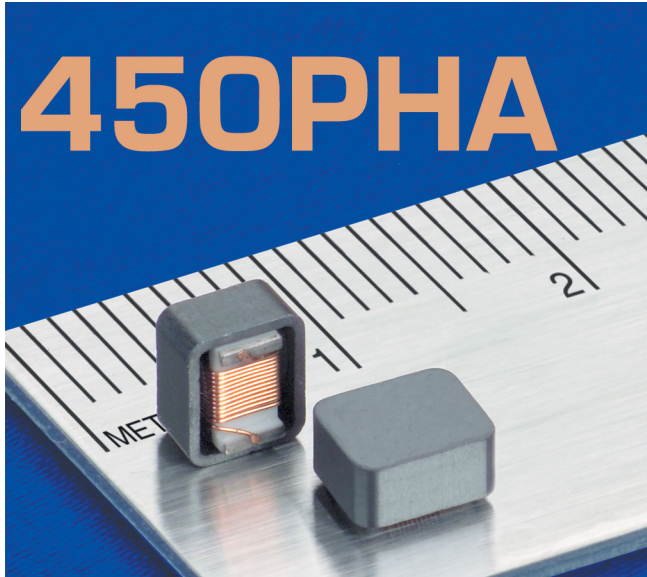


# Power Inductor for Critical Applications ST450PHA



- Shielded power inductors
- High inductance with tight tolerance
- Excellent current handling for a part this size; low DCR

**Core material** Ceramic/Ferrite

**Terminations** Silver-palladium-platinum-glass frit. Other terminations available at additional cost.

**Weight** 286–323 mg

**Ambient temperature** –40°C to +105°C with Irms current

**Maximum part temperature** +145°C (ambient + temp rise).

**Storage temperature** Component: –55°C to +145°C.  
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** 600 per 7" reel Plastic tape: 12 mm wide, 0.25 mm thick, 4 mm pocket spacing

Partnumber <sup>1</sup>	Inductance ±10% <sup>2</sup> (µH)	Q min <sup>3</sup>	DCR max <sup>4</sup> (Ohms)	SRF typ <sup>5</sup> (MHz)	Isat <sup>6</sup> (A)	Irms <sup>7</sup> (A)
ST450PHA102KLZ	1.0	35	0.05	685	2.50	2.70
ST450PHA122KLZ	1.2	38	0.06	460	2.00	2.60
ST450PHA152KLZ	1.5	38	0.06	460	2.00	2.60
ST450PHA222KLZ	2.2	38	0.07	270	1.70	2.40
ST450PHA272KLZ	2.7	40	0.08	265	1.40	2.30
ST450PHA332KLZ	3.3	40	0.09	225	1.40	2.30
ST450PHA392KLZ	3.9	40	0.11	170	1.20	2.20
ST450PHA472KLZ	4.7	40	0.11	165	1.15	2.10
ST450PHA562KLZ	5.6	40	0.12	155	1.10	2.10
ST450PHA682KLZ	6.8	40	0.13	140	1.00	1.90
ST450PHA103KLZ	10	40	0.17	120	0.90	1.70
ST450PHA153KLZ	15	40	0.26	100	0.70	1.45
ST450PHA223KLZ	22	40	0.33	45	0.54	1.20
ST450PHA333KLZ	33	40	0.40	30	0.46	1.10
ST450PHA393KLZ	39	48	0.56	30	0.40	1.00
ST450PHA473KLZ	47	50	0.87	28	0.35	0.80
ST450PHA683KLZ	68	50	1.08	17	0.32	0.67
ST450PHA823KLZ	82	55	1.25	17	0.28	0.65
ST450PHA104KLZ	100	60	1.32	14	0.27	0.65
ST450PHA124KLZ	120	60	1.45	12	0.23	0.60
ST450PHA154KLZ	150	60	2.20	11	0.20	0.51
ST450PHA224KLZ	220	60	2.65	7	0.17	0.47
ST450PHA334KLZ	330	60	4.85	5.5	0.15	0.31
ST450PHA474KLZ	470	50	5.85	4.0	0.12	0.31
ST450PHA564KLZ	560	40	6.10	2.6	0.11	0.28
ST450PHA684KLZ	680	40	6.60	2.3	0.10	0.28
ST450PHA824KLZ	820	30	7.35	1.8	0.09	0.25
ST450PHA105KLZ	1000	28	10.00	1.8	0.08	0.22

- When ordering, please specify **termination** and **testing** codes:

ST450PHA334KLZ

**Termination:** L = Silver-palladium-platinum-glass frit terminations  
Special order:  
T = Tin-silver-copper (95.5/4/0.5) or  
S = Tin-lead (63/37).

