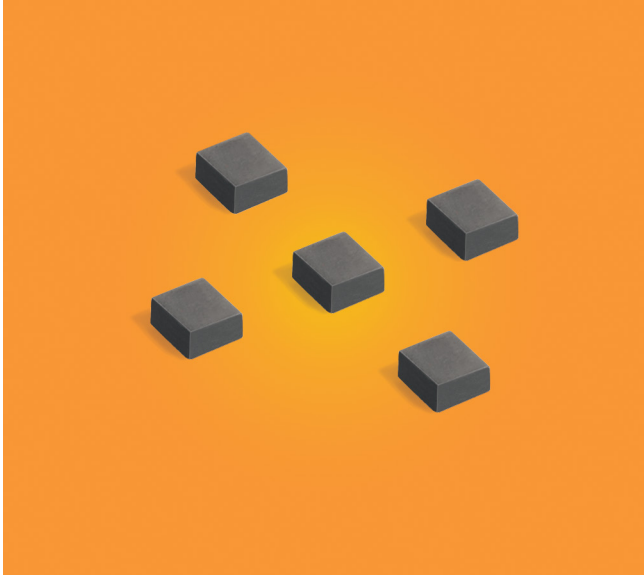


# High Reliability Power Inductors ML410PZA



- High temperature materials allow operation in ambient temperatures up to 155°C
- Low profile, ultra-miniature, shielded power inductor
- Soft saturation makes them ideal for VRM/VRD applications.

**Terminations** Tin-silver-copper over tin over nickel over silver.

**Core material** Composite

**Weight** 53 mg

**Ambient temperature** -55°C to +105°C with Irms current

**Maximum part temperature** +125°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

**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, 0.23 mm thick, 4 mm pocket spacing, 1.25 mm pocket depth

Part number <sup>1</sup>	Inductance <sup>2</sup> ±20% (µH)	DCR (mOhms) <sup>3</sup>		SRF (MHz) <sup>4</sup>		Isat (A) <sup>5</sup>			Irms (A) <sup>6</sup>	
		typ	max	min	typ	10% drop	20% drop	30% drop	20°C rise	40°C rise
ML410PZA221MLZ	0.22	14	19	272	340	2.5	3.5	4.1	2.6	3.5
ML410PZA331MLZ	0.33	23	27	234	293	2.3	3.0	3.4	2.6	3.5
ML410PZA361MLZ	0.36	19	23	168	210	2.3	3.1	3.5	2.2	3.0
ML410PZA561MLZ	0.56	28	32	162	203	1.8	2.5	2.9	2.2	3.0
ML410PZA601MLZ	0.61	23	29	134	167	1.9	2.6	3.0	2.1	2.8
ML410PZA681MLZ	0.69	34	40	131	164	1.6	2.2	2.7	2.1	2.8
ML410PZA102MLZ	1.0	35	42	92	115	1.6	2.2	2.5	1.9	2.6
ML410PZA152MLZ	1.5	60	72	75.5	94.4	1.3	1.8	2.2	1.6	2.2
ML410PZA222MLZ	2.2	81	97	58.6	73.2	1.0	1.3	1.6	1.4	1.9
ML410PZA332MLZ	3.3	106	127	49.3	61.6	0.87	1.2	1.4	1.2	1.6
ML410PZA472MLZ	4.7	143	171	42.1	52.6	0.72	1.0	1.2	1.0	1.4
ML410PZA682MLZ	6.8	166	200	31.9	39.9	0.61	0.84	1.0	0.94	1.3
ML410PZA103MLZ	10	255	306	27.7	34.6	0.50	0.65	0.74	0.90	1.2
ML410PZA153MLZ	15	394	483	20.6	25.8	0.43	0.58	0.65	0.74	1.0
ML410PZA223MLZ	22	608	630	17.8	22.2	0.32	0.45	0.52	0.58	0.80
ML410PZA333MLZ	33	855	896	13.3	16.6	0.23	0.32	0.38	0.42	0.57
ML410PZA393MLZ	39	919	985	12.7	15.9	0.23	0.32	0.37	0.39	0.54
ML410PZA473MLZ	47	1220	1320	11.0	13.7	0.21	0.28	0.32	0.33	0.46
ML410PZA563MLZ	56	1430	1520	9.68	12.1	0.19	0.26	0.30	0.37	0.51
ML410PZA683MLZ	68	2160	2370	8.72	10.9	0.16	0.21	0.25	0.31	0.42
ML410PZA823MLZ	82	2300	2440	8.64	10.8	0.15	0.21	0.24	0.26	0.34
ML410PZA104MLZ	100	2630	3000	7.52	9.40	0.17	0.24	0.28	0.29	0.39
ML410PZA224MLZ	220	6830	8000	4.88	6.10	0.10	0.10	0.20	0.17	0.23

1. When ordering, please specify **testing** code:

**ML410PZA224MLZ**

**Testing:**

**Z** = Unscreened

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

**T** = Screening per MIL-STD-981

**U** = Screening per EEE-INST-002

**F** = Screening per ESCC 3201

All screening performed to the document's latest revision  
Custom screening also available

2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc.

