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!

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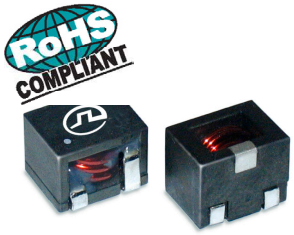
SMT Power Inductors

Round wire Coils– PG1083NL series



- *Inductance Range: 1.0uH to 50.0uH*
- *Current Rating: up to 70Apk*
- *Footprint: 21.7mm x 21.5mm Max*
- *Height: 12.5mm Max*
- *No Thermal Aging*
- *RoHS Compliant*

Electrical Specifications @ 25°C — Operating Temperature -40°C to +130°C [1]

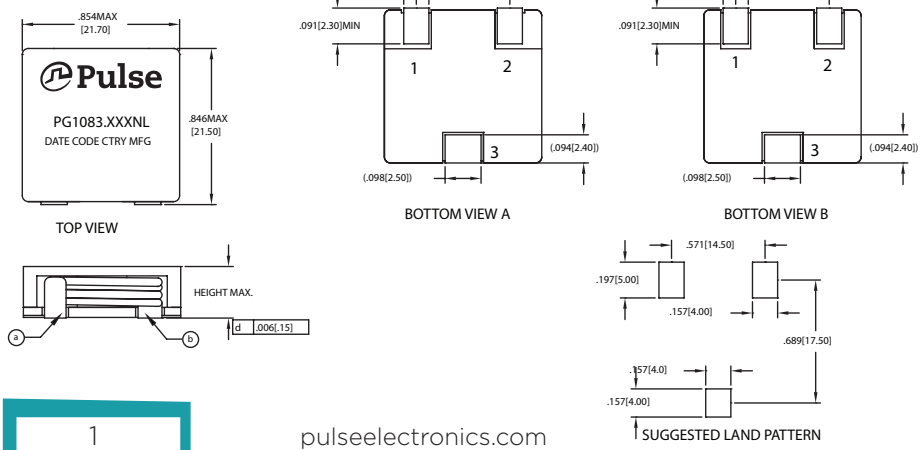
Part Number	Inductance [2] @ Irated (µH Typical)	Irated [3] (A)	Controlled Electrical Specs.		Saturation [5] Current Isat (A TYP)		Heating Current [6] Idc (A TYP)	Core Loss Factor [7] (K2)	Size X (REF.)	Height (MAX.)
			DCR [4] (mΩ) MAX	Inductance @ 0Adc (µH ± 20%)	25°C	100°C				
PG1083.102NL	0.95	40	1.4	1.00	70	65	40	17.9	0.098 [2.50] BOTTOM VIEW A	0.417 [10.6]
PG1083.152NL	1.35	40	1.4	1.50	52	45	40	26.8		
PG1083.222NL	1.95	34	1.8	2.20	46	37	34	29.5		
PG1083.332NL	2.70	28	2.2	3.30	37	33	28	35.4		
PG1083.472NL	4.10	26	2.8	4.70	30	24	26	50.4		
PG1083.682NL	6.10	22	3.8	6.80	26	20	22	52.1		0.492 [12.50]
PG1083.103NL	8.60	17.5	6.0	10.5	22.5	18	17.5	62.6		
PG1083.153NL	12.6	14	9.2	15.2	18.5	14	14.0	74.1		
PG1083.253NL	21.0	11	15.0	24.5	14.5	12	11.0	93.9	0.054 [1.40] BOTTOM VIEW B	
PG1083.323NL	27.9	9	21.5	32.0	12.5	10	9.0	107.3		
PG1083.503NL	45.2	7.4	32.6	50.0	10.0	8.5	7.4	134.1		

Notes:

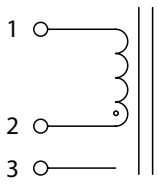
1. Actual temperature of the component during system operation (ambient plus temperature rise) must be within the standard operating range.
2. Inductance at Irated is a typical inductance value for the component taken at rated current.
3. The rated current as listed is either the saturation current (@ 25°C) or the heating current depending on which value is lower.
4. 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.
5. 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.
6. 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.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.
7. Core loss approximation is based on published core data (at 100°C):
   Core Loss = K1 * $(f)^{1.378}$ * $(K2*\Delta I)^{2.864}$ in mW
   K1 = 1.01E-9
   f = switching frequency in KHz
   K1 & K2 = core loss factors
   ΔI= delta I across the component in Ampere
   K2*ΔI=one half of the peak to peak flux density across the component in Gauss
8. Unless otherwise specified, all testing is made at 100kHz, 0.1Vac
9. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PG1083.682NL becomes PG1083.682NLT). Pulse complies with industry standard tape and reel specification EIA481. The tape and reel for this product has a width (W=44.0mm), pitch (Po=32.0mm). The depth (Ko) has two types: 1) 10.6 mm for parts with height of 10.6mm max, 120 pieces/reel; 2) 12.9mm for the parts of 12.5mm max, 100 pieces/reel.
10. 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

