

High Reliability Power Inductors ML611PYA



- High temperature materials allow operation in ambient temperatures up to 155°C
- High current and very low DCR
- Soft saturation makes them ideal for VRM/VRD applications.

Core material Composite

Terminations Tin-silver over copper.

Weight 5.7 – 6.3 g

Ambient temperature –55°C to +105°C with Irms current, +105°C to +155°C with derated current

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 300/13" reel
Plastic tape: 24 mm wide, 0.4 mm thick, 16 mm pocket spacing, 10.21 mm pocket depth

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
ML611PYA221MLZ	0.22	0.33	0.37	92	115	98.8	30.8	41.6
ML611PYA451MLZ	0.45	0.60	0.66	53	66	70.5	30.0	39.8
ML611PYA102MLZ	1.0	1.00	1.10	34	42	55.0	24.0	32.6
ML611PYA152MLZ	1.5	1.60	1.76	26	33	36.6	23.3	30.4
ML611PYA222MLZ	2.2	2.55	2.80	18	22	34.0	18.4	24.0
ML611PYA332MLZ	3.3	3.70	4.10	17	21	27.4	13.7	18.8
ML611PYA472MLZ	4.7	5.20	5.70	15	19	25.4	13.1	18.0
ML611PYA562MLZ	5.6	6.30	6.93	13	16	23.6	11.8	15.9
ML611PYA682MLZ	6.8	8.10	8.90	11	14	21.8	10.5	13.9
ML611PYA822MLZ	8.2	11.70	12.90	9	12	18.3	9.7	12.8
ML611PYA103MLZ	10	13.40	14.75	8	11	17.5	8.6	11.6
ML611PYA153MLZ	15	16.90	18.60	7	9	15.5	7.4	10.4

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

ML611PYA682MLZ

Testing: Z = COTS

H = Screening per Coilcraft CP-SA-10001

N = Screening per Coilcraft CP-SA-10004

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. Typical dc current at which the inductance drops 30% from its value without current.

6. Typical current that causes the specified temperature rise from 25°C ambient.

7. Electrical specifications at 25°C.

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

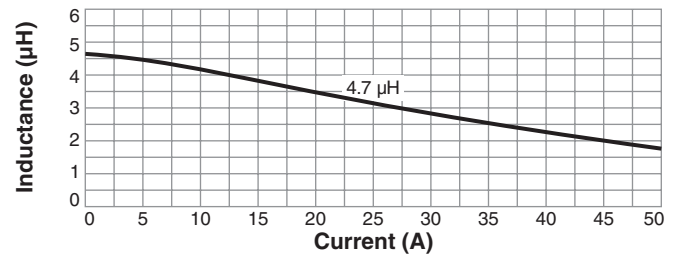
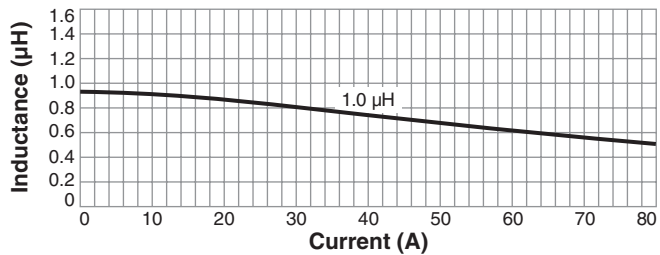
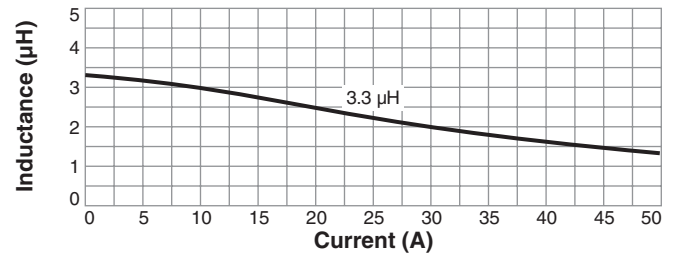
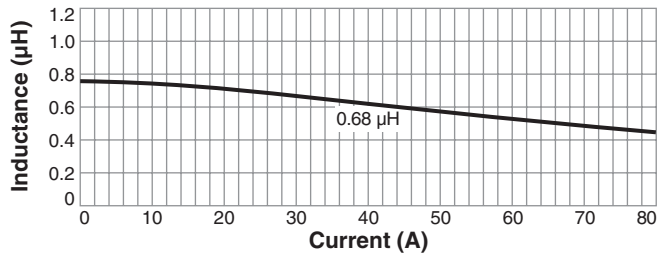
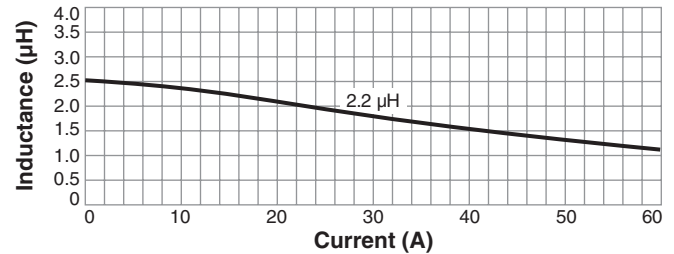
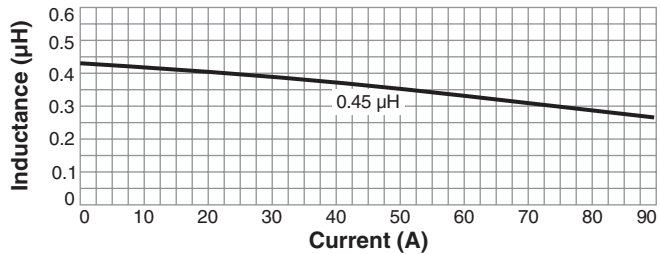
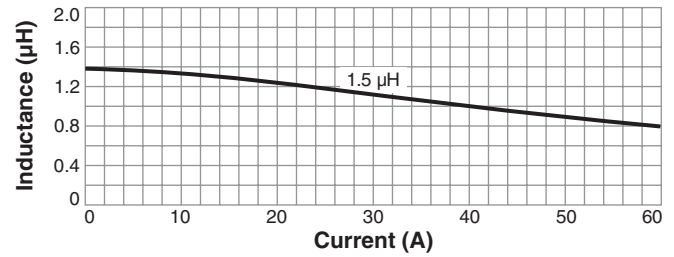
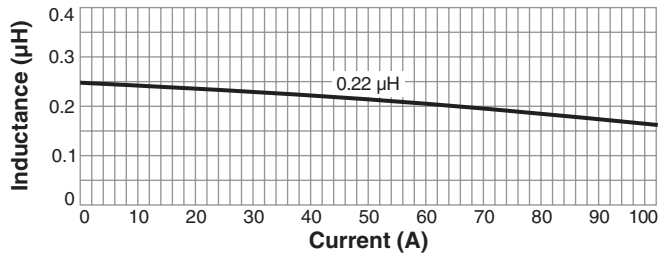
Irms Testing

