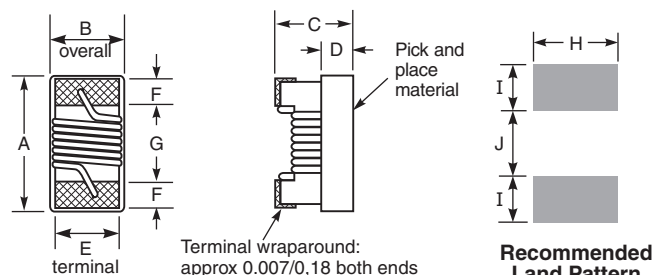




Chip Inductors - 0402HP Series (1005)

- Higher Q and lower DCR than other 0402 inductors
- Very high SRF values – as high as 16 GHz
- Excellent current handling capability – up to 2300 mA
- 52 inductance values from 1.0 to 220 nH



	A max	B (min – max)	C max	
0402HP	0.043	0.020 – 0.028	0.024	inches
	1,09	0,51 – 0,71	0,61	mm

	A max	B	C max	
0402HPH	0.044	0.026 ±0.002	0.026	inches
	1,12	0,66 ±0,051	0,66	mm

D	E	F	G	H	I	J	
0.010	0.020	0.008	0.024	0.026	0.014	0.020	inches
0,25	0,51	0,20	0,61	0,66	0,36	0,51	mm

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

Core material Ceramic

Environmental RoHS compliant, halogen free optional

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

Weight 0.7 – 1.0 mg

Ambient temperature –40°C to +125°C with Irms current, +125°C to +140°C with derated current

Storage temperature Component: –40°C to +140°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)

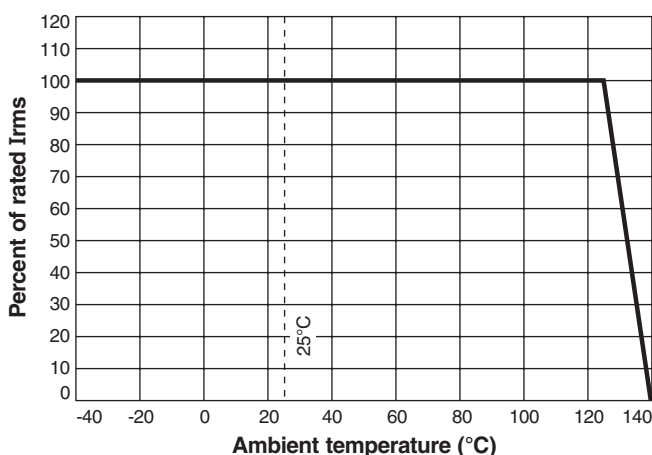
Failures in Time (FIT) / Mean Time Between Failures (MTBF)

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

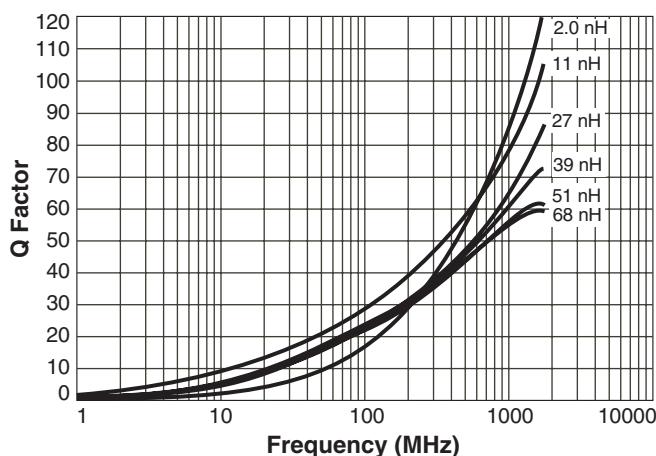
Packaging 2000 or 5000 per 7" reel. Paper tape: 8 mm wide, 0.66 mm thick, 2 mm pocket spacing