3. DCR measured on a micro-ohmmeter.

4. SRF measured using Agilent/HP 4395A or equivalent.

5. DC current at 25°C that causes the specified inductance drop from its value without current.

6. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

7. Electrical specifications at 25°C.

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

Document ML747-1 Revised 05/22/17

**Coilcraft CPS**

CRITICAL PRODUCTS & SERVICES

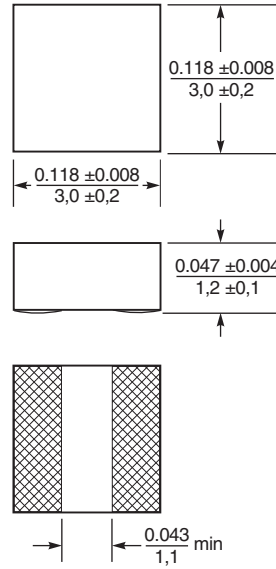
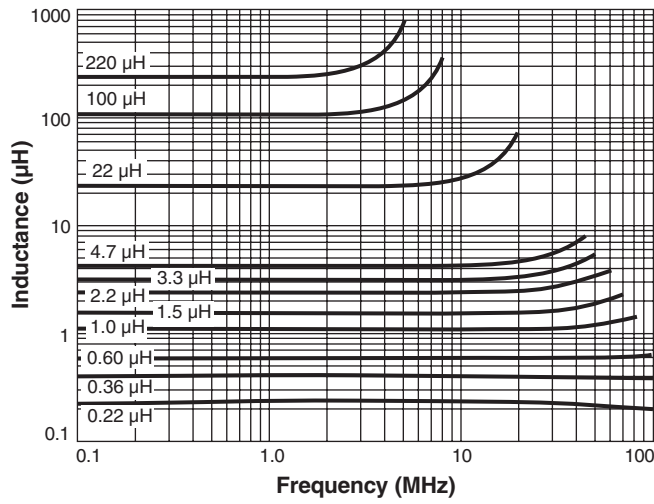
1102 Silver Lake Road  
Cary, IL 60013  
Phone 800-981-0363

Fax 847-639-1508  
Email cps@coilcraft.com  
www.coilcraft-cps.com

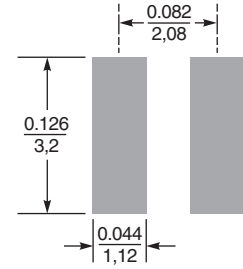
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