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.

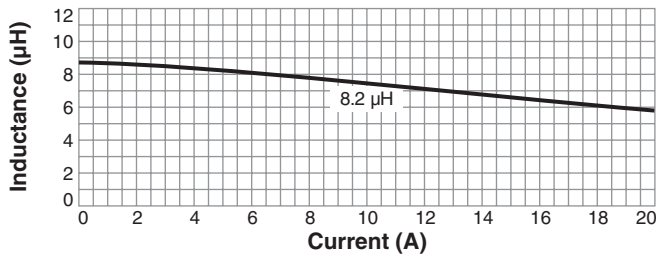
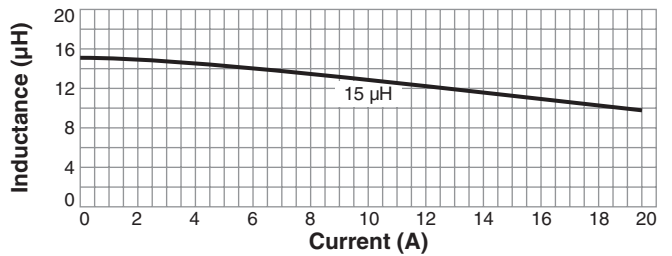
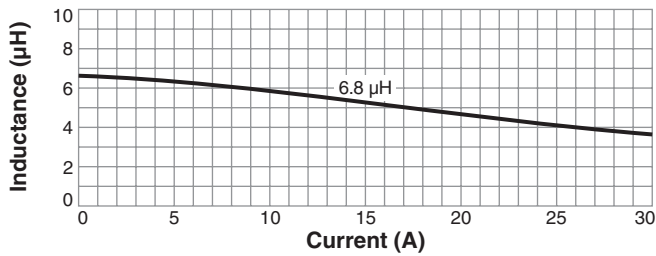
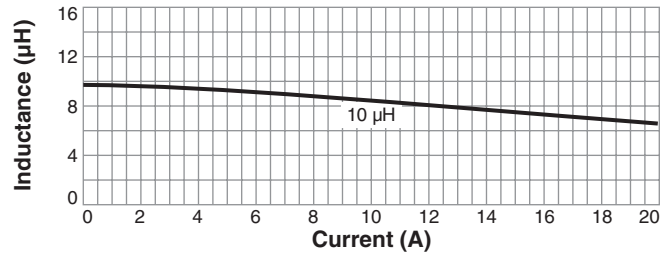
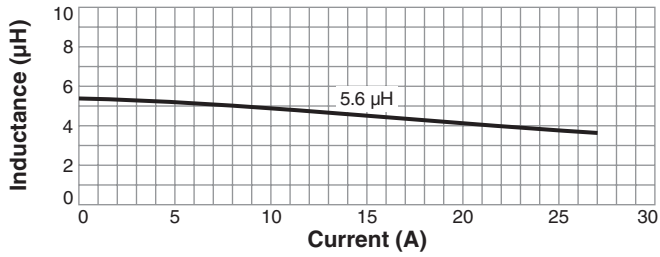
ML611PYA Series (1010)

