

NEW!

High-Reliability Power Inductors ST413PGA



- Industry's lowest DCR and ultra low AC losses
- Superior current handling with soft saturation characteristics
- Wide inductance range from 0.082 to 1.2 μ H

Core material Composite

Terminations Tin-silver (96.5/3.5) over copper. Other terminations available at additional cost.

Weight: 0.066 – 0.070 g

Operating voltage: 0 – 80 V

Ambient temperature –40°C to +125°C with (40°C rise) Irms current.

Maximum part temperature +165°C (ambient + temp rise). [Derating.](#)

Storage temperature Component: –55°C to +165°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)

Packaging 1500/7" reel; 5000/13" reel Plastic tape: 12 mm wide, 0.23 mm thick, 8 mm pocket spacing, 1.4 mm pocket depth

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).

Part number ¹	Inductance ² $\pm 20\%$ (μ H)	DCR (mOhms) ³		SRF typ ⁴ (MHz)	Isat (A) ⁵			Irms (A) ⁶	
		typ	max		10% drop	20% drop	30% drop	20°C rise	40°C rise
ST413PGA820MLZ	0.082	2.8	3.3	340	7.0	11.8	17.3	11.8	15.9
ST413PGA900MLZ	0.090	3.3	3.8	330	6.8	11.3	16.4	10.8	14.6
ST413PGA101MLZ	0.10	3.5	4.0	305	6.5	10.7	15.2	10.1	13.5
ST413PGA201MLZ	0.20	6.3	7.3	175	4.3	7.1	10.0	8.5	11.4
ST413PGA331MLZ	0.33	10.8	12.5	135	3.4	5.5	7.8	6.5	8.6
ST413PGA401MLZ	0.40	12.3	14.2	125	3.2	5.1	7.1	5.8	8.4
ST413PGA521MLZ	0.52	15.5	17.9	105	2.8	4.5	6.4	5.3	7.1
ST413PGA621MLZ	0.62	20.7	23.8	90	2.6	4.1	5.7	4.5	6.1
ST413PGA821MLZ	0.82	24.5	28.2	80	2.2	3.6	5.1	4.2	5.6
ST413PGA102MLZ	1.0	28.0	32.2	70	1.9	3.2	4.5	3.7	5.0
ST413PGA122MLZ	1.2	32.5	37.4	60	1.7	2.8	4.1	3.3	4.4

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

ST413PGA122MLZ

Termination: L = Tin-silver (96.5/3.5) over copper.

Special order: T = Tin-silver-copper (95.5/4/0.5) or S = Tin-lead (63/37).

Screening: Z = Unscreened

Y = Unscreened (SLDC Option A)

W = Unscreened (SLDC Option B)

H = Coilcraft CP-SA-10001 Group A

G = Coilcraft CP-SA-10001 Group A (SLDC Option A)

D = Coilcraft CP-SA-10001 Group A (SLDC Option B)

• Screening performed to the document's latest revision.

• Custom testing also available.

2. Inductance tested at 1 MHz, 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.

[Click for temperature derating information.](#)

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.

[Click for temperature derating information.](#)

7. Electrical specifications at 25°C.

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

Irms Testing

Irms testing was performed on a 0.060" thick pcb with 4 oz. copper traces optimized to minimize additional temperature rise.

Temperature rise is highly dependent on many factors including pcb land pattern, trace size, and proximity to other components. Therefore temperature rise should be verified in application conditions.

