Chip Inductors for Critical Applications ST413RAB

- Lower DCR than other 1008 inductors
- Ferrite construction for high current handling
- Inductance values: 1.0 – 100 µH

Part number[1]	Inductance[2] (µH)	Percent tolerance	Q min[3]	SRF min[4] (MHz)	DCR max[5] (Ohms)	Imax (mA)
ST413RAB102XJLZ	1.0 @ 7.9 MHz	5	16 @ 2.5 MHz	230	0.62	370
ST413RAB122XJLZ	1.2 @ 7.9 MHz	5	18 @ 2.5 MHz	210	0.68	370
ST413RAB152XJLZ	1.5 @ 7.9 MHz	5	20 @ 2.5 MHz	190	0.76	370
ST413RAB182XJLZ	1.8 @ 7.9 MHz	5	20 @ 2.5 MHz	170	0.84	370
ST413RAB222XJLZ	2.2 @ 7.9 MHz	5	28 @ 2.5 MHz	150	1.10	310
ST413RAB272XJLZ	2.7 @ 7.9 MHz	5	20 @ 2.5 MHz	135	1.28	270
ST413RAB332XJLZ	3.3 @ 7.9 MHz	5	20 @ 2.5 MHz	120	1.46	260
ST413RAB392XJLZ	3.9 @ 7.9 MHz	5	22 @ 2.5 MHz	105	1.56	250
ST413RAB432XJLZ	4.3 @ 7.9 MHz	5	24 @ 2.5 MHz	85	1.70	230
ST413RAB472XJLZ	4.7 @ 7.9 MHz	5	24 @ 2.5 MHz	90	1.68	230
ST413RAB502XJLZ	5.0 @ 7.9 MHz	5	23 @ 2.5 MHz	30	2.20	200
ST413RAB562XJLZ	5.6 @ 7.9 MHz	5	23 @ 2.5 MHz	80	1.82	220
ST413RAB622XJLZ	6.2 @ 7.9 MHz	5	24 @ 2.5 MHz	75	2.50	195
ST413RAB682XJLZ	6.8 @ 7.9 MHz	5	24 @ 2.5 MHz	70	2.00	210
ST413RAB822XJLZ	8.2 @ 7.9 MHz	5	23 @ 2.5 MHz	65	2.65	190
ST413RAB912XJLZ	9.1 @ 7.9 MHz	5	25 @ 2.5 MHz	57	2.90	170
ST413RAB103XJLZ	10 @ 7.9 MHz	5	24 @ 2.5 MHz	60	2.95	165
ST413RAB123XJLZ	12 @ 2.5 MHz	5	28 @ 2.5 MHz	38	3.30	160
ST413RAB153XJLZ	15 @ 2.5 MHz	5	28 @ 2.5 MHz	30	3.70	150
ST413RAB183XJLZ	18 @ 2.5 MHz	5	28 @ 2.5 MHz	26	4.00	140
ST413RAB223XJLZ	22 @ 2.5 MHz	5	28 @ 2.5 MHz	22	6.14	115
ST413RAB273XJLZ	27 @ 2.5 MHz	5	28 @ 2.5 MHz	12	6.45	110
ST413RAB333XJLZ	33 @ 2.5 MHz	5	30 @ 2.5 MHz	19	7.00	110
ST413RAB393XJLZ	39 @ 2.5 MHz	5	29 @ 2.5 MHz	26	10.0	90
ST413RAB473XJLZ	47 @ 2.5 MHz	5	30 @ 2.5 MHz	12	10.7	80
ST413RAB563XJLZ	56 @ 2.5 MHz	5	20 @ 0.79 MHz	8.0	10.0	95
ST413RAB683XJLZ	68 @ 0.79 MHz	5	17 @ 0.79 MHz	5.7	13.5	85
ST413RAB104XJLZ	100 @ 0.79 MHz	5	18 @ 0.79 MHz	4.5	20.5	65

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

ST413RAB104JLZ

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

Testing: **Z** = COTS
H = Screening per Coilcraft CP-SA-10001

2. Inductance measured using a Coilcraft SMD-A fixture in an Agilent/HP 4286A impedance analyzer or equivalent with Coilcraft-provided correlation pieces.
3. Q measured using an Agilent/HP 4291A with an Agilent/HP 16197 test fixture or equivalents.
4. SRF measured using an Agilent/HP 8753ES network analyzer or equivalent with a Coilcraft SMD-D fixture.
5. DCR measured on a Keithley 580 micro-ohmmeter or equivalent and a Coilcraft CCF858 test fixture.
6. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

Core material Ceramic/Ferrite

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

Weight 38.3 – 41.0 mg

Ambient temperature –40°C to +85°C with Imax current, +85°C to +100°C with derated current

Storage temperature Component: –55°C to +100°C. Tape and reel packaging: –55°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)

