

# High Reliability Power Inductors MS524PYA



- High temperature materials allow operation in ambient temperatures up to 155°C
- Passes vibration testing to 80 G and shock testing to 1000 G
- Exceptionally low DCR – 3.1 mOhm
- Soft saturation makes them ideal for VRM/VRD applications.

**Terminations** Tin-lead (63/37) over copper.

**Core material** Composite

**Weight** 1.2 – 1.3 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.  
T&R 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** 400/7" reel

Plastic tape: 16 mm wide, 0.3 mm thick, 12 mm pocket spacing, 3.12 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		20°C rise	40°C rise
MS524PYA681MSZ	0.68	3.10	3.41	47	59	23	14.3	18.8
MS524PYA102MSZ	1.0	3.81	4.19	37	47	21	12.8	17.3
MS524PYA182MSZ	1.8	5.30	5.83	28	36	18.1	10.5	13.5
MS524PYA222MSZ	2.2	6.00	6.60	24	31	16.4	9.8	12.8
MS524PYA302MSZ	3.0	7.45	8.19	20	26	14.6	9.0	12.0
MS524PYA472MSZ	4.7	14.90	16.40	16	21	10.5	5.3	7.5
MS524PYA562MSZ	5.6	16.22	17.84	16	20	9.9	5.3	7.5
MS524PYA682MSZ	6.8	18.90	20.80	14	18	9.2	5.3	6.8
MS524PYA822MSZ	8.2	24.00	26.40	12	16	8.4	4.5	6.0
MS524PYA103MSZ	10	27.00	29.82	11	14	7.6	3.8	5.3
MS524PYA153MSZ	15	39.77	43.75	8.8	11	5.8	3.4	4.5
MS524PYA223MSZ	22	55.12	60.63	7.2	9	5.6	2.7	3.8

