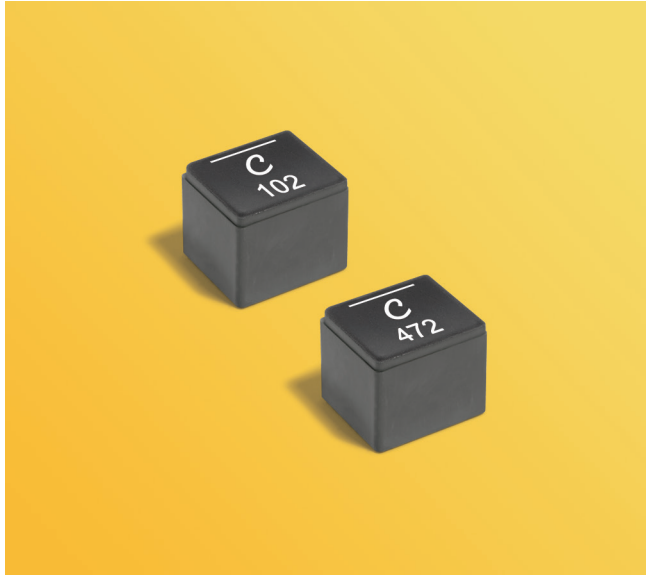


NEW!

High-Reliability Power Inductors ST611PYA



- High temperature materials allow operation in ambient temperatures up to 165°C
- High current and very low DCR
- Soft saturation makes them ideal for VRM/VRD applications.

Core material Composite

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

Weight 5.7 – 6.3 g

Operating voltage: 0 – 60 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 300/13" reel Plastic tape: 24 mm wide, 0.4 mm thick, 16 mm pocket spacing, 10.21 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 ±20% (µH)	DCR (mOhms) ³		SRF (MHz) ⁴		Isat (A) ⁵	Irms (A) ⁶	
		typ	max	min	typ		20°C rise	40°C rise
ST611PYA221MLZ	0.22	0.45	0.50	92	115	98.8	30.8	41.6
ST611PYA451MLZ	0.45	0.65	0.72	53	66	70.5	30.0	39.8
ST611PYA681MLZ	0.68	0.87	0.96	42	53	62.0	28.5	37.5
ST611PYA102MLZ	1.0	1.00	1.10	34	42	55.0	24.0	32.6
ST611PYA152MLZ	1.5	1.60	1.76	26	33	36.6	23.3	30.4
ST611PYA222MLZ	2.2	2.55	2.80	18	22	34.0	18.4	24.0
ST611PYA332MLZ	3.3	3.70	4.10	17	21	27.4	13.7	18.8
ST611PYA472MLZ	4.7	5.20	5.70	15	19	25.4	13.1	18.0
ST611PYA562MLZ	5.6	6.30	6.93	13	16	23.6	11.8	15.9
ST611PYA682MLZ	6.8	8.10	8.90	11	14	21.8	10.5	13.9
ST611PYA822MLZ	8.2	11.70	12.90	9	12	18.3	9.7	12.8
ST611PYA103MLZ	10	13.40	14.75	8	11	17.5	8.6	11.6
ST611PYA153MLZ	15	16.90	18.60	7	9	15.5	7.4	10.4

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

ST611PYA153MLZ

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

Special order: S = Tin-lead (63/37) over copper.

Screening: Z = Unscreened

Y = Unscreened (SLDC Option A)

W = Unscreened (SLDC Option B)

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

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

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

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 an Agilent/HP 4395A or equivalent.

