



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

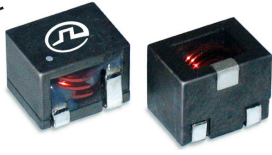
Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



# SMT Power Inductors

Round wire Coils- PG0936NL series



- Inductance Range: **0.47uH to 25.0uH**
- Current Rating: **up to 40Apk**
- Footprint: **17.5mm x 16.7mm Max**
- Height: **10.0mm Max**
- No Thermal Aging



Electrical Specifications @ 25°C — Operating Temperature -40°C to +130°C<sup>1</sup>

Part Number	Inductance <sup>2</sup> @ Irated (μH Typical)	Irated <sup>3</sup> (A)	Controlled Electrical Specs.		Saturation <sup>5</sup> Current Isat (A TYP)		Heating Current <sup>6</sup> Idc (A TYP)	Core Loss Factor <sup>7</sup> (K2)
			DCR <sup>4</sup> (mΩ) MAX	Inductance @ 0Adc (μH ± 20%)	25°C	100°C		
PG0936.471NL	0.47	40	0.87	0.47	80	65	40	20.0
PG0936.681NL	0.60	40	0.87	0.68	62	48	40	29.0
PG0936.851NL	0.74	40	0.87	0.85	50	40	40	36.3
PG0936.162NL	1.4	31	1.5	1.6	36	30	31	45.5
PG0936.282NL	2.5	24	2.2	2.8	28	23	24	59.8
PG0936.452NL	3.6	22	2.9	4.5	22	18	22	76.9
PG0936.682NL	5.4	18	3.5	6.8	18	15	21	96.8
PG0936.113NL	8.8	14	7.0	11.0	14	11.5	14	117.5
PG0936.183NL	15.4	9.8	13.8	18.0	11	9	9.8	153.8
PG0936.253NL	23.5	7.0	19.4	25.0	9.2	8	7.0	178.0

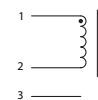
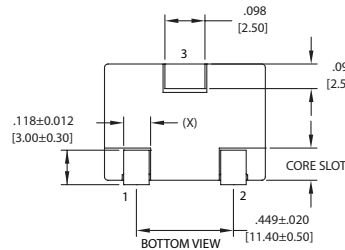
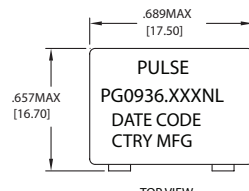
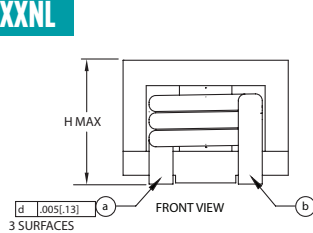
Notes:

- Actual temperature of the component during system operation (ambient plus temperature rise) must be within the standard operating range.
- Inductance at Irated is a typical inductance value for the component taken at rated current.
- The rated current as listed is either the saturation current (@ 25°C) or the heating current depending on which value is lower.
- The DCR of the part is measured at an ambient temperature of 20°C±3°C from point a to b as shown below on the mechanical drawing.
- The saturation current, Isat, is the current at which the component inductance drop by 20% (typical) at an ambient temperature. This current is determined by placing the component in the specified ambient environment and applying a short duration pulse current (to eliminate self-heating effect) to the component.
- The heating current, Idc, is the DC current required to raise the component temperature by approximately 40°C. The heating current is determined by mounting the component on a typical PCB and applying current for 30 minutes. The temperature is measured by placing the thermocouple on top of the unit under test. Take note that the components' performance varies depending on the system condition. It is suggested that the component be tested at the system level, to verify the temperature rise of the component during system operation.
- Core loss approximation is based on published core data:  
 $Core\ Loss = K1 * (f)^{1.72} * (K2\Delta I)^{2.41}$  in mW  
 K1 = 8.68E-10  
 f = switching frequency in KHz  
 K1 & K2 = core loss factors  
 $\Delta I$  = delta I across the component in Ampere  
 K2ΔI = one half of the peak to peak flux density across the component in Gauss
- Unless otherwise specified, all testing is made at 100kHz, 0.1Vac
- Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PG0936.682NL becomes PG0936.682NLT). Pulse complies with industry standard tape and reel specification EIA481. The tape and reel for this product has a width (W=32.0mm), pitch (Po=24.0mm) and depth (Ko=10.8mm).
- The core is a conductive material so care should be taken when mounting this component over an exposed via or if the voltage across the terminals exceeds 24V. Trickle current through the core material may generate additional losses and potential overheating. Please contact Pulse to discuss an alternative solution if required.