Enhanced crush-resistant packaging 2000/7″ reel; 7500/13″ reel. Plastic tape: 8 mm wide, 0.3 mm thick, 4 mm pocket spacing, 2.0 mm pocket depth

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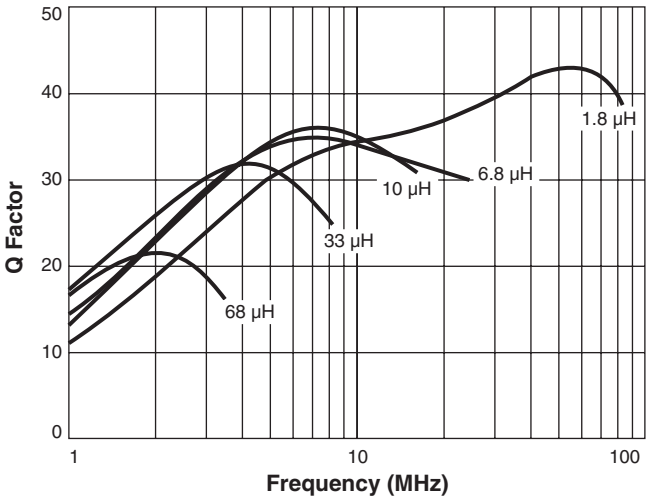
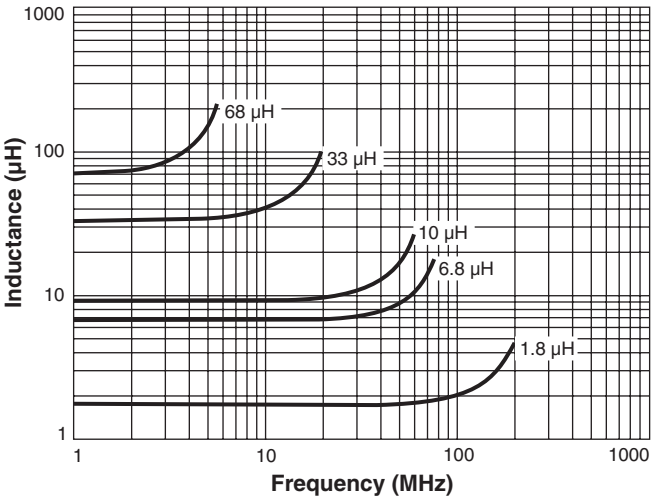
ST413RAB Series (1008)

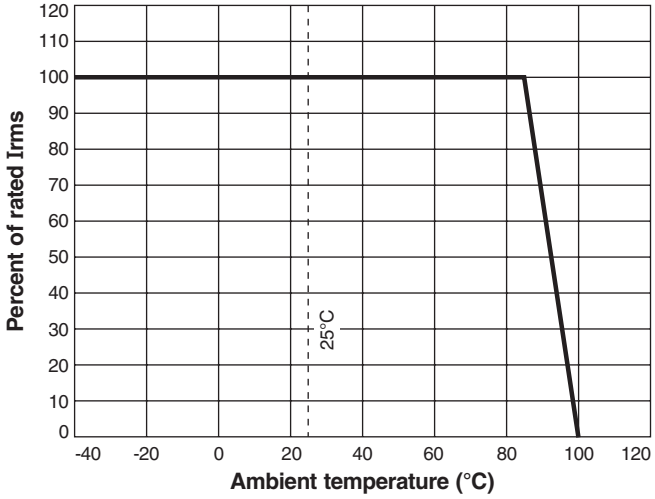
Typical Q vs Frequency

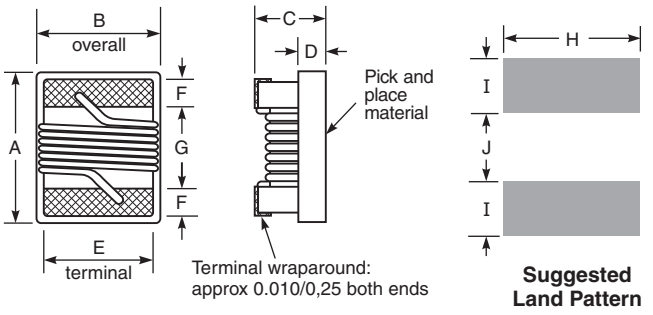


Typical L vs Frequency



Current Derating





A max	B max	C max	D ref	E	F	G	H	I	J	
0.115	0.110	0.080	0.020	0.080	0.020	0.060	0.100	0.040	0.050	inches
2,92	2,79	2,03	0,51	2,03	0,51	1,52	2,54	1,02	1,27	mm

Note: Dimensions are before optional solder application. For maximum overall dimensions including solder, add 0.0025 in / 0,064 mm to **B** and 0.006 in / 0,15 mm to **A** and **C**.

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