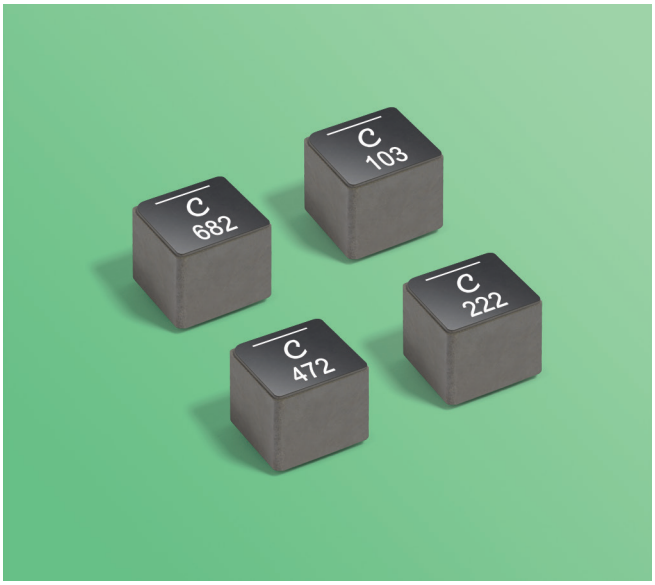
NEW!

High-Reliability Power Inductors ST553PYA



- High current – up to 38 A
- Very low DCR – as low as 1.38 mOhms
- Soft saturation makes them ideal for VRM/VRD applications.

Core material Composite
Terminations Tin-silver over copper. Other terminations available at additional cost.
Weight 3 g
Operating voltage: 0 – 60 V
Ambient temperature –40°C to +125°C with 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 450/13″ reel Plastic tape: 24 mm wide, 0.3 mm thick, 16 mm pocket spacing, 8.36 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] typ	DCR (mOhms)[3] max	SRF typ[4] (MHz)	Isat[5] (A)	Irms (A)[6] 20°C rise	Irms (A)[6] 40°C rise
ST553PYA681MLZ	0.68	1.38	1.65	70.0	38.0	20.3	27.8
ST553PYA102MLZ	1.0	2.11	2.33	49.2	31.3	18.7	25.6
ST553PYA222MLZ	2.2	4.08	4.49	36.7	24.0	12.0	16.1
ST553PYA472MLZ	4.7	8.89	9.77	24.1	17.4	7.9	10.9
ST553PYA682MLZ	6.8	13.2	14.5	20.6	14.0	6.0	8.5
ST553PYA103MLZ	10	21.0	23.1	15.6	10.9	4.9	6.5
ST553PYA123MLZ	12	16.4	18.2	11.3	8.6	5.7	7.9
ST553PYA153MLZ	15	20.3	22.5	10.5	7.7	5.2	7.1
ST553PYA183MLZ	18	25.2	28.0	9.1	6.6	4.5	6.2
ST553PYA223MLZ	22	29.6	32.9	8.2	6.4	4.2	5.7
ST553PYA333MLZ	33	43.7	48.5	6.8	5.0	3.3	4.5
ST553PYA473MLZ	47	64.7	71.8	5.9	4.4	2.6	3.6

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.

1. When ordering, please specify **termination** and **screening** codes:
   ST553PYA473MLZ
   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 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 a 30% (typ) 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.

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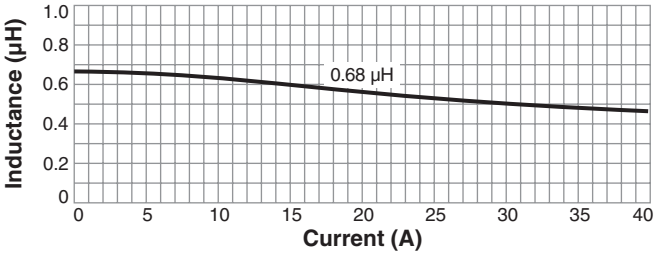
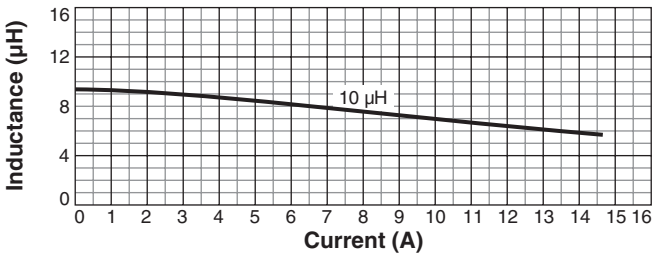
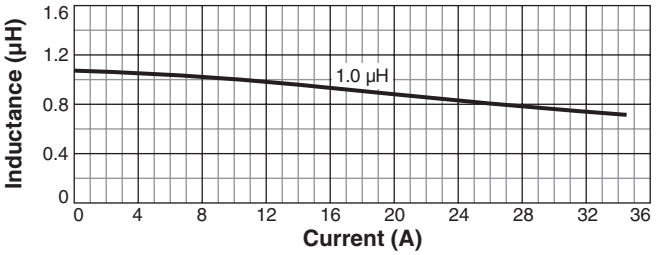
Document ST839-1 Revised 08/18/23