**Testing:** Z = Unscreened

- Inductance measured at 100 kHz, 0.1 Vrms, using Coilcraft SMD-A fixture in Agilent/HP 4263B impedance analyzer or equivalent.
  - Q measured at 1 MHz on an Agilent/HP 4291 with an Agilent/HP 16193 test fixture.
  - DCR measured on micro-ohmmeter and a Coilcraft CCF859 test fixture.
  - SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft CCF1301 test fixture.
  - DC current at which the inductance drops 10% (typ) from its value without current.
  - Current that causes a 40°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.
  - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**COILCRAFT** ACCURATE  
**PRECISION** REPEATABLE  
MEASUREMENTS  
SEE WEB SITE **TEST FIXTURES**

Document ST252-1 Revised 06/29/17

**Coilcraft** CPS  
CRITICAL PRODUCTS & SERVICES

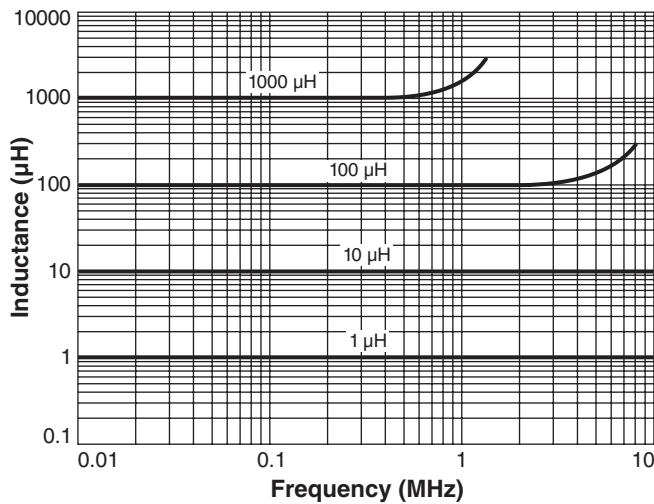
1102 Silver Lake Road  
Cary, IL 60013  
Phone 800-981-0363

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

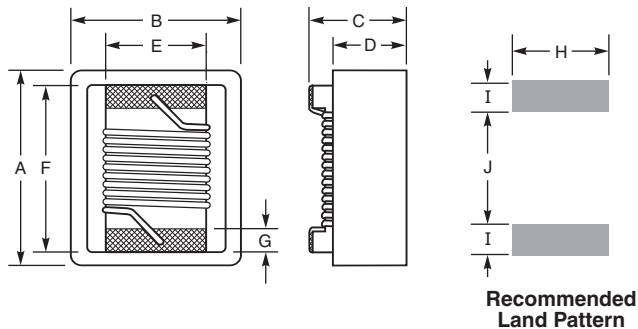
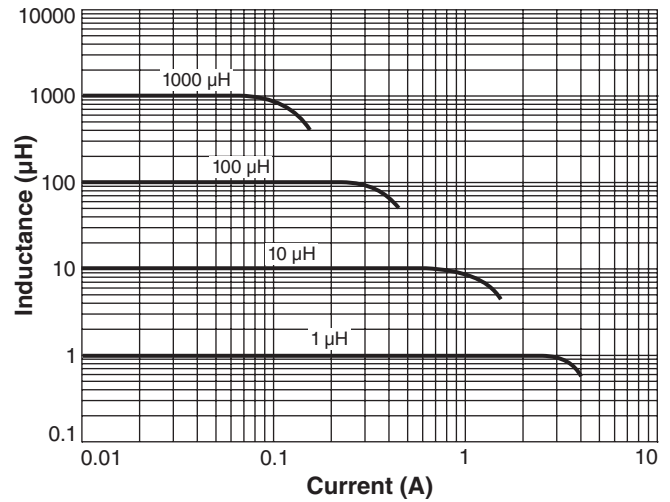
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

# Power Inductors for Critical Applications ST450PHA

## Typical L vs Frequency



## Typical L vs Current



**Recommended Land Pattern**

A	B	C	D	E	F	G	H	I	J	
max	max	max	ref	ref	ref					inches
0.231	0.196	0.150	0.107	0.100	0.178	0.025	0.120	0.045	0.118	
5,87	4,98	3,81	2,72	2,54	4,52	0,64	3,05	1,14	3,00	mm

Note: Termination dimensions are before optional solder application.  
For maximum termination dimensions including solder, add 0.006 in / 0,15 mm.

**S-Parameter files**  
ON OUR WEB SITE

**SPICE models**  
ON OUR WEB SITE

Document ST252-2 Revised 06/29/17



CRITICAL PRODUCTS & SERVICES

© Coilcraft, Inc. 2017

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

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

This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.