PG1083.XXXNL



Schematic

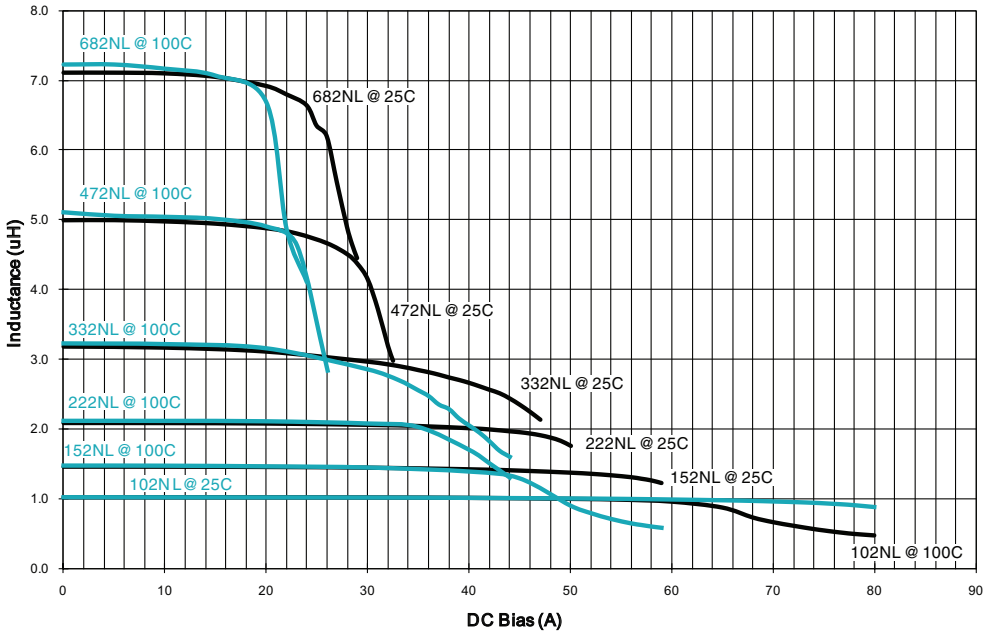


Weight.....18.6 grams
Tape and Reel.....100/tray

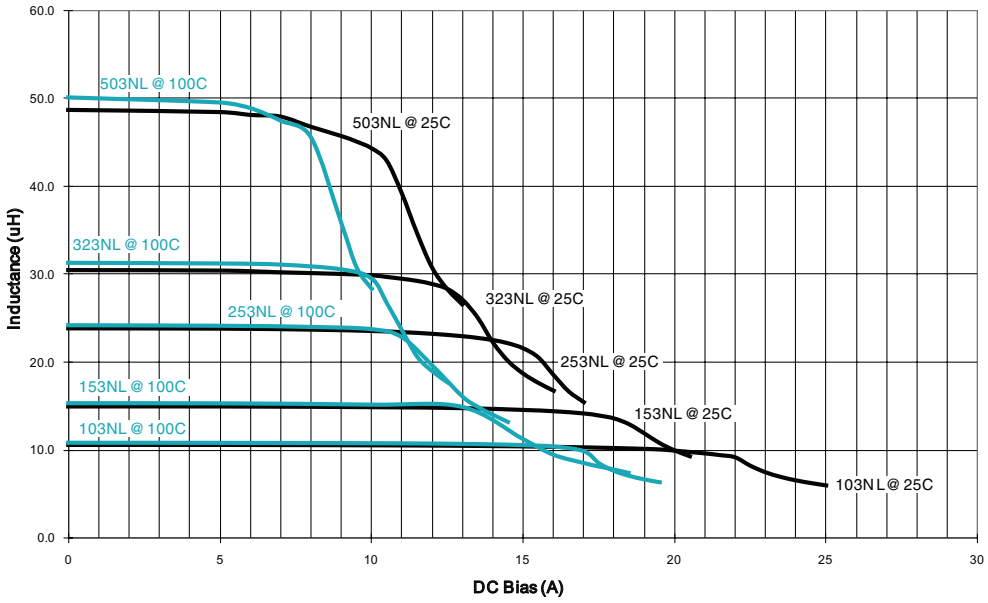
Dimensions: Inches / mm

Unless otherwise specified, all tolerences are ± 0.01 / 0,25

Typical Inductance VS DC bias



Typical Inductance VS DC bias



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