Typical L vs Current



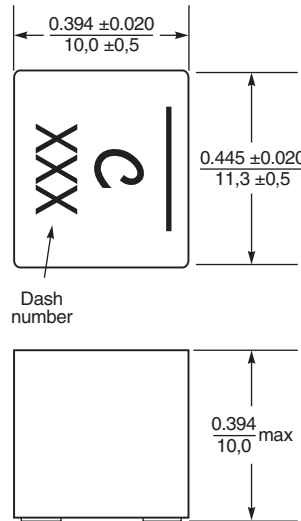
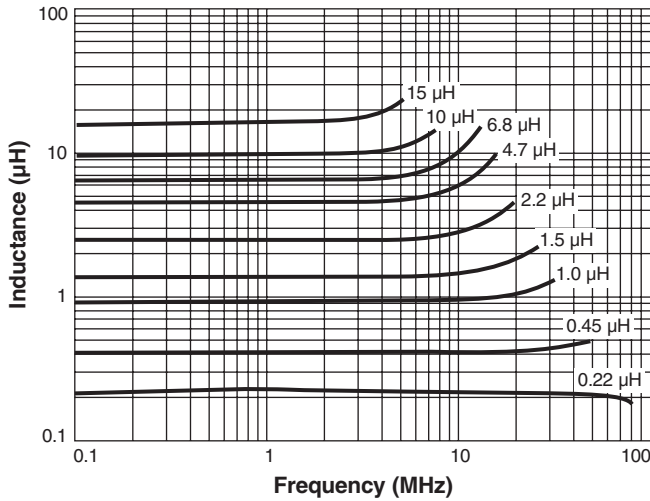
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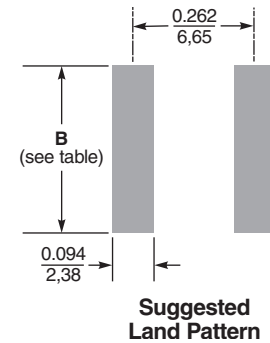
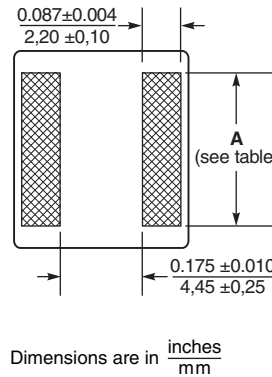
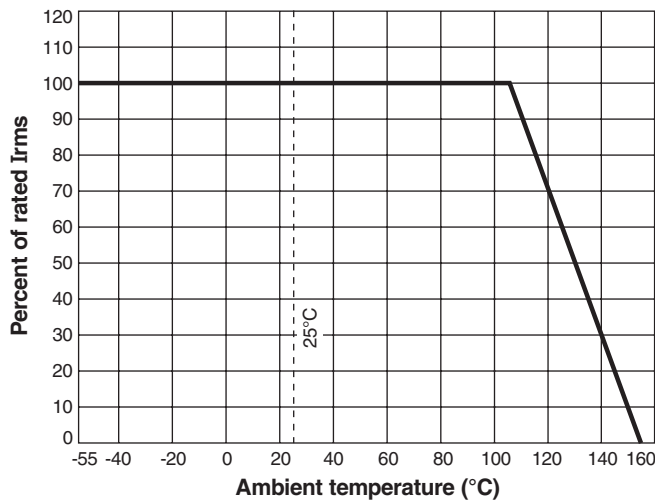
ML611PYA Series (1010)

Typical L vs Frequency



Dash number	A ±0.008 in ±0.20 mm (in / mm)	B (in / mm)
-221	0.406 / 10.31	0.445 / 11.31
-451	0.406 / 10.31	0.445 / 11.31
-681	0.406 / 10.31	0.445 / 11.31
-102	0.406 / 10.31	0.445 / 11.31
-152	0.390 / 9.91	0.421 / 10.71
-222	0.374 / 9.51	0.398 / 10.11
-332	0.358 / 9.11	0.374 / 9.51
-472	0.358 / 9.11	0.374 / 9.51
-562	0.358 / 9.11	0.374 / 9.51
-682	0.351 / 8.91	0.362 / 9.21
-822	0.343 / 8.71	0.351 / 8.91
-103	0.343 / 8.71	0.351 / 8.91
-153	0.343 / 8.71	0.351 / 8.91

Irms Derating



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



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

© Coilcraft, Inc. 2012

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

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