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

**MS524PYA332MSZ**

**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.

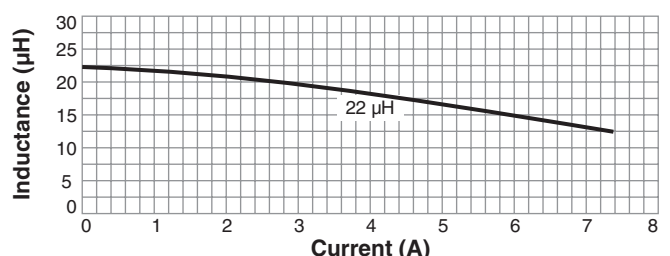
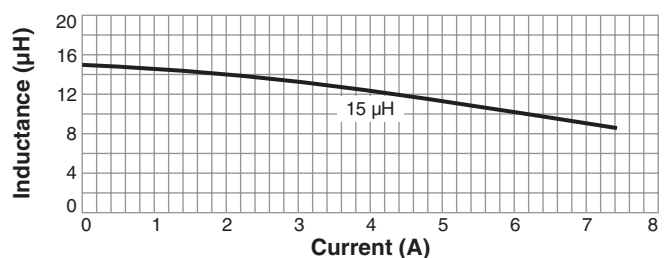
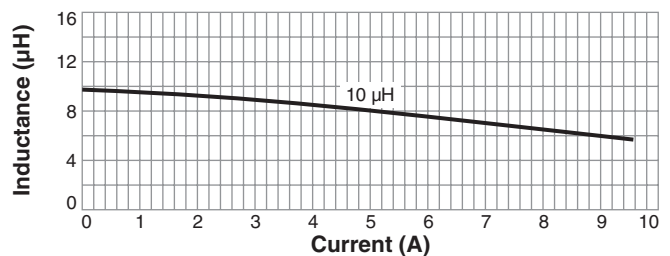
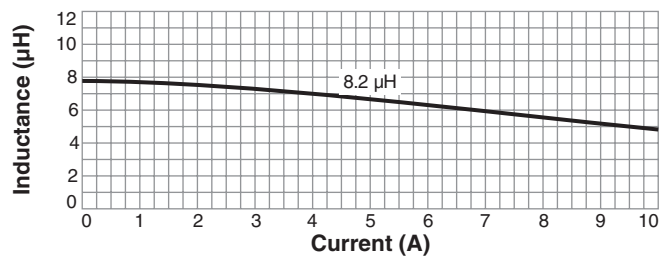
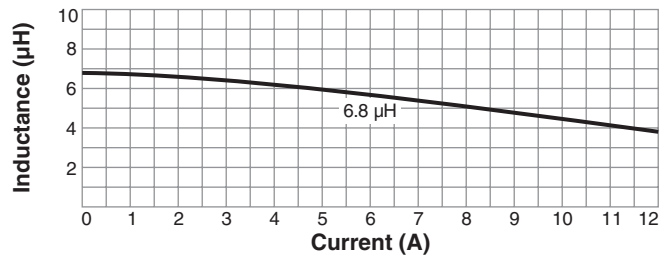
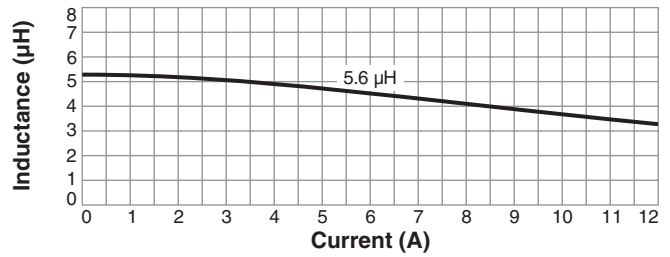
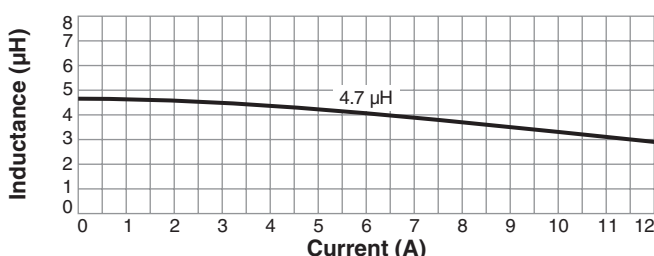
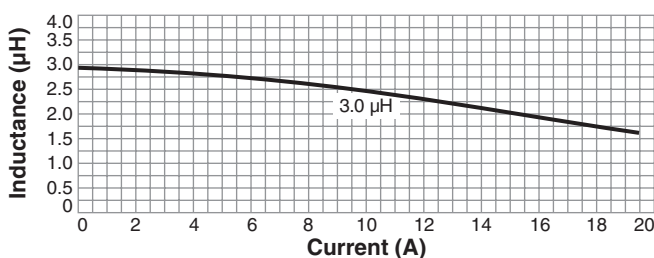
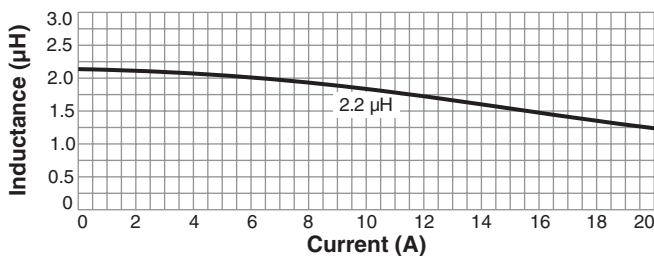
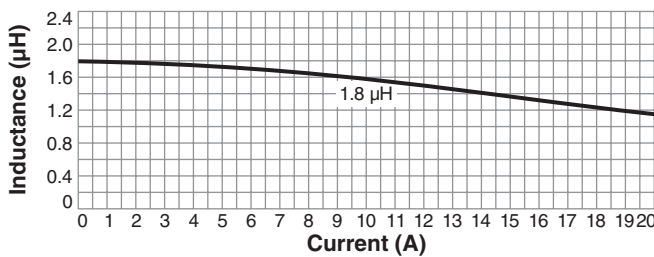
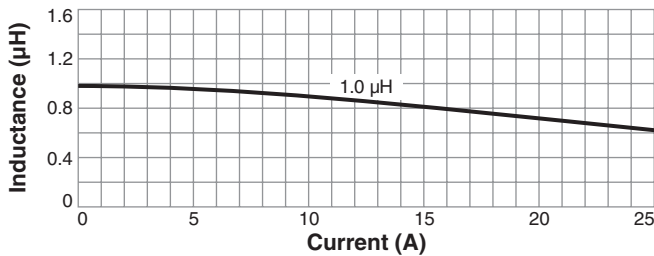
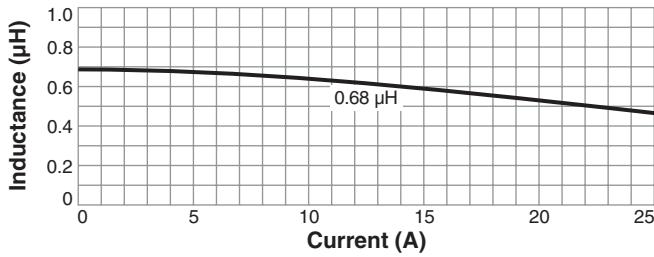
## Irms Testing

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.