Coilcraft CPS

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

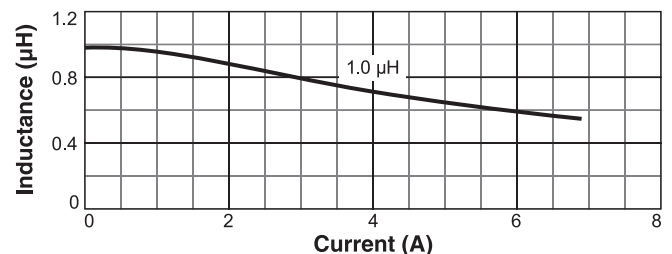
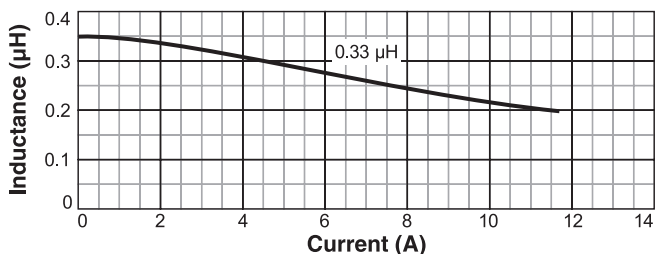
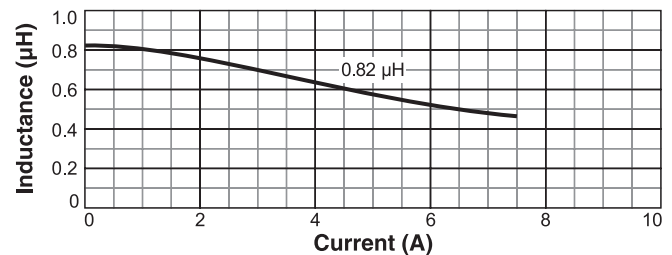
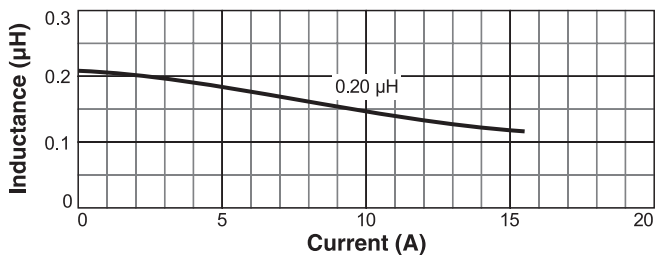
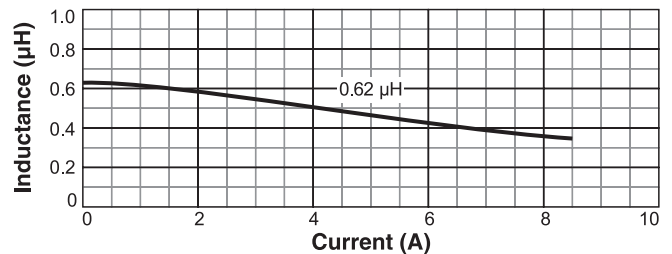
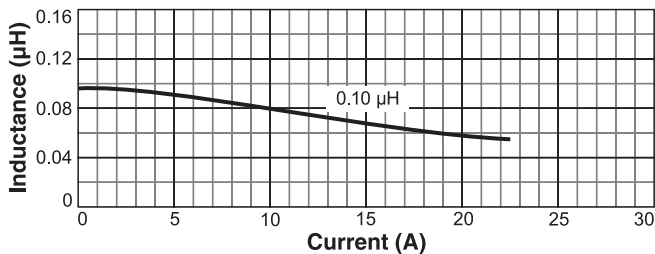
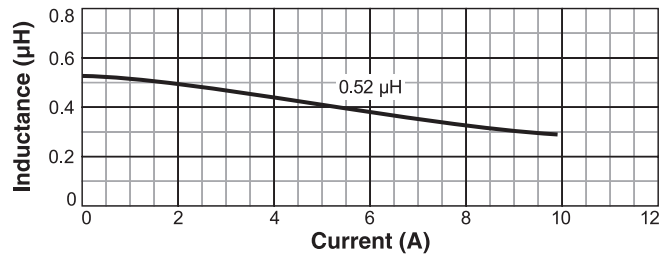
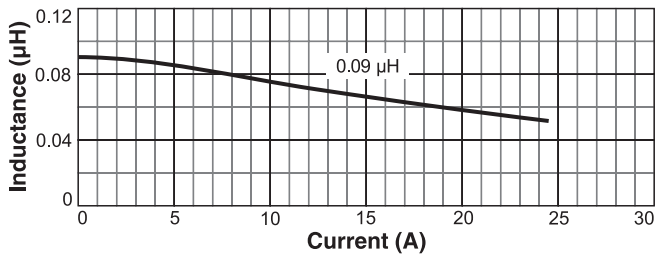
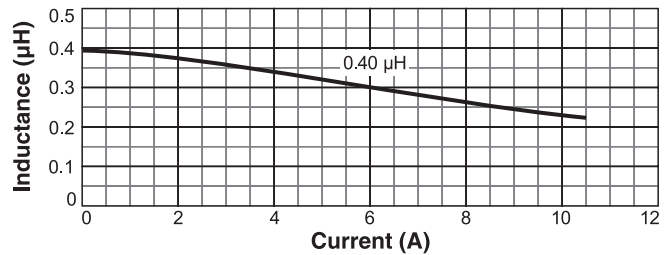
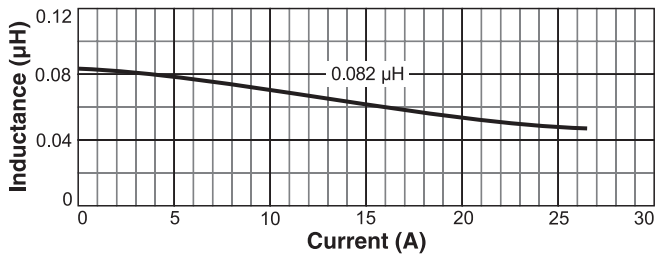
Fax 847-639-1508
Email cps@coilcraft.com
www.coilcraft-cps.com