# ML410PZA Series

## Typical L vs Frequency



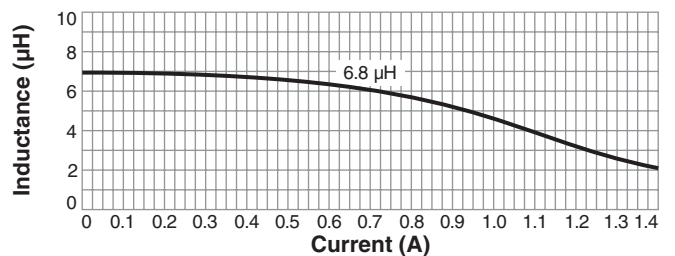
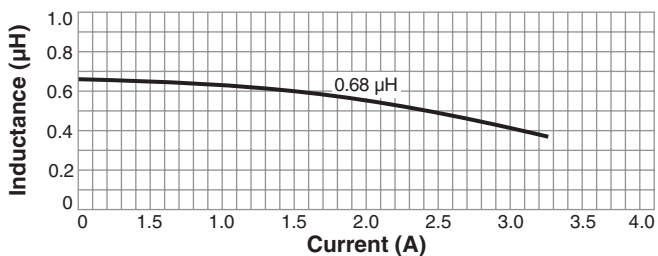
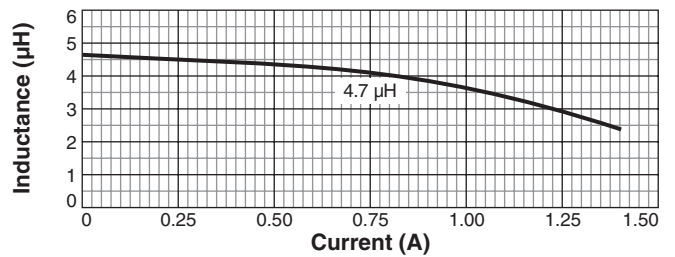
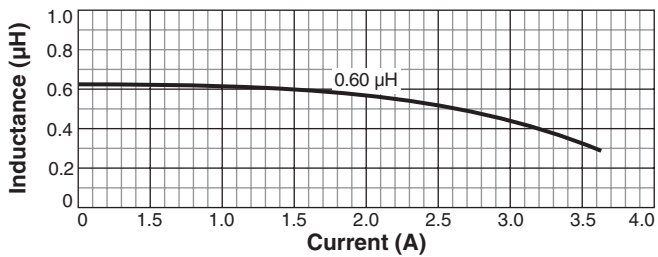
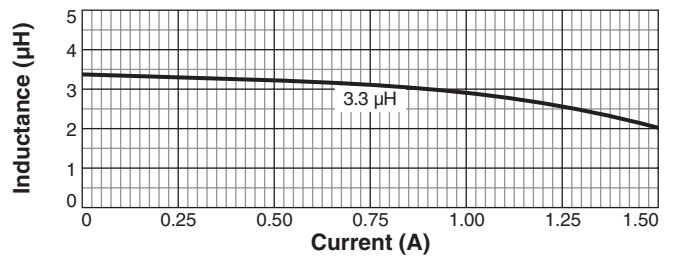
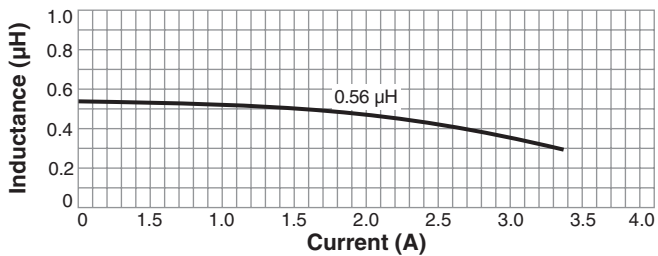