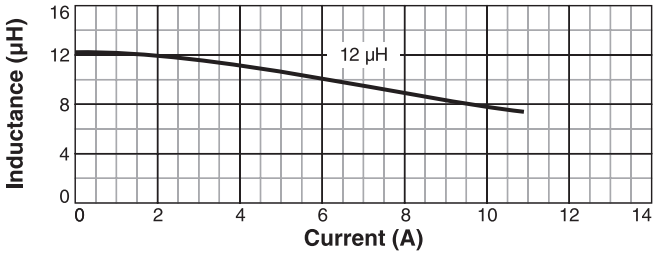
Shielded Power Inductors – ST553PYA

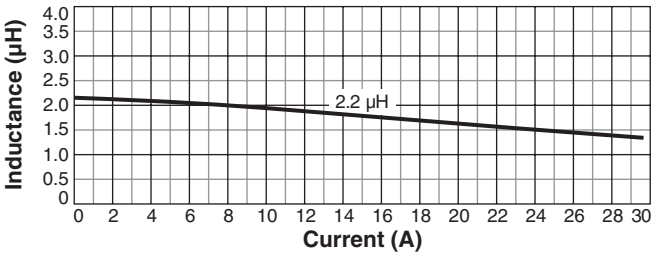
L vs Current

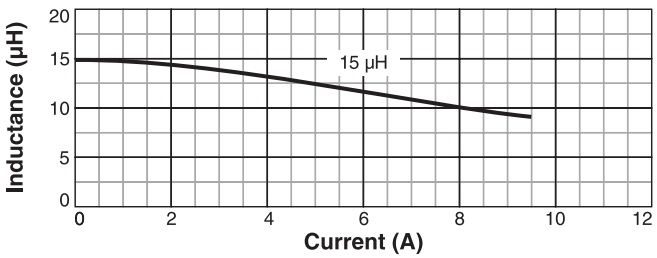


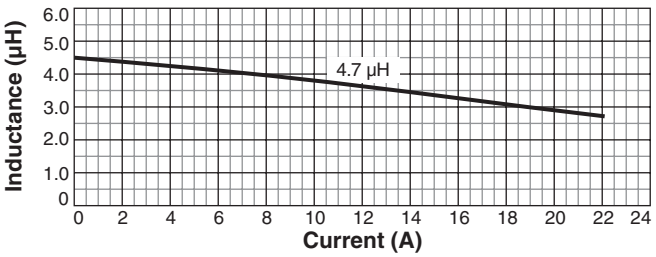


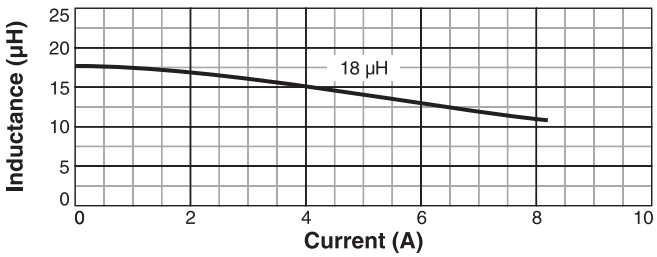


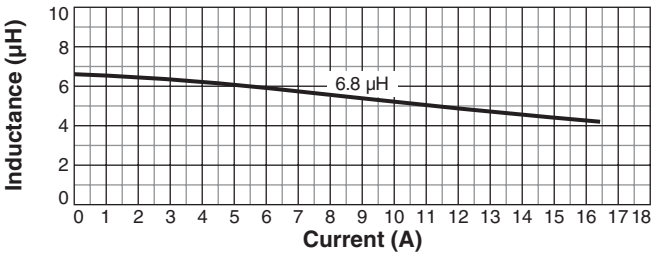