## Mechanicals

## Schematics

### PG0936.XXXNL

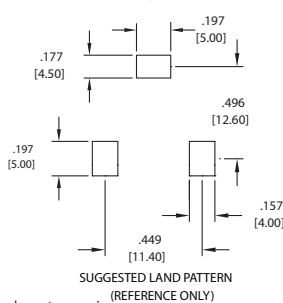


PIN3 IS MECHANICAL SUPPORT ONLY  
HAS NO INTERNAL ELECTRICAL CONNECTION

Weight.....9.8 grams  
Tape and Reel.....200/tray

Dimensions:  $\frac{\text{Inches}}{\text{mm}}$

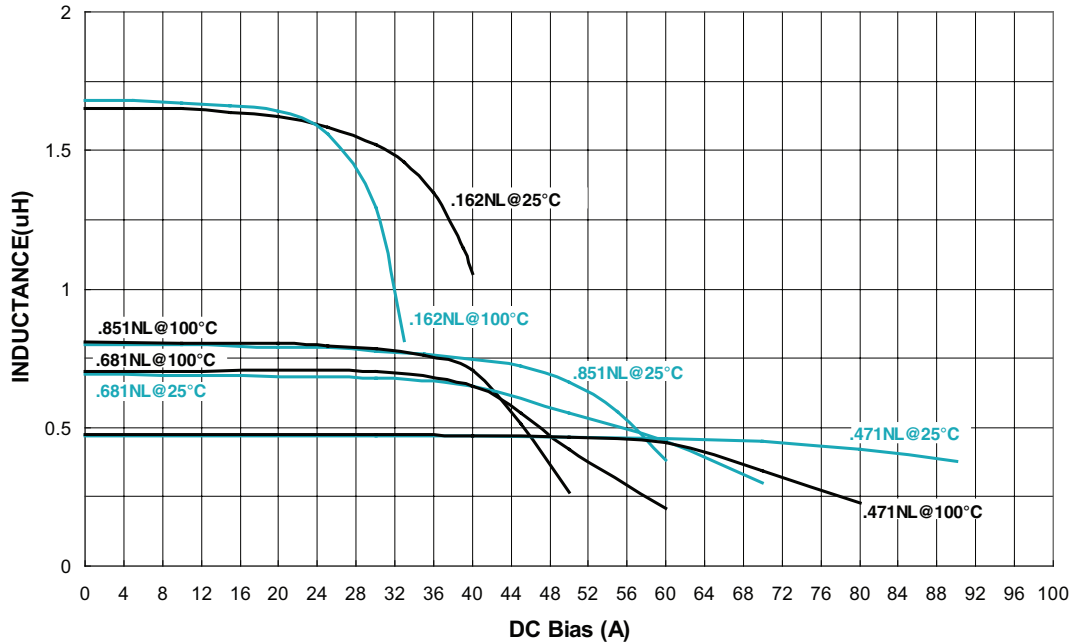
Unless otherwise specified, all tolerances are  $\pm \frac{.010}{0,25}$



