

# High Reliability Power Inductors MS465PYA



- High temperature materials allow operation in ambient temperatures up to 155°C
- Exceptionally low DCR – 4.83 mOhm
- Soft saturation makes them ideal for VRM/VRD applications.
- Passes vibration testing to 80 G and shock testing to 1000 G
- Tin-lead (Sn-Pb) termination for the best possible board adhesion

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

**Core material** Composite

**Weight** 0.33 – 0.42 g

**Ambient temperature** –55°C to +105°C with Irms current

**Maximum part temperature** +155°C (ambient + temp rise).

**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** 500/7" reel

Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 4.27 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
MS465PYA521MSZ	0.52	4.83	5.31	104	130	13.1	10.0	12.0
MS465PYA681MSZ	0.68	5.74	6.31	80	100	11.6	9.2	11.3
MS465PYA821MSZ	0.82	6.65	7.32	76	95	11.0	8.1	10.2
MS465PYA102MSZ	1.0	7.54	8.29	62	78	10.3	7.8	10.2
MS465PYA152MSZ	1.5	10.3	11.3	55	69	9.4	6.1	8.5
MS465PYA222MSZ	2.2	15.2	16.7	43	54	7.4	4.9	6.8
MS465PYA332MSZ	3.3	26.5	29.2	33	41	5.4	3.7	5.1
MS465PYA472MSZ	4.7	33.7	37.1	26	33	4.9	3.0	4.3
MS465PYA682MSZ	6.8	44.9	49.4	24	30	4.8	2.7	3.5
MS465PYA822MSZ	8.2	60.8	66.9	21	27	4.0	2.3	3.0
MS465PYA103MSZ	10	84.0	92.4	19	24	3.0	2.0	2.7
MS465PYA153MSZ	15	109	120	16	20	2.8	1.7	2.3

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

**MS465PYA153MSZ**

**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

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 a 30% (typ) inductance drop 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.

