Chip Inductors - 0403HQ (1008)

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

Part number[1]	Inductance[2] (nH)	Percent tolerance	Q min[3]	900 MHz L typ	900 MHz Q typ	1.7 GHz L typ	1.7 GHz Q typ	SRF typ[4] (GHz)	DCR max[5] (Ohms)	Irms[6] (A)
0403HQ-1N9XJL_	1.9	**5**	40	1.9	62	1.9	94	11.84	0.012	2.2
0403HQ-2N1XJL_	2.1	**5**	35	2.1	56	2.1	88	12.40	0.019	1.8
0403HQ-3N4XJL_	3.4	**5**	40	3.4	66	3.5	96	8.97	0.016	1.9
0403HQ-3N7XJL_	3.7	**5**	40	3.7	64	3.8	95	8.65	0.018	1.8
0403HQ-5N5XJL_	5.5	**5**	40	5.5	62	5.7	93	8.60	0.022	1.5
0403HQ-6N6XJL_	6.6	**5**	40	6.6	60	6.9	92	7.30	0.046	1.1
0403HQ-8N2XJL_	8.2	**5**	40	8.2	63	8.5	92	6.73	0.040	1.2
0403HQ-9N0XJL_	9.0	**5**	40	9.1	66	9.5	90	6.85	0.055	1.0
0403HQ-12NXJL_	12	**5**	40	12.1	60	12.7	90	5.82	0.065	0.80
0403HQ-15NXJL_	15	**5**	35	15.2	60	16.0	90	5.82	0.188	0.50
0403HQ-18NXJL_	18	**5**	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.
2. Inductance measured at 500 MHz using a Coilcraft SMD-F fixture in an Agilent/HP 4286 impedance analyzer with Coilcraft-provided correlation pieces.
3. Q measured at 500 MHz using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
4. SRF measured using an Agilent/HP 8722ES network analyzer and a test fixture with a 0.017² air gap.
5. DCR measured on a micro-ohmmeter and a Coilcraft CCF858 test fixture.
6. 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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S-Parameter files
ON OUR WEB SITE

SPICE models
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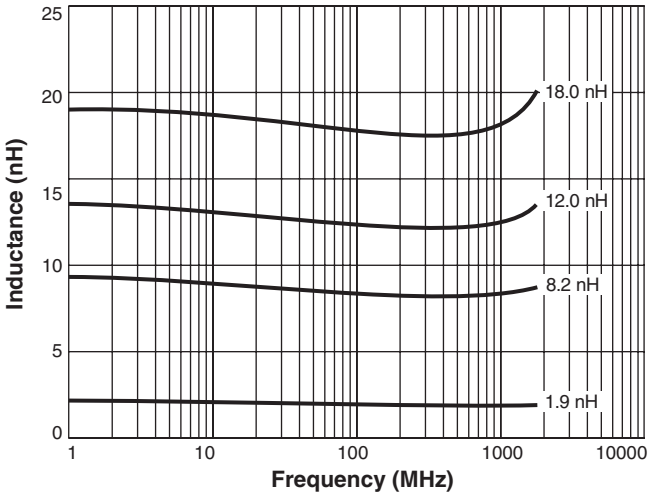
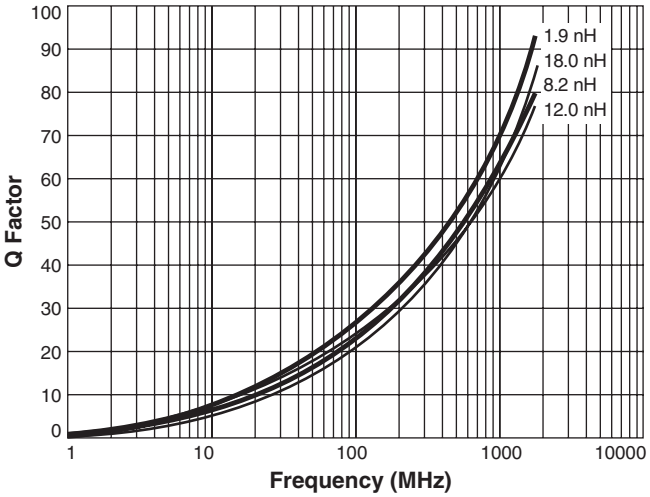
0403HQ Series (1008)

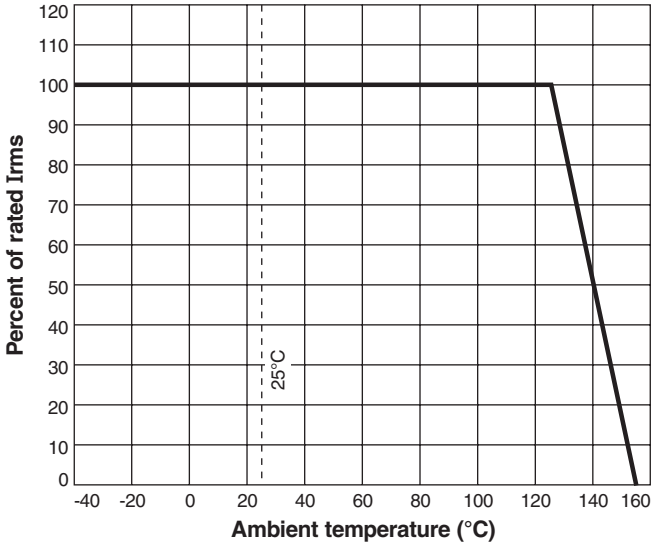
Typical L vs Frequency

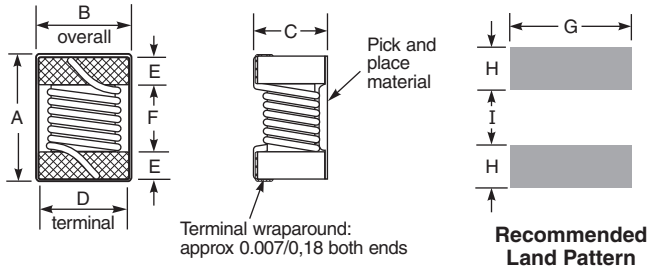


Typical Q vs Frequency



Irms Derating





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

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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