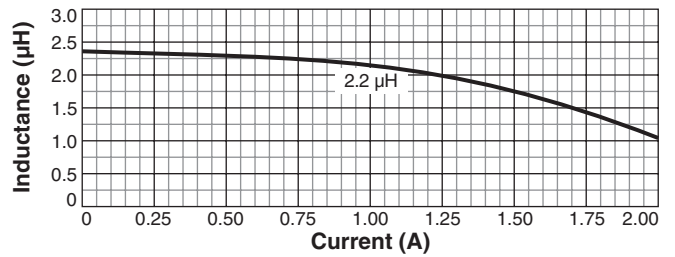
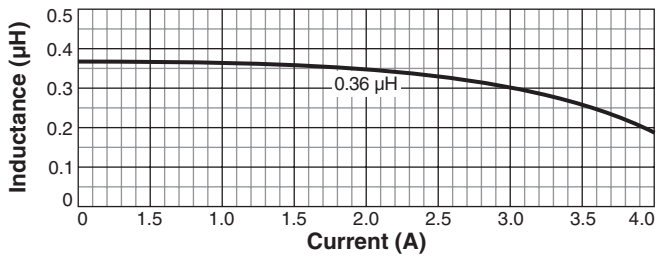
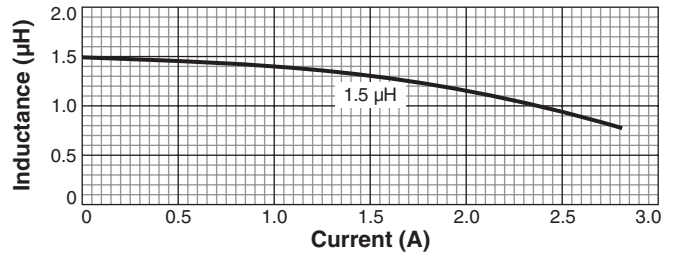
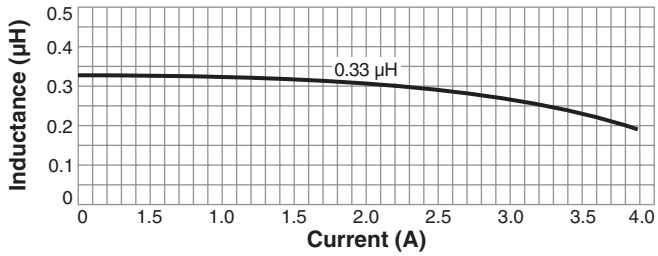
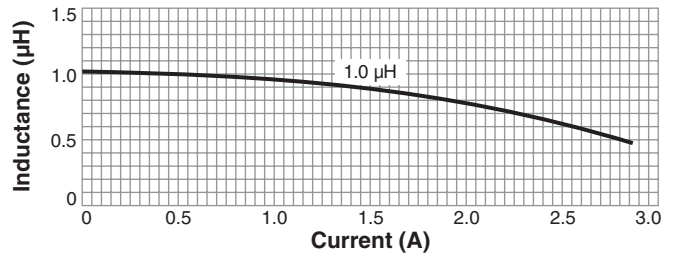
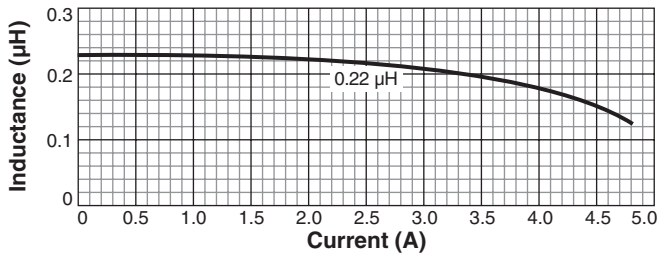
### Suggested Land Pattern