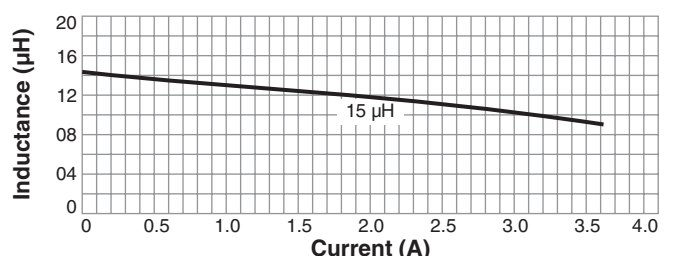
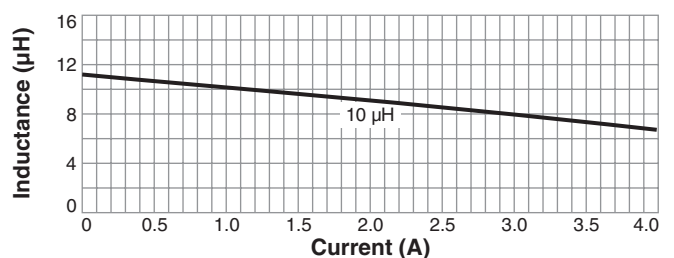
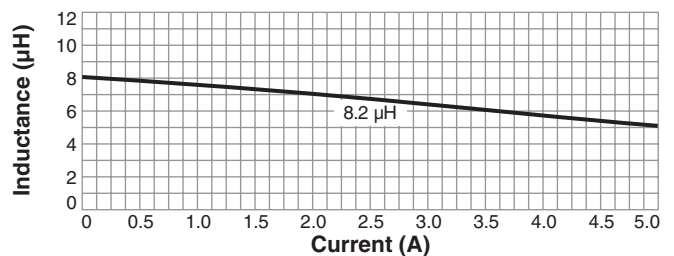
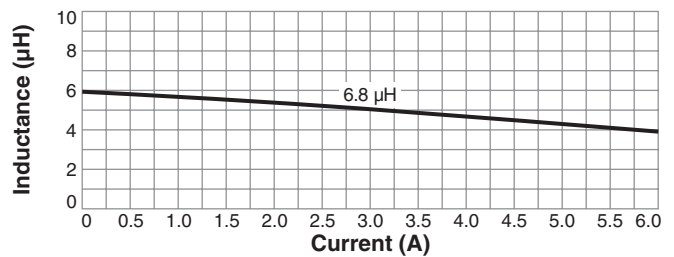
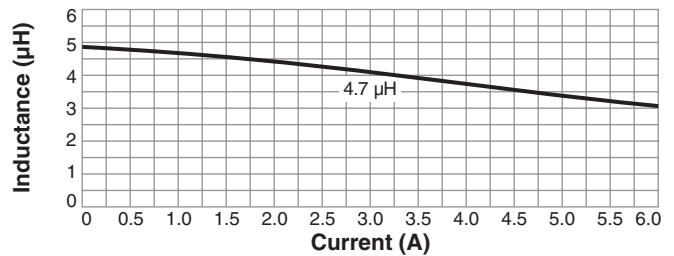
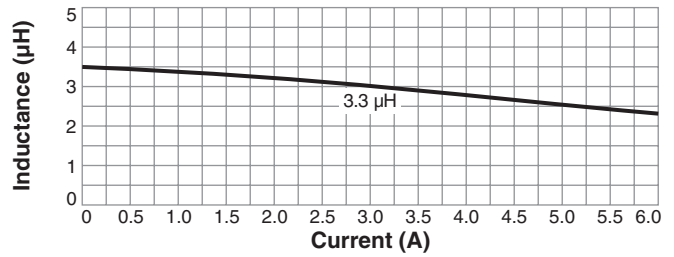
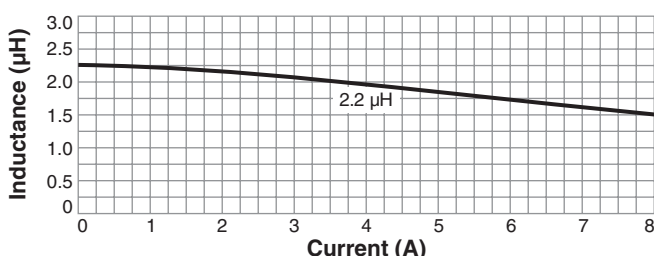
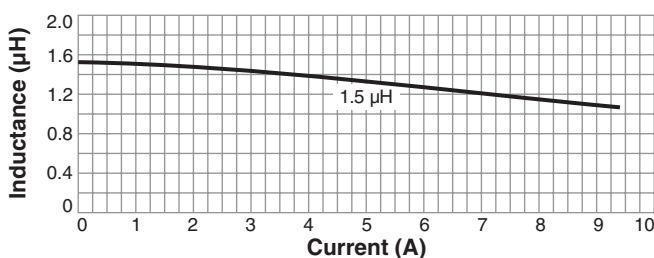
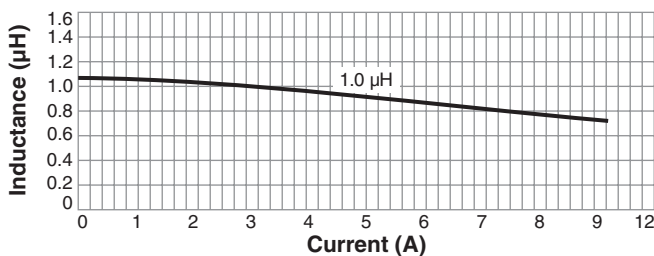
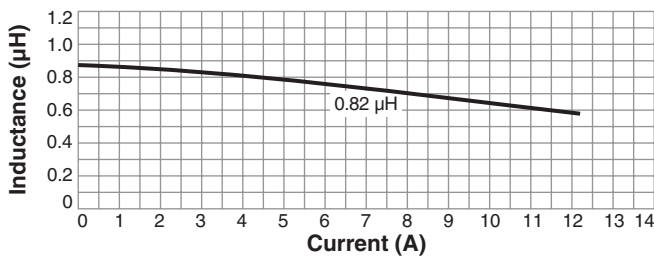
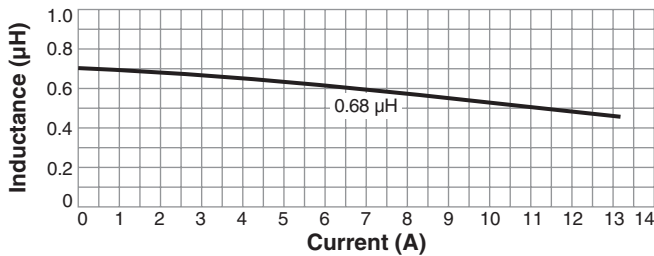
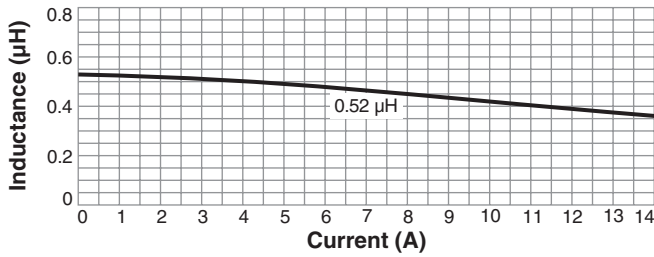
## Irms Testing

