

# Coupled Inductors for Critical Applications ST450PHD



- Coupled inductors optimized for xDSL filtering applications
- Can be used as a common mode choke, 1:1 transformer or in SEPIC applications

**Core material** Ferrite

**Terminations** Gold over nickel over moly-mag.

**Weight** 0.30 – 0.36 g

**Ambient temperature** –40°C to +85°C with I<sub>max</sub> current

**Maximum part temperature** +125°C (ambient + temp rise)

**Storage temperature** Component: –55°C to +125°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)

**Packaging** 600/7" reel Plastic tape: 12 mm wide, 0.25 mm thick, 8 mm pocket spacing, 3.9 mm pocket depth

Part number <sup>1</sup>	L ±20% <sup>2</sup> (µH)	Q min <sup>3</sup>	DCR max (Ohms)	SRF min (MHz)	I <sub>sat</sub> <sup>4</sup> (mA)	I <sub>max</sub> (mA)
ST450PHD102MAZ	1.0	38	0.20	285	2400	2100
ST450PHD222MAZ	2.2	29	0.33	175	1500	1200
ST450PHD472MAZ	4.7	43	0.41	102	1500	1000
ST450PHD103MAZ	10	35	0.74	74	800	780
ST450PHD153MAZ	15	37	0.96	65	700	710
ST450PHD223MAZ	22	38	1.84	54	500	530
ST450PHD393MAZ	39	39	2.60	5.7	450	420
ST450PHD473MAZ	47	40	2.66	4.8	400	390

1. When ordering, please specify **termination** and **screening** codes:

**ST450PHD473MAZ**

**Termination:** A = Gold over nickel over moly-mag terminations

**Special order:**

C = Tin-lead (63/37) over gold over nickel over moly-mag

F = Tin-silver-copper (95.5/4/0.5) over silver-platinum glass frit.

**Screening:** Z = Unscreened

Y = Unscreened (SLDC Option A)

W = Unscreened (SLDC Option B)

H = Coilcraft CP-SA-10001 Group A

G = Coilcraft CP-SA-10001 Group A (SLDC Option A)

D = Coilcraft CP-SA-10001 Group A (SLDC Option B)

• Screening performed to the document's latest revision.

• Custom screening also available

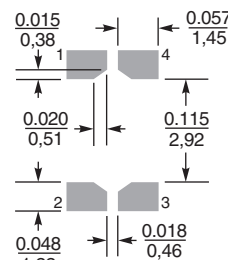
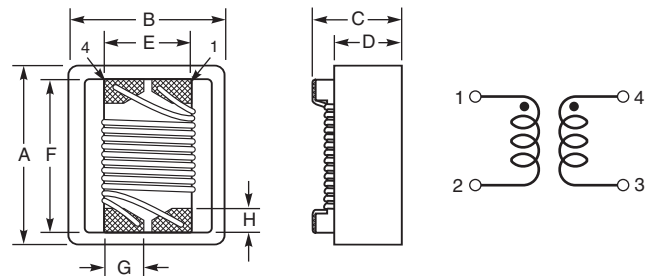
2. Per winding. Tested at 100 kHz, 0.1 Vrms, 0 Adc.

3. Q measured at 1 MHz.

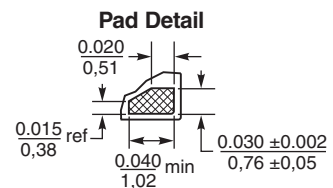
4. DC current at 25°C that causes the inductance to drop 10% (typ) from its value without current.

5. Electrical specifications at 25°C.

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



**Suggested  
Land Pattern**

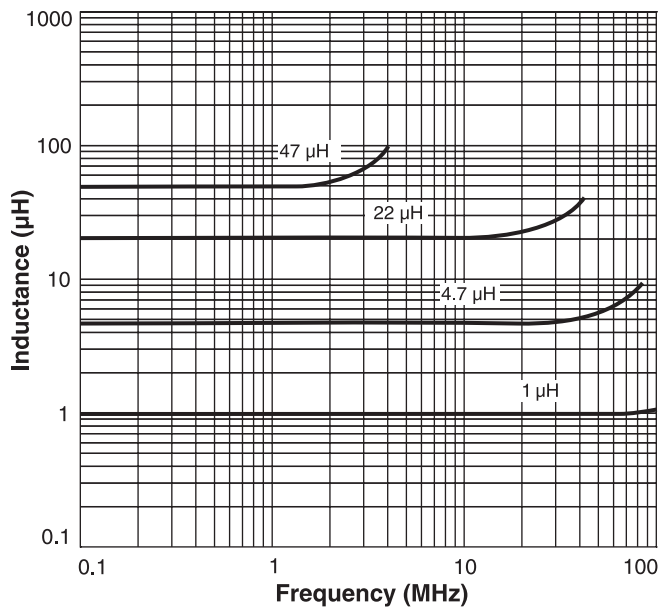


A max	B max	C max	D ref	E ref	F ref	G min	H
0.231	0.196	0.150	0.107	0.100	0.178	0.04	0.03 inches
5,87	4,98	3,81	2,72	2,54	4,52	1,02	0,76 mm

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

# ST450PHD Coupled Inductors

## Typical L vs Frequency



## Typical Q vs Frequency