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

# ML410PZA Series

## L vs Current



1102 Silver Lake Road  
Cary, IL 60013  
Phone 800-981-0363

© Coilcraft, Inc. 2017

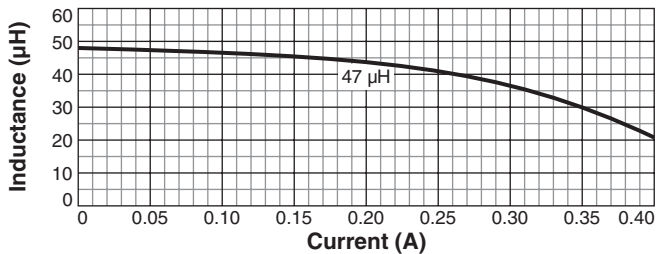
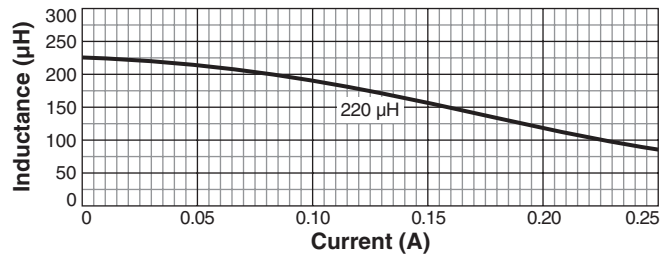
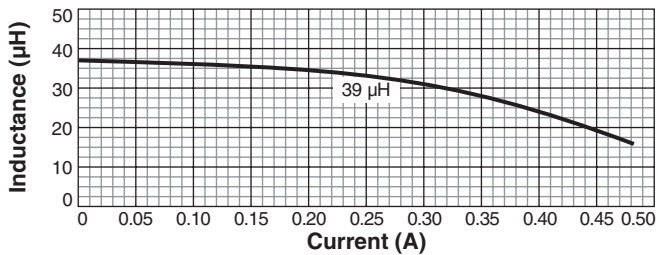
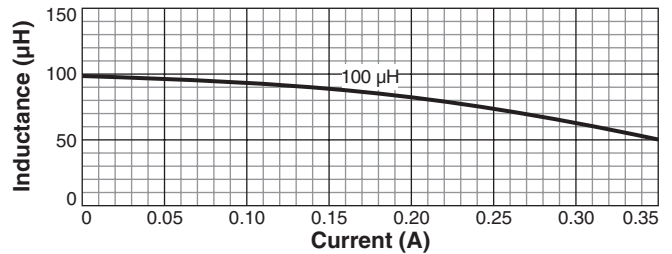
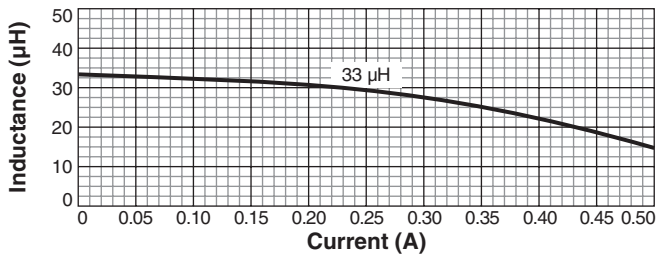
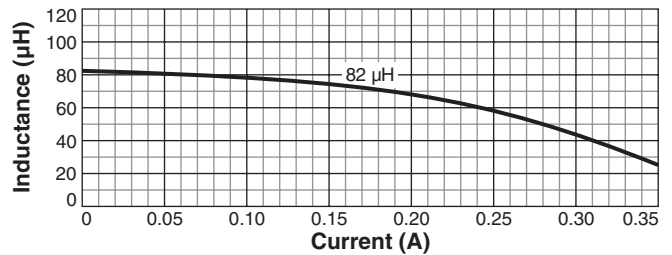
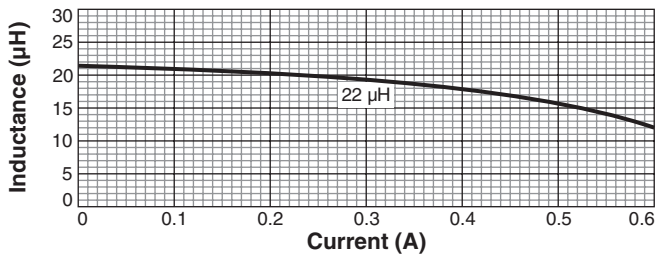
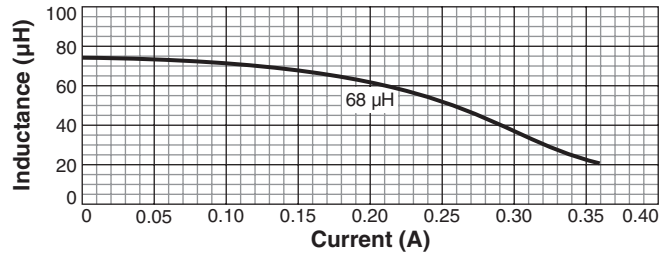
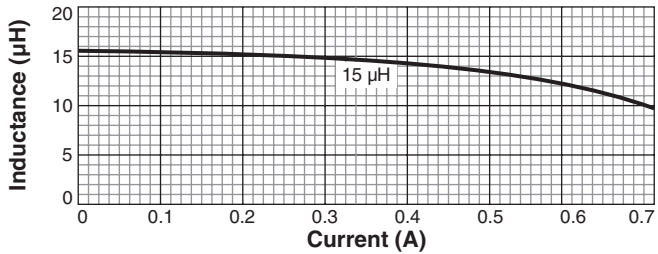
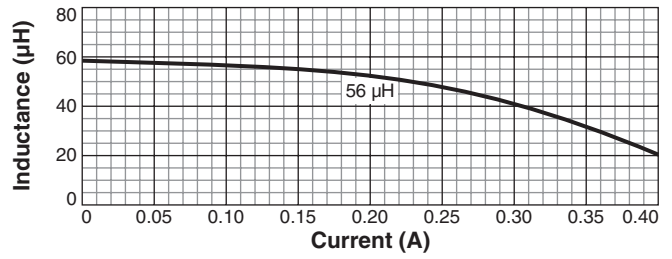
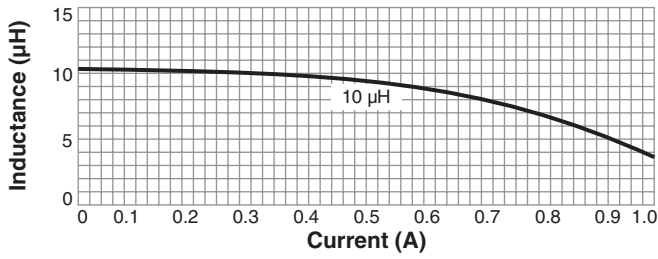
Fax 847-639-1508  
Email [cps@coilcraft.com](mailto:cps@coilcraft.com)  
[www.coilcraft-cps.com](http://www.coilcraft-cps.com)

Document ML747-3 Revised 05/22/17

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.

# ML410PZA Series

## L vs Current



1102 Silver Lake Road  
Cary, IL 60013  
Phone 800-981-0363

Fax 847-639-1508  
Email cps@coilcraft.com  
www.coilcraft-cps.com

Document ML747-4 Revised 05/22/17

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.