

High-Reliability Chip Inductors MS413RAM

- Ferrite construction provides lowest DCR and highest current rating of our 1008 size inductors.
- Available in 14 inductance values from 0.9 to 10 μH , all at 10% tolerance.

This robust version of Coilcraft's standard 1008AF series features high temperature materials that allow operation in ambient temperatures up to 155°C. The tin-lead (Sn-Pb) terminations ensure the best possible board adhesion.

Part number	Inductance ¹ $\pm 10\%$ (μH)	Q typ ²	SRF min ³ (MHz)	DCR max ⁴ (Ohms)	Isat ⁵ (A)	I _{max} (A)
MS413RAM901K SZ	0.90	25	415	0.120	1.4	0.76
MS413RAM112K SZ	1.1	24	376	0.130	1.3	0.72
MS413RAM132K SZ	1.3	37	198	0.145	1.2	0.64
MS413RAM152K SZ	1.5	22	135	0.155	1.1	0.62
MS413RAM192K SZ	1.9	29	126	0.180	1.0	0.60
MS413RAM222K SZ	2.2	21	106	0.186	0.95	0.58
MS413RAM272K SZ	2.7	22	70	0.210	0.80	0.57
MS413RAM332K SZ	3.3	21	59	0.240	0.75	0.53
MS413RAM392K SZ	3.9	21	55	0.260	0.70	0.50
MS413RAM472K SZ	4.7	27	48	0.450	0.70	0.36
MS413RAM582K SZ	5.8	21	37	0.320	0.55	0.45
MS413RAM682K SZ	6.8	28	33	0.330	0.50	0.42
MS413RAM822K SZ	8.2	18	29	0.340	0.50	0.42
MS413RAM103K SZ	10.0	20	22	0.460	0.45	0.36

- 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 16197 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 Tin-lead (63/37) over silver-platinum-glass frit

Ambient temperature -55°C to +125°C with I_{max} current

Maximum part temperature +155°C (ambient + temp rise).

Storage temperature Component: -55°C to +155°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) +100 to +350 ppm/°C

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

Enhanced crush-resistant 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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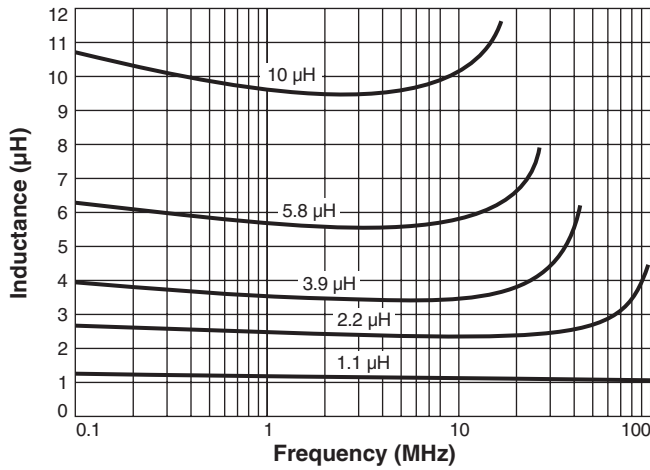
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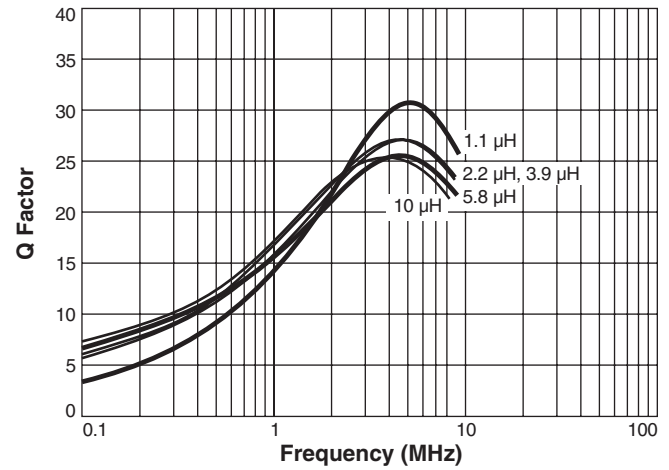
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MS413RAM Series (1008)

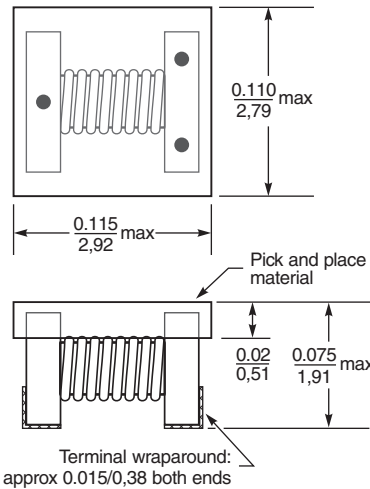
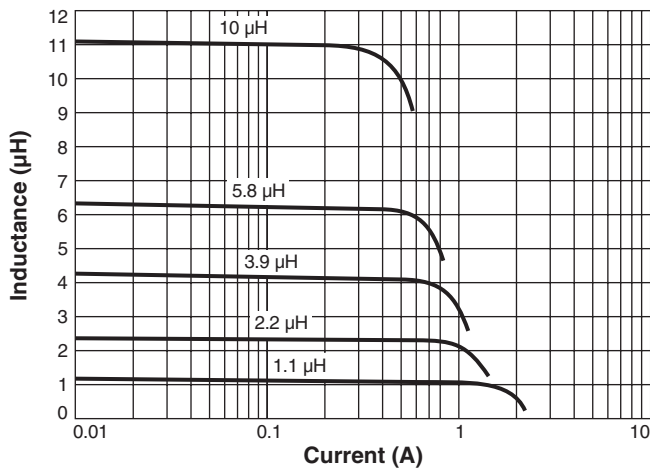
Typical L vs Frequency



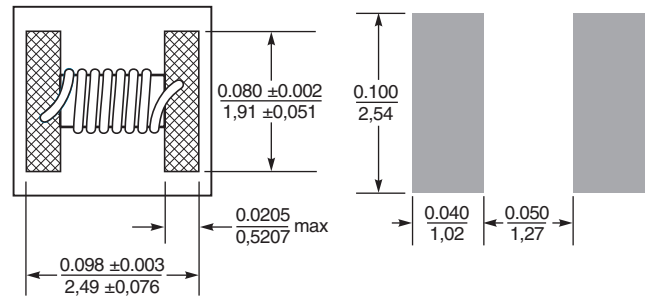
Typical Q vs Frequency



Typical L vs Current



Suggested Land Pattern



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.



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