5. DC current at 25°C that causes an inductance drop of 30% (typ) 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.

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

CRITICAL PRODUCTS & SERVICES

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Phone 800-981-0363

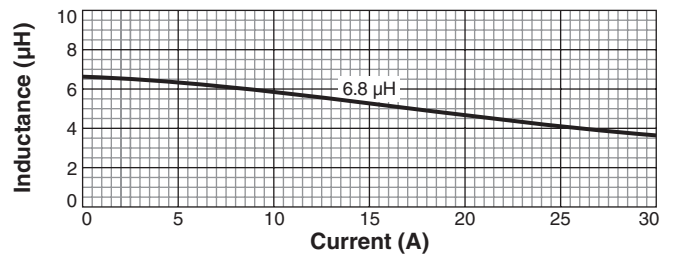
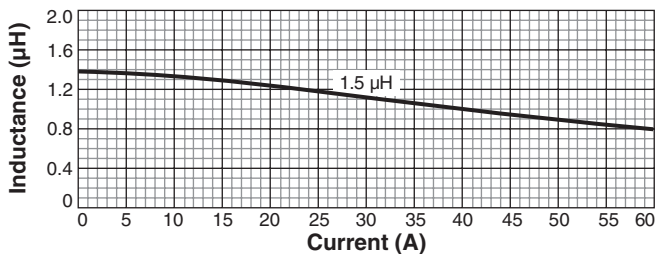
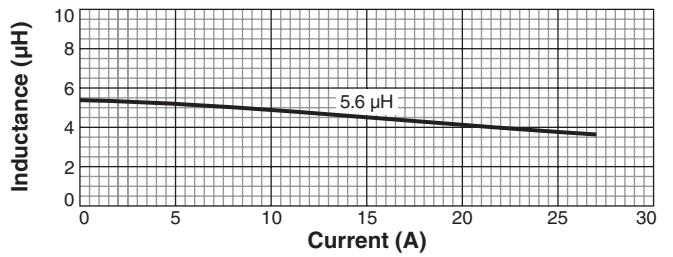
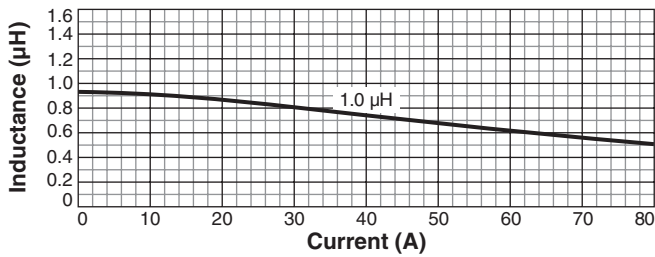
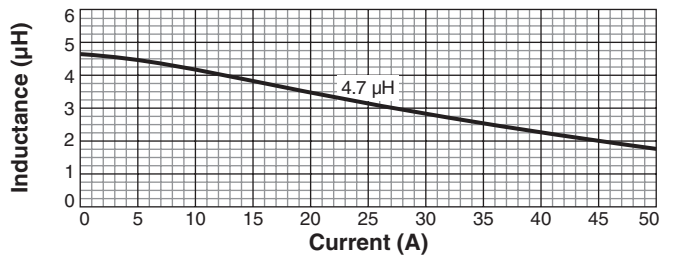
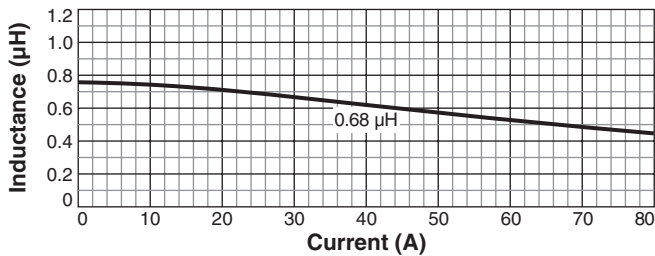
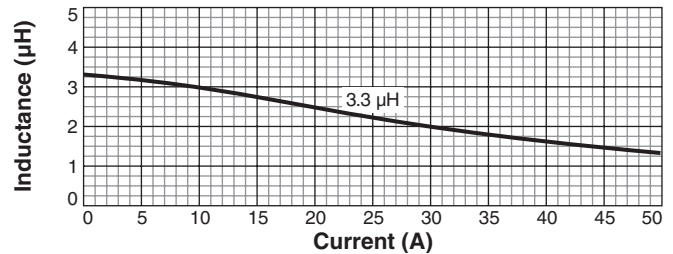
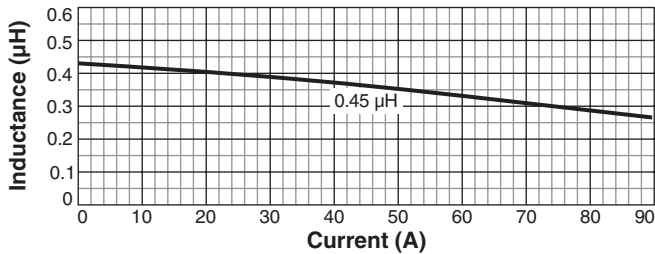
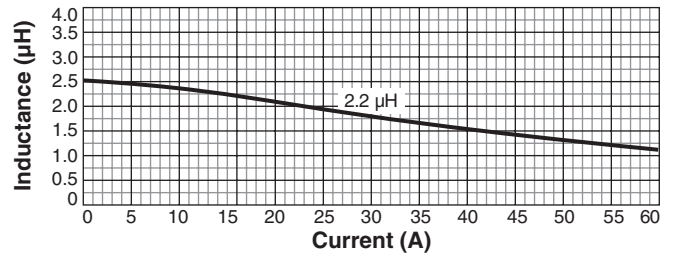
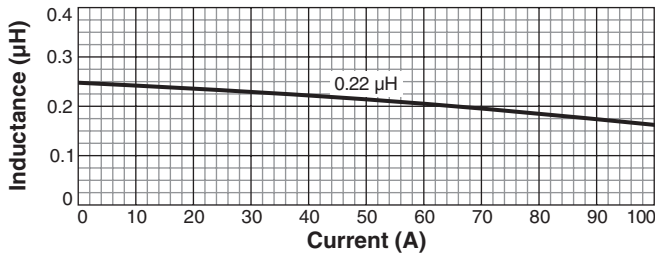
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Email cps@coilcraft.com
www.coilcraft-cps.com

Document ST804-1 Revised 08/17/23

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.

