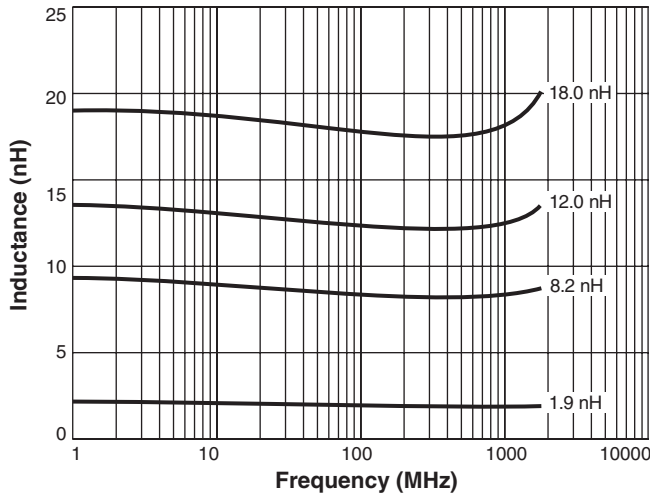
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# 0403HQ Series (1008)

## Typical L vs Frequency



## S-Parameter files

ON OUR WEB SITE

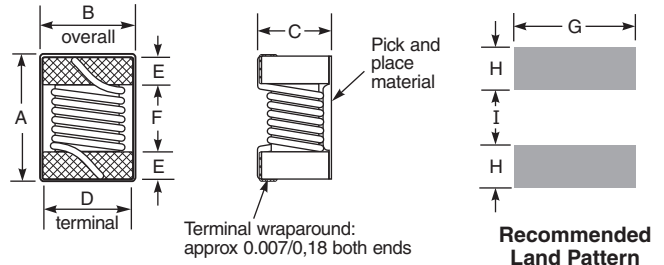
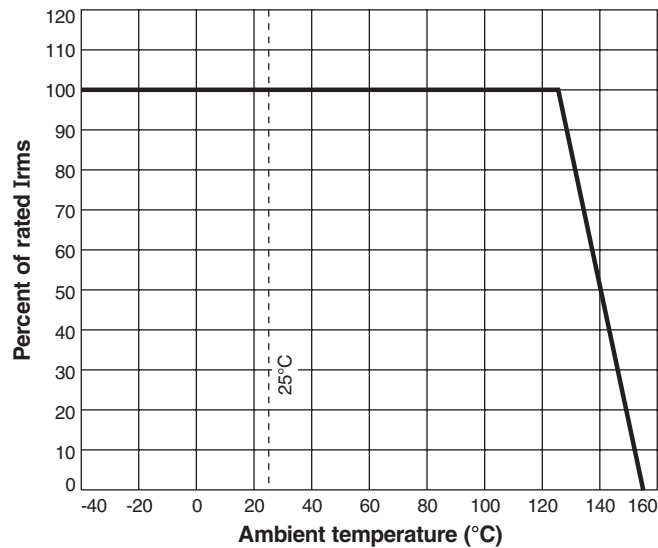
## SPICE models

ON OUR WEB SITE

## Typical Q vs Frequency



## Irms Derating



A	B	C	D	E	F	G	H	I
max	max	max						
0.047	0.034	0.028	0.030	0.009	0.022	0.040	0.014	0.018
1,19	0,86	0,71	0,76	0,23	0,56	1,02	0,36	0,46

**Note:** Height dimension (C) is before optional solder application. For maximum height dimension including solder, add 0.006 in / 0,152 mm.



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Document 300-2 Revised 01/11/12

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