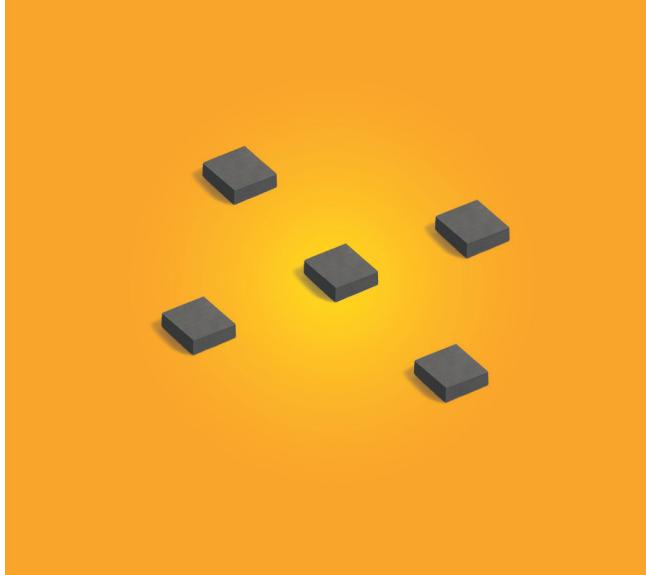


# High-Reliability Power Inductors MS319PZA



- High temperature material allows operation in ambient temperatures up to 155°C
- Tin-lead (Sn-Pb) termination for the best possible board adhesion
- Lowest profile, ultra-miniature, magnetically shielded power inductor; only 0.5 mm high, 2 mm × 2 mm footprint
- Soft saturation makes them ideal for VRM/VRD applications.
- Special construction allows it to pass vibration testing to 80 G and shock testing to 1000 G.

**Core material** Composite

**Terminations** Tin-lead (63/37) over tin over nickel over silver-platinum.

**Weight** 11.4 mg

**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** 2000/7" reel

Plastic tape: 8 mm wide, 0.28 mm thick, 4 mm pocket spacing, 0.76 mm pocket depth

Part number <sup>1</sup>	Inductance <sup>2</sup> ±20% (µH)	DCR (Ohms) <sup>3</sup>		SRF typ <sup>4</sup> (MHz)	Isat (A) <sup>5</sup>			Irms (A) <sup>6</sup>	
		nom	max		10% drop	20% drop	30% drop	20°C rise	40°C rise
MS319PZA151MSZ	0.15	0.085	0.098	590	1.05	1.55	1.90	1.25	1.60
MS319PZA221MSZ	0.22	0.111	0.128	480	0.72	1.20	1.50	1.13	1.48
MS319PZA331MSZ	0.33	0.144	0.166	380	0.65	1.05	1.30	1.00	1.30
MS319PZA471MSZ	0.47	0.177	0.204	275	0.60	0.97	1.20	0.95	1.25
MS319PZA681MSZ	0.68	0.215	0.247	220	0.50	0.75	0.95	0.80	1.05

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

**MS319PZA681MSZ**

**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.

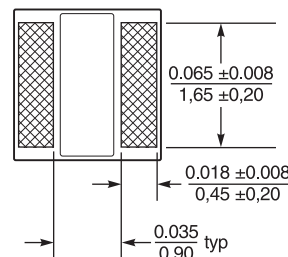
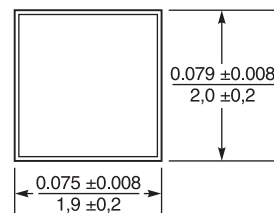
4. SRF measured using Agilent/HP 4395A or equivalent.

5. DC current at 25°C that causes the specified 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.

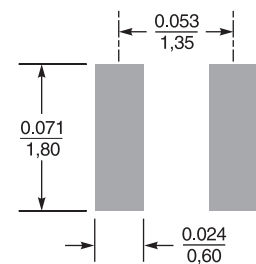
7. Electrical specifications at 25°C.