PCB washing Only pure water or alcohol recommended

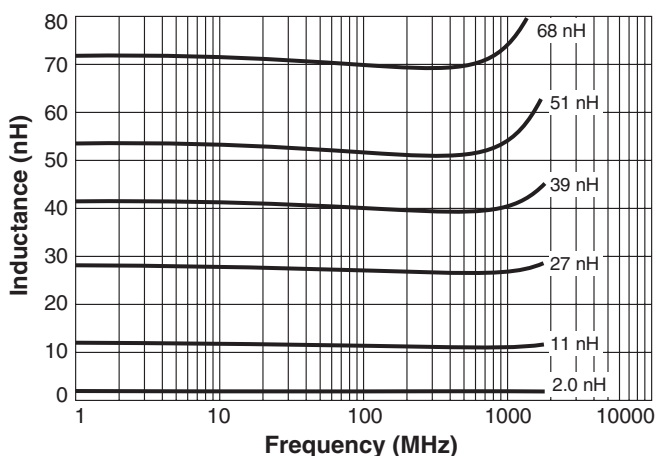
Current Derating



Typical Q vs Frequency



Typical L vs Frequency



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This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check out web site for latest information.



0402HP Series (1005)

Designer's Kits C403A and B contain 20 each of 5% values
Designer's Kits C403A-2 and B-2 contain 20 each of 2% values