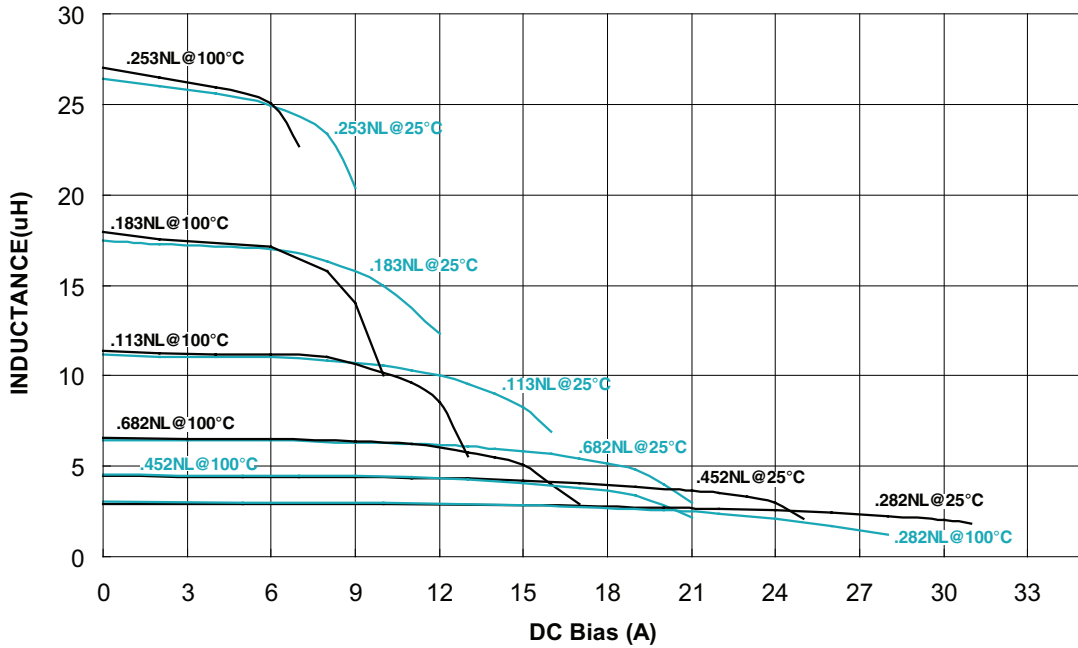
SUGGESTED LAND PATTERN  
(REFERENCE ONLY)

PART NUMBER	X (±0.5)	Height H
PG0936.471NL	2.5	.315[8.0]
PG0936.681NL	2.5	
PG0936.851NL	2.5	
PG0936.162NL	2.5	
PG0936.282NL	2.5	.394[10.0]
PG0936.452NL	2.5	
PG0936.682NL	2.5	
PG0936.113NL	1.4	
PG0936.183NL	1.4	
PG0936.253NL	1.4	

Typical Inductance vs DC Bias



Typical Inductance vs DC Bias



**For More Information**

**Pulse Worldwide Headquarters**

12220 World Trade Drive  
San Diego, CA 92128  
U.S.A.

Tel: 858 674 8100  
Fax: 858 674 8262

**Pulse Europe**

Pulse Electronics GmbH  
Am Rottland 12  
58540 Meinerzhagen  
Germany

Tel: 49 2354 777 100  
Fax: 49 2354 777 168

**Pulse China Headquarters**

B402, Shenzhen Academy of  
Aerospace Technology Bldg.  
10th Kejian Road  
High-Tech Zone  
Nanshan District  
Shenzhen, PR China 518057

Tel: 86 755 33966678  
Fax: 86 755 33966700

**Pulse North China**

Room 2704/2705  
Super Ocean Finance Ctr.  
2067 Yan An Road West  
Shanghai 200336  
China

Tel: 86 21 62787060  
Fax: 86 2162786973

**Pulse South Asia**

135 Joo Seng Road  
#03-02  
PM Industrial Bldg.  
Singapore 368363

Tel: 65 6287 8998  
Fax: 65 6287 8998

**Pulse North Asia**

3F, No. 198  
Zhongyuan Road  
Zhongli City  
Taoyuan County 320  
Taiwan R. O. C.

Tel: 886 3 4356768  
Fax: 886 3 4356823 (Pulse)  
Fax: 886 3 4356820 (FRE)

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