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



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

## 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 0.008 inch / 0.2 mm.

**Coilcraft CPS**  
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Cary, IL 60013  
Phone 800-981-0363

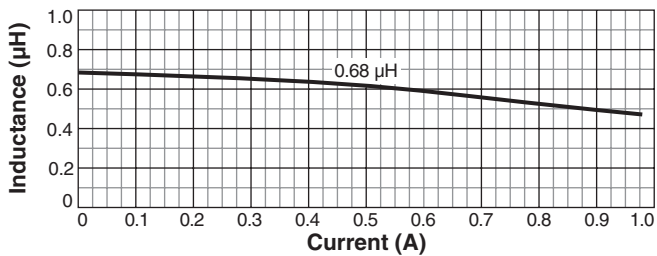
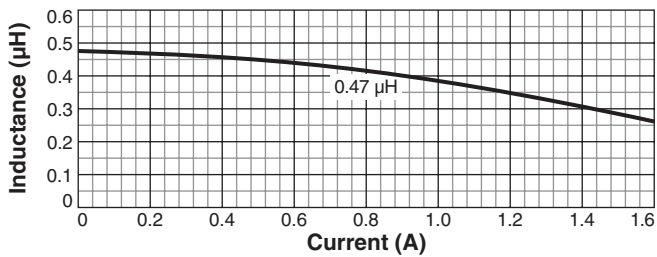
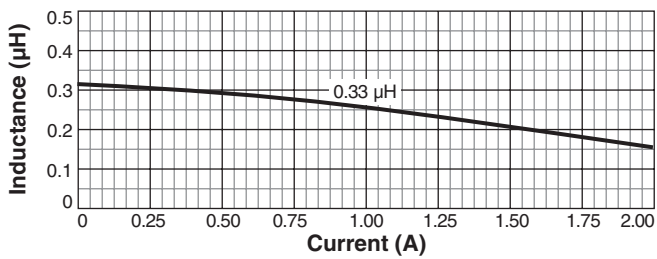
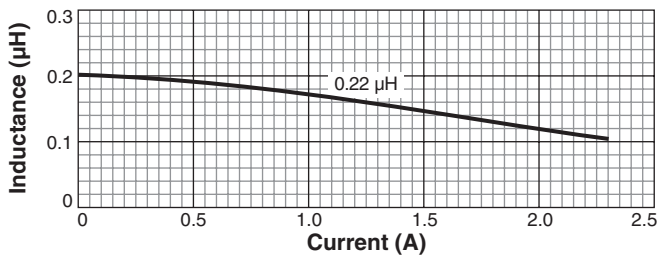
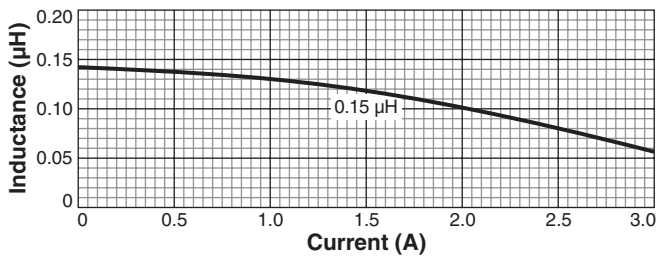
Fax 847-639-1508  
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www.coilcraft-cps.com

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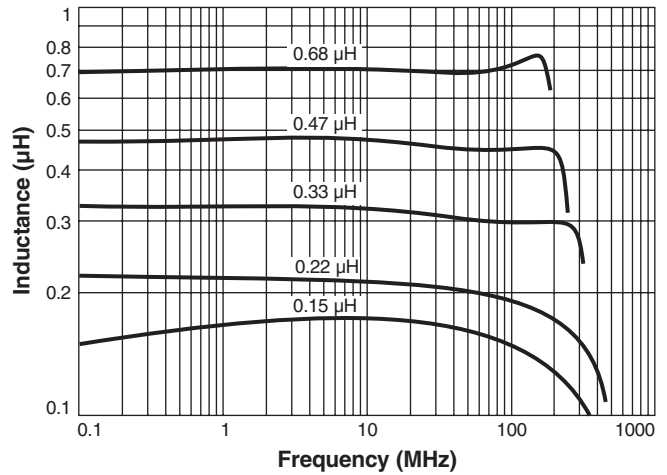
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# MS319PZA Series (2005)

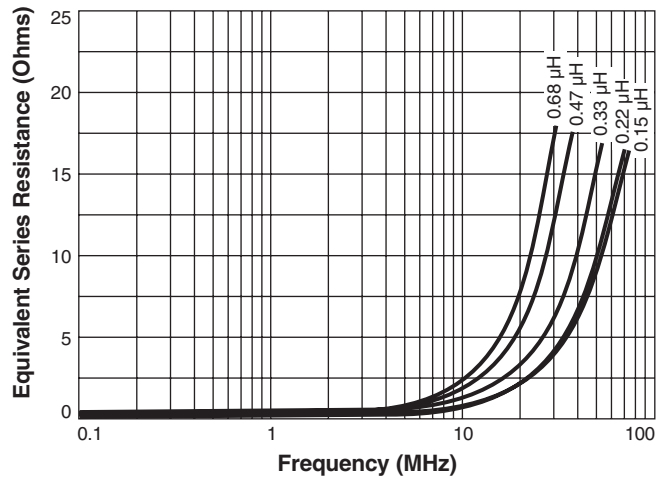
## L vs Current



## L vs Frequency



## ESR vs Frequency



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