Part number ¹	Inductance ² (nH)	Percent tolerance ³	Test freq (MHz)	900 MHz		1.7 GHz		SRF typ ⁵ (GHz)	DCR max ⁶ (Ohms)	Irms ⁷ (mA)
				L typ	Q typ ⁴	L typ	Q typ ⁴			
0402HP-1N0XJL	1.0	5	250	0.97	46	0.99	72	16.0	0.030	2300
0402HP-2N0XJL	2.0	5	250	1.96	58	1.98	85	15.2	0.038	2100
0402HP-2N2XJL	2.2	5	250	2.17	60	2.17	86	15.1	0.038	2100
0402HP-2N4X_L	2.4	5,3,2	250	2.37	60	2.38	83	14.0	0.042	2000
0402HP-2N7X_L	2.7	5,3,2	250	2.66	62	2.68	85	13.0	0.056	1500
0402HP-3N3X_L	3.3	5,3,2	250	3.26	66	3.28	95	12.8	0.045	1700
0402HP-3N6X_L	3.6	5,3,2	250	3.56	65	3.58	94	11.7	0.045	1700
0402HP-3N9X_L	3.9	5,3,2	250	3.87	64	3.91	98	9.50	0.045	1700
0402HP-4N3X_L	4.3	5,3,2	250	4.26	63	4.33	90	7.15	0.040	1600
0402HP-4N7X_L	4.7	5,3,2	250	4.67	58	4.74	83	6.85	0.060	1500
0402HP-5N1X_L	5.1	5,3,2	250	5.07	54	5.16	76	6.80	0.100	1200
0402HP-5N6X_L	5.6	5,3,2	250	5.56	73	5.66	105	6.50	0.048	1600
0402HP-6N2X_L	6.2	5,3,2	250	6.18	73	6.25	100	5.80	0.050	1600
0402HP-6N8X_L	6.8	5,3,2	250	6.78	68	6.97	94	5.80	0.055	1500
0402HP-7N5X_L	7.5	5,3,2	250	7.49	60	7.77	82	5.40	0.080	1400
0402HP-8N2X_L	8.2	5,3,2	250	8.10	68	8.40	95	5.40	0.054	1500
0402HP-8N7X_L	8.7	5,3,2	250	8.73	66	9.04	95	5.00	0.058	1500
0402HP-9N0X_L	9.0	5,3,2	250	8.99	67	9.21	92	5.00	0.070	1400
0402HP-9N5X_L	9.5	5,3,2	250	9.52	64	9.97	90	4.70	0.075	1400
0402HP-10NX_L	10	5,3,2	250	9.98	62	10.4	90	4.70	0.085	1300
0402HP-11NX_L	11	5,3,2	250	11.0	68	11.6	98	4.70	0.065	1400
0402HP-12NX_L	12	5,3,2	250	12.0	66	12.6	100	4.40	0.070	1200
0402HP-13NX_L	13	5,3,2	250	13.1	62	13.9	82	4.20	0.140	870
0402HP-15NX_L	15	5,3,2	250	15.1	62	16.0	85	3.90	0.078	1100
0402HP-16NX_L	16	5,3,2	250	16.2	57	17.3	77	3.70	0.130	850
0402HP-18NX_L	18	5,3,2	250	18.2	58	19.5	74	3.55	0.120	900
0402HP-19NX_L	19	5,3,2	250	19.2	61	20.7	88	3.50	0.145	850
0402HP-20NX_L	20	5,3,2	250	20.3	58	22.0	76	3.50	0.155	780
0402HP-21NX_L	21	5,3,2	250	21.3	48	23.2	62	1.70	0.460	450
0402HP-22NX_L	22	5,3,2	250	22.3	60	24.4	74	3.30	0.160	800
0402HP-23NX_L	23	5,3,2	250	23.3	60	25.5	77	3.30	0.160	800
0402HP-24NX_L	24	5,3,2	250	24.5	55	27.1	71	3.15	0.170	700
0402HP-25NX_L	25	5,3,2	250	25.5	57	28.3	73	3.15	0.250	700
0402HP-26NX_L	26	5,3,2	250	26.6	56	29.3	74	3.15	0.275	700
0402HP-27NX_L	27	5,3,2	250	27.3	62	29.5	86	3.20	0.330	450
0402HP-30NX_L	30	5,3,2	250	30.8	61	35.0	87	2.90	0.330	450
0402HP-33NX_L	33	5,3,2	250	34.0	61	38.3	80	2.80	0.330	490
0402HP-36NX_L	36	5,3,2	250	37.1	59	42.2	76	2.80	0.360	480
0402HP-37NX_L	37	5,3,2	250	38.2	57	44.0	72	2.70	0.480	470
0402HP-39NX_L	39	5,3,2	250	40.5	56	47.0	84	2.60	0.430	450
0402HP-40NX_L	40	5,3,2	250	41.3	56	47.4	75	2.60	0.430	450
0402HP-43NX_L	43	5,3,2	250	45.0	52	54.1	68	2.50	0.520	450
0402HP-47NX_L	47	5,3,2	250	49.0	48	58.9	62	2.40	0.580	420
0402HP-51NX_L	51	5,3,2	250	49.1	52	58.8	59	2.30	0.700	360
0402HPH-56NX_L	56	5,3,2	250	58.8	56	72.2	64	2.07	0.900	330
0402HPH-68NX_L	68	5,3,2	250	72.2	56	91.4	64	1.84	1.00	320
0402HPH-82NX_L	82	5,3,2	250	89.7	52	—	—	1.75	1.10	315
0402HPH-R10X_L	100	5,3,2	250	—	—	—	—	1.58	1.20	310
0402HPH-R12X_L	120	5,3,2	250	—	—	—	—	1.25	1.20	310
0402HPH-R15X_L	150	5,3,2	100	—	—	—	—	1.14	2.0	240
0402HPH-R18X_L	180	5,3,2	100	—	—	—	—	1.08	2.1	240
0402HPH-R22X_L	220	5,3,2	100	—	—	—	—	0.96	3.1	160

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

0402HP-82NXJLW

Tolerance: G = 2% H = 3% J = 5%

(Table shows stock tolerances in bold.)

Termination: L = RoHS compliant silver-palladium-platinum-glass frit.

E = Halogen free component. RoHS compliant silver-palladium-platinum-glass frit terminations.

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).

Q = 7" machine-ready reel. EIA-481 punched paper tape (5000 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 test frequency using a Coilcraft SMD-F fixture in an Agilent/HP 4286 impedance analyzer with Coilcraft-provided correlation pieces.

3. Tolerances in bold are stocked for immediate shipment.

4. Q measured using an Agilent/HP 4287A with an Agilent/HP 16197 test fixture.

5. SRF measured using an Agilent/HP 8722ES network analyzer and a Coilcraft SMD-D test fixture.

6. DCR measured on a micro-ohmmeter and a Coilcraft CCF858 test fixture.

7. Current that causes a 15°C temperature rise from 25°C ambient.

8. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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