THE DATASHEET OF

PG0255.102NL

SMT Power Inductors

Flat Coils - PG0255NL Series

- ***Height:*** *4.0mm Max*
- ***Footprint:*** *11.5mm x 10.3mm Max*
- ***Heating Current Rating:*** *up to 51A*
- ***Inductance Range:*** *0.17µH to 2.1µH*

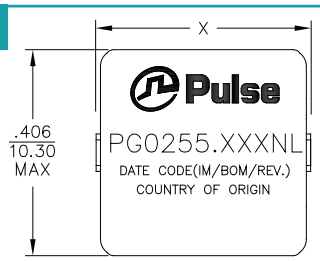
Electrical Specifications @ 25°C – Operating Temperature -40°C to +125°C										
Part Number	Inductance[2] @ Irated (TYP)	Irated[3] (A)	Controlled Electrical Specifications				Saturation[5] Current I_{SAT} (A)	Heating[6] Current I_{DC} (A)	Core Loss Factor[7]	
			DCR (mΩ)		Inductance @ $0A_{DC}$ (µH ±15%)	Inductance[4] @ Bias (µH ±20%)			K1	K2
			TYP	MAX						
PG0255.201NL	0.17	30	0.45	0.55	0.20	0.18 @ 21Adc	30	51	6.20e-10	47
PG0255.401NL	0.34	29	1.05	1.15	0.40	0.36 @ 17Adc	29	34	6.20e-10	56
PG0255.601NL	0.51	27	1.70	1.87	0.60	0.56 @ 15Adc	28	27	6.20e-10	60
PG0255.102NL	0.90	21	2.80	3.20	1.00	0.87 @ 26Adc	27	21	6.20e-10	78
PG0255.152NL	1.35	16	4.50	5.00	1.50	1.20 @ 17Adc	22	16	6.20e-10	95
PG0255.182NL	1.57	16	4.50	5.00	1.80	1.57 @ 16Adc	21	16	6.20e-10	115
PG0255.222NL	2.10	13	6.60	7.00	2.20	1.80 @ 20Adc	20	13	6.20e-10	118

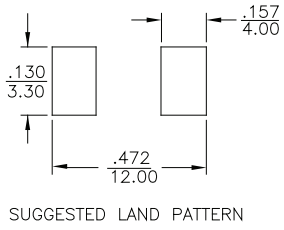
Notes:

1. The temperature of the component (ambient plus temperature rise) must be within the specified operating temperature range.
2. Inductance at Irated is a typical inductance value for the component taken at rated current.
3. The rated current listed is the lower of the saturation current @ 25°C or the heating current.
4. The inductance at Bias is the controlled inductance value measured after subjecting the part to the listed dc bias current.
5. The saturation current, ISAT, is the current at which the component inductance drops by 20% (typical) at an ambient temperature of 25°C. This current is determined by placing the component in the specified ambient environment and applying a short duration pulse current (to eliminate self-heating effects) 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 component's 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:
   Core Loss = $K1 * (f)^{1.48} * (K2\Delta I)^{1.97}$
   Where: Core Loss = in Watts
   f = switching frequency in kHz
   K1 & K2 = core loss factors
   ΔI = delta I across the component in Ampere
   K2ΔI = one half of the peak to peak flux density across the component in Gauss
8. Unless otherwise specified, all testing is made at 100kHz, $0.1V_{AC}$.
9. Optional Tape & Reel packaging can be ordered by adding a "**T**" suffix to the part number (i.e. PG0255.601NL becomes PG0255.601NL**T**). Pulse complies to industry standard tape and reel specification EIA481.

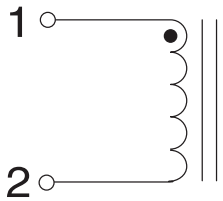
Mechanical

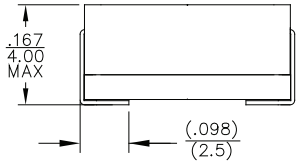
PG0255.XXXNL

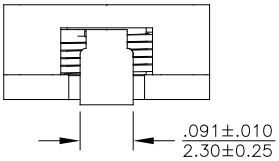




Schematic

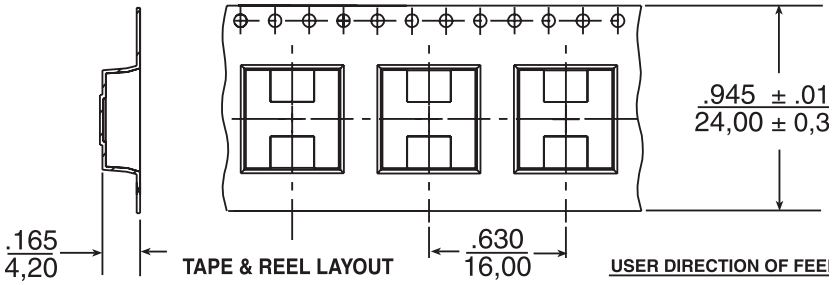