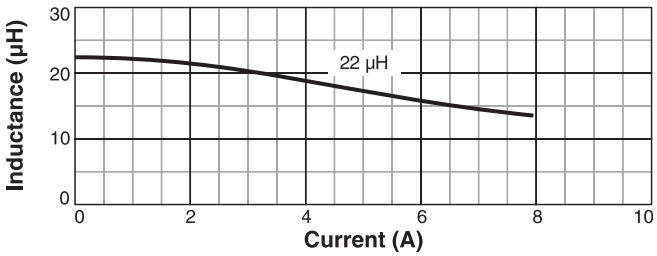












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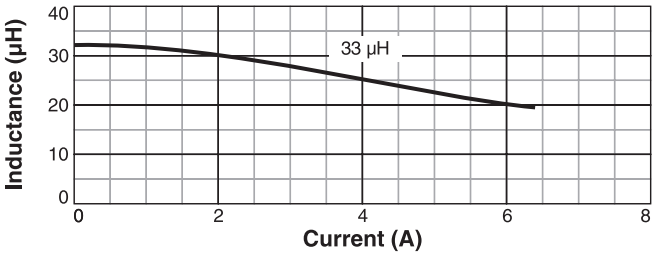
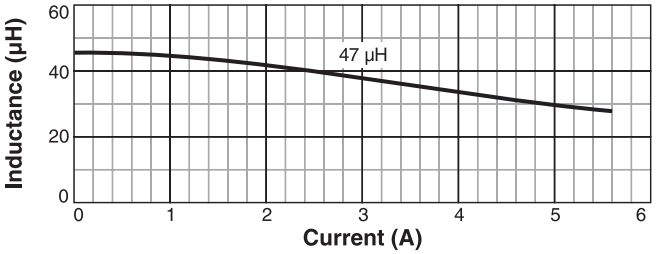
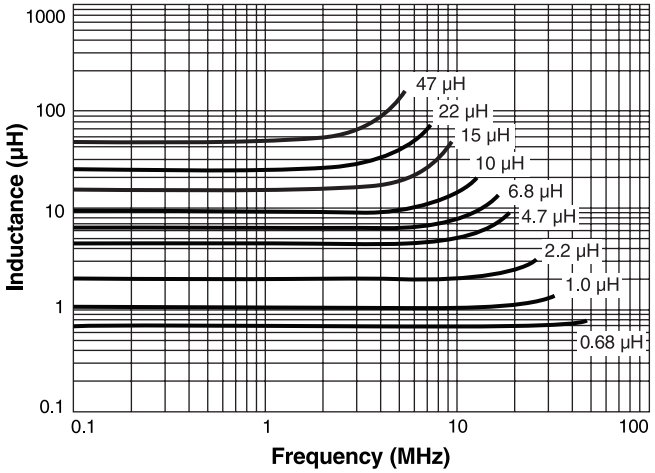
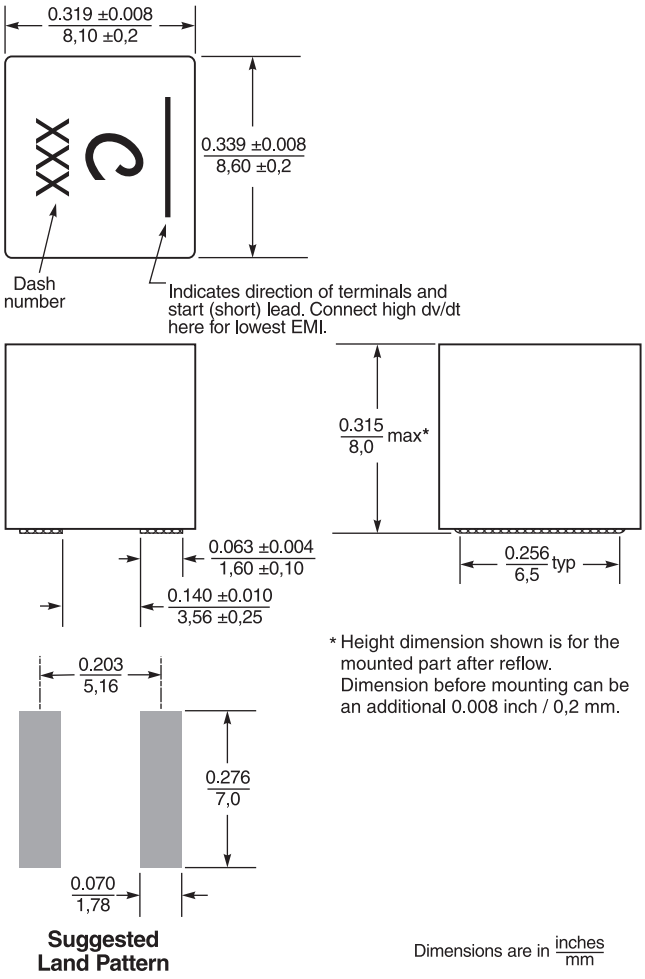




L vs Frequency





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