Irms testing was performed in still air on a 0.060 inch thick pcb with 4 oz copper traces (0.321 inch wide) capable of carrying 22 Amps.

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.

# MS465PYA Series

## L vs Current



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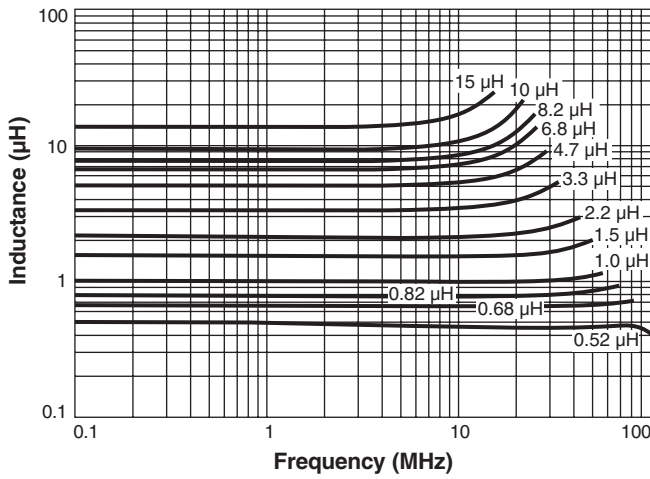
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Document MS803-2 Revised 05/02/23

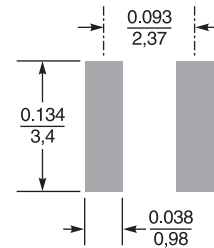
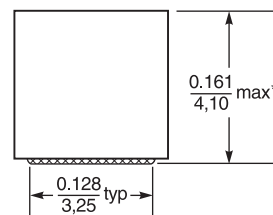
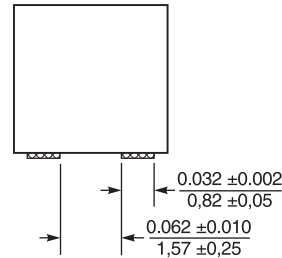
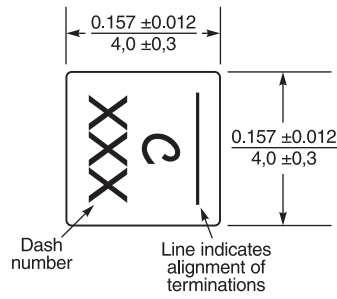
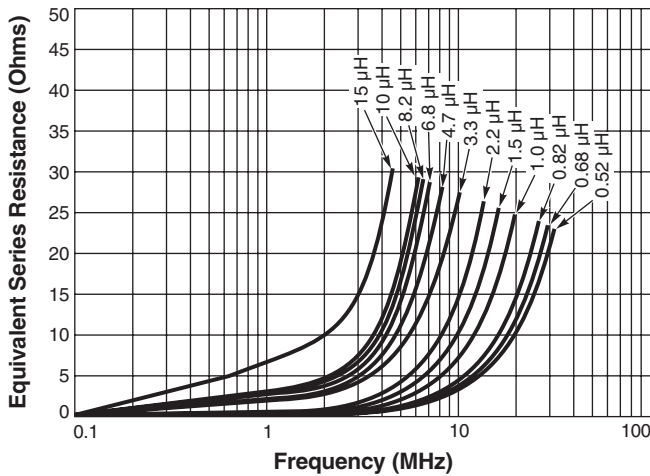
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# MS465PYA Series

## L vs Frequency



## ESR vs Frequency



**Suggested Land Pattern**

\* For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.005 inch / 0.13 mm.

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



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Document MS803-3 Revised 05/02/23

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