

# Chip Inductors for Critical Applications ST413RAM

- Ferrite construction provides lowest DCR and highest current rating of our 1008 size inductors.
- Available in 14 inductance values from 0.9 to 10  $\mu\text{H}$ , all at 10% tolerance.

Part number <sup>1</sup>	Inductance <sup>2</sup> $\pm 10\%$ ( $\mu\text{H}$ )	Q min <sup>3</sup>	SRF min <sup>4</sup> (MHz)	DCR max <sup>5</sup> (Ohms)	Isat <sup>6</sup> (A)	I <sub>max</sub> (A)
ST413RAM901KRZ	0.9	20	415	0.120	1.4	1.3
ST413RAM112KRZ	1.1	19	376	0.130	1.3	1.2
ST413RAM132KRZ	1.3	29	198	0.145	1.2	1.1
ST413RAM152KRZ	1.5	17	135	0.155	1.1	1.0
ST413RAM192KRZ	1.9	23	126	0.180	1.0	1.0
ST413RAM222KRZ	2.2	16	106	0.186	0.95	0.95
ST413RAM272KRZ	2.7	17	70	0.210	0.80	0.90
ST413RAM332KRZ	3.3	16	59	0.240	0.75	0.80
ST413RAM392KRZ	3.9	16	55	0.260	0.70	0.80
ST413RAM472KRZ	4.7	21	48	0.450	0.70	0.65
ST413RAM582KRZ	5.8	16	37	0.320	0.55	0.75
ST413RAM682KRZ	6.8	22	33	0.330	0.50	0.70
ST413RAM822KRZ	8.2	18	29	0.340	0.50	0.42
ST413RAM103KRZ	10.0	20	22	0.460	0.45	0.36

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

**ST413RAM103KRZ**

**Termination:** R = Matte tin over nickel over silver-platinum-glass frit.

**Special order:**

**Q** = Tin-silver-copper (95.5/4/0.5) over tin over nickel over silver-platinum-glass frit or

**P** = Tin-lead (63/37) over tin over nickel over silver-platinum-glass frit.

**Screening:** Z = Unscreened

**H** = Coilcraft CP-SA-10001 Group A

- Screening performed to the document's latest revision.
- Lot qualification (Group B) available.
- Custom testing also available.
- Country of origin restrictions available; prefix options G or F.

- Inductance measured at 2.5 MHz using Coilcraft SMD-A fixture in an Agilent/HP 4286A impedance analyzer or equivalent with Coilcraft-provided correlation pieces.
- Q measured at 2.5 MHz using an Agilent/HP 4291A with an Agilent/HP 16197A test fixture or equivalents.
- SRF measured using an Agilent/HP 8753ES network analyzer or equivalent with a Coilcraft SMD-D fixture.
- DCR measured on a Keithley 580 micro-ohmmeter or equivalent and a Coilcraft CCF858 test fixture.
- DC current at 25°C that causes a 10% (typ) inductance drop from its value without current.
- Electrical specifications at 25°C.

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

**Core material** Ferrite

**Terminations** Matte tin over nickel over silver-platinum-glass frit. Other terminations available at additional cost.

**Ambient temperature** -40°C to +85°C with I<sub>max</sub> current

**Maximum part temperature** +125°C (ambient + temp rise).

**Storage temperature** Component: -55°C to +125°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)** +100 to +350 ppm/°C

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

**Packaging** 2000 per 7" reel Plastic tape: 8 mm wide, 0.3 mm thick, 4 mm pocket spacing, 2.0 mm pocket depth



CRITICAL PRODUCTS & SERVICES

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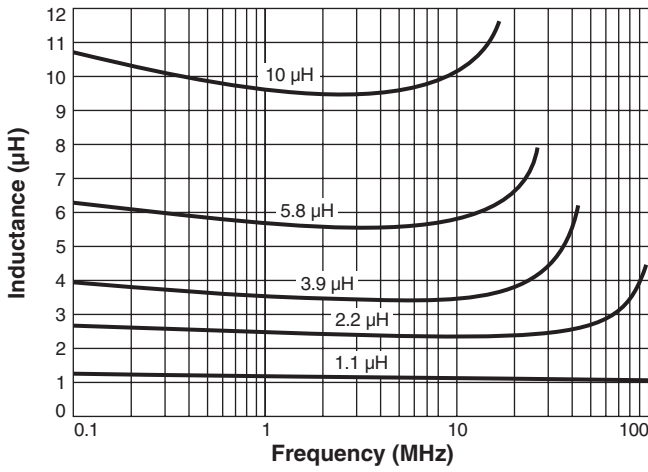
**COILCRAFT** ACCURATE  
**PRECISION** REPEATABLE  
MEASUREMENTS  
SEE WEB SITE **TEST FIXTURES**