# MS524PYA Series

## L vs Current



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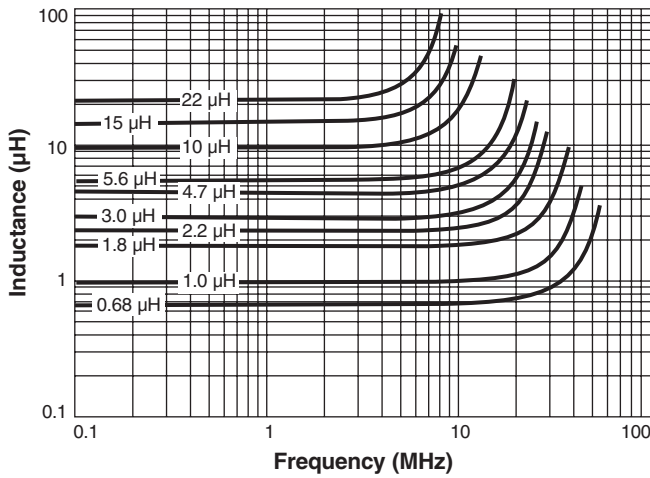
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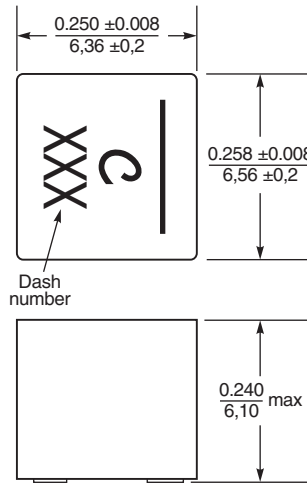
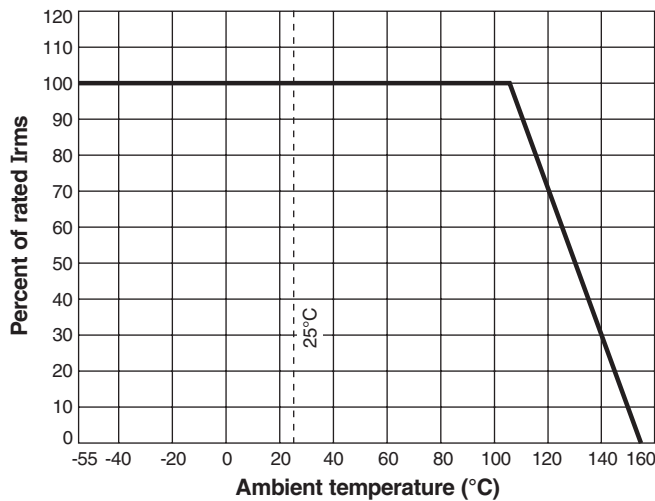
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# MS524PYA Series

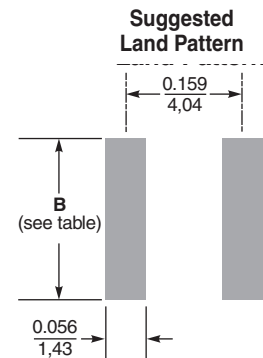
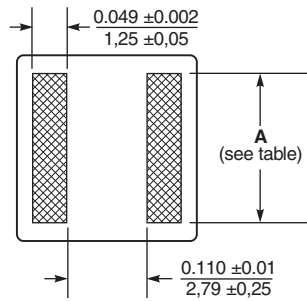
## L vs Frequency



## Irms Derating



Dash number	A ±0.008 in ±0.20 mm (in / mm)	B (in / mm)
-681	0.213 / 5.42	0.224 / 5.69
-102	0.213 / 5.42	0.224 / 5.69
-182	0.213 / 5.42	0.224 / 5.69
-222	0.213 / 5.42	0.224 / 5.69
-302	0.213 / 5.42	0.224 / 5.69
-472	0.204 / 5.18	0.210 / 5.33
-562	0.204 / 5.18	0.210 / 5.33
-682	0.204 / 5.18	0.210 / 5.33
-822	0.201 / 5.12	0.206 / 5.24
-103	0.201 / 5.12	0.206 / 5.24
-153	0.200 / 5.08	0.204 / 5.18
-223	0.200 / 5.08	0.204 / 5.18



Dimensions are in inches / mm



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