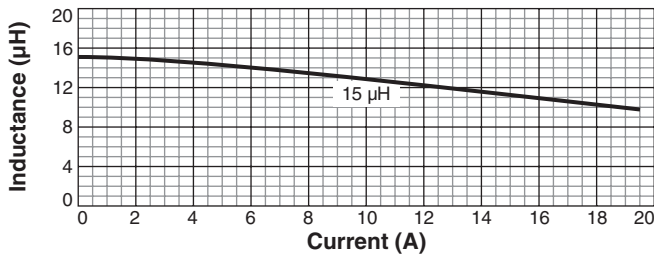
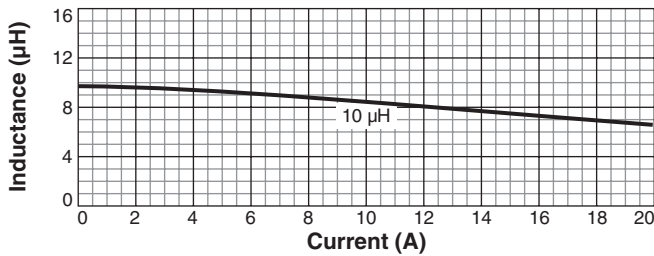
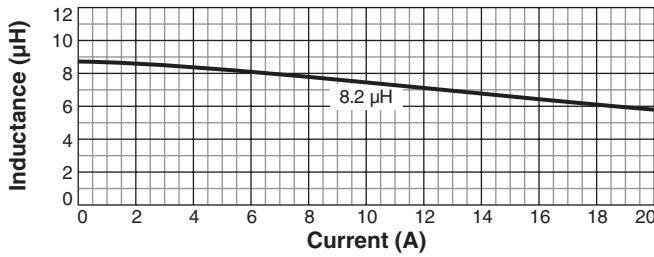
ST611PYA Series (1010)

Typical L vs Current

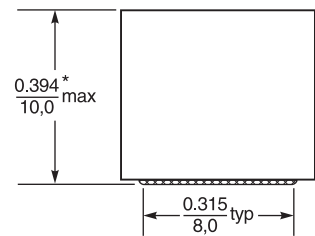
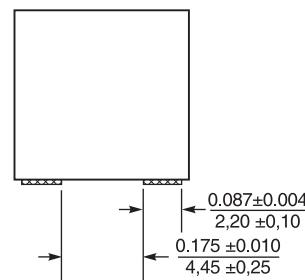
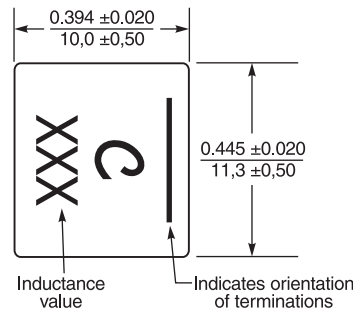
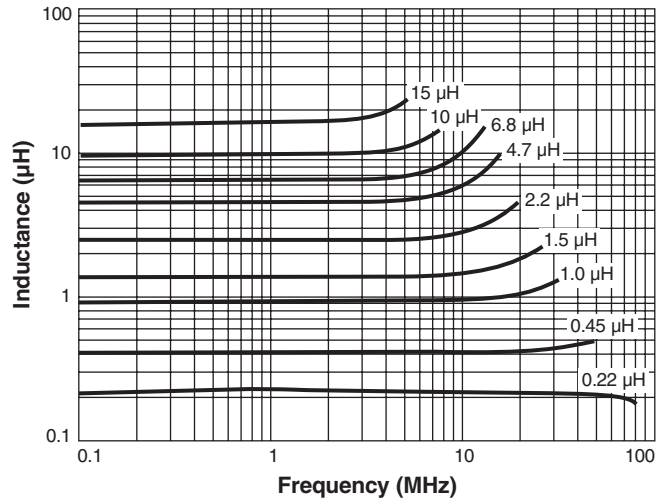


ST611PYA Series (1010)

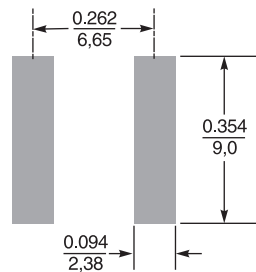
Typical L vs Current



Typical L vs Frequency



* Height dimension shown is for the mounted part after reflow. Dimension before mounting can be an additional 0.008 inch / 0.2 mm.



Suggested Land Pattern

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