Document ST1648-1 Revised 07/31/23

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ST413PGA Power Inductors

L vs Current



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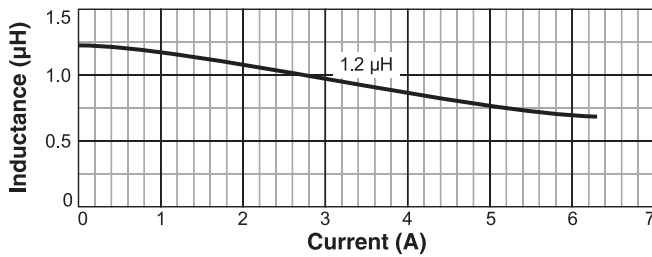
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 1102 Silver Lake Road
 Cary, IL 60013
 Phone 800-981-0363

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

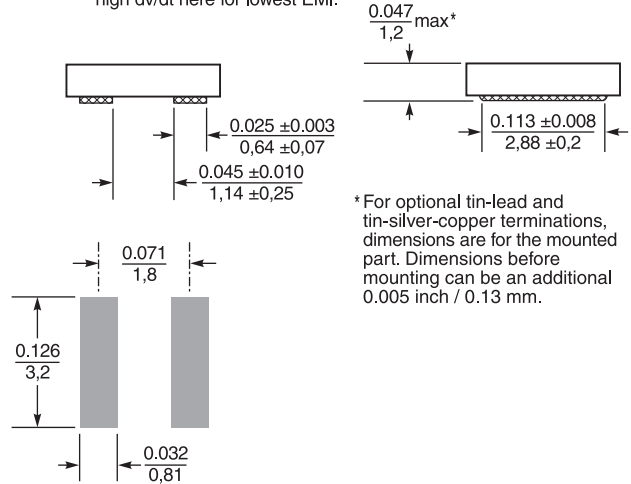
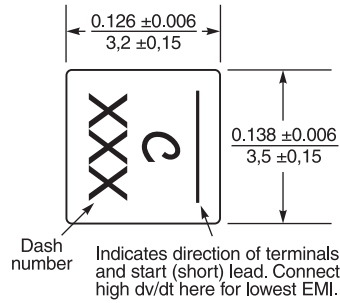
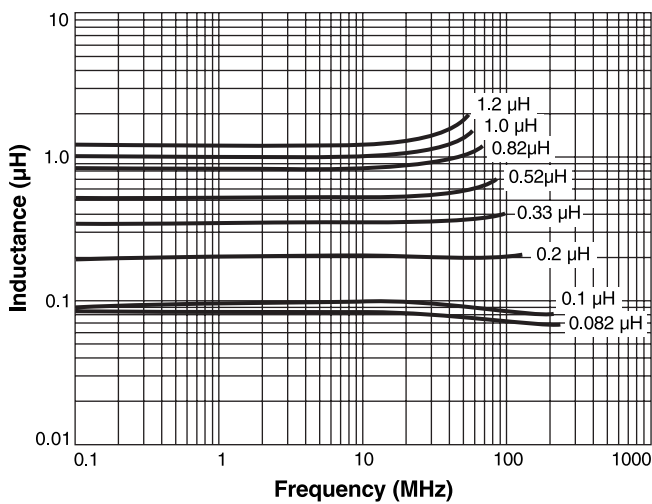
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L vs Current



Typical L vs Frequency



Suggested Land Pattern

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



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