Document ST578-1 Revised 04/29/22

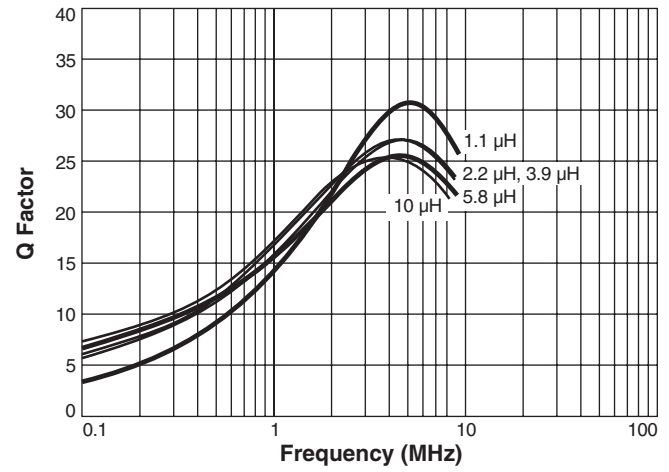
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

# ST413RAM Series (1008)

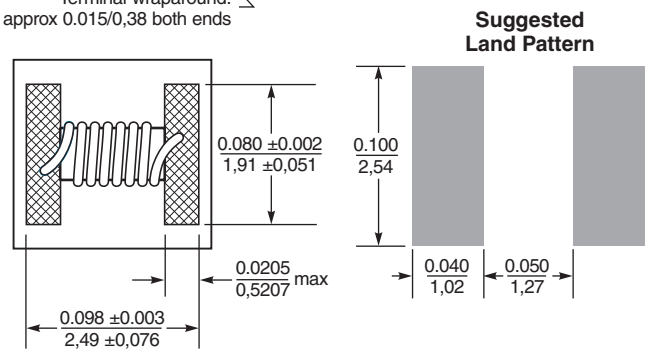
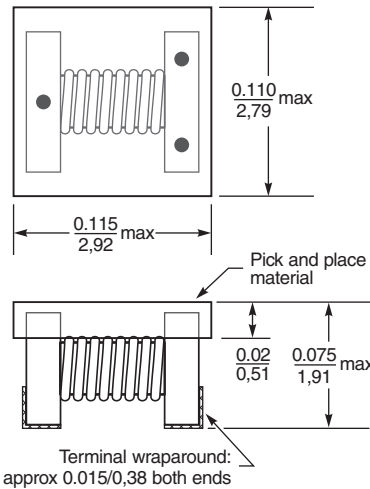
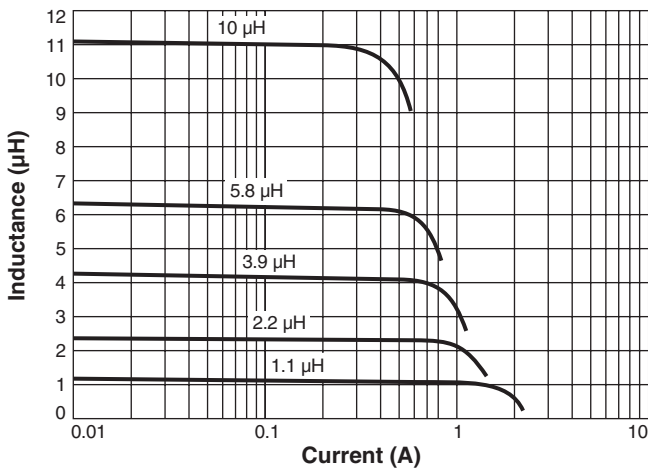
## Typical L vs Frequency



## Typical Q vs Frequency



## Typical L vs Current



Dimensions are in  $\frac{\text{inches}}{\text{mm}}$

Terminal dimensions are without optional solder applied. For dimensions with optional solder, add 0.006 inches / 0.152 mm. Visit <http://www.coilcraft-cps.com/colorcode.cfm> for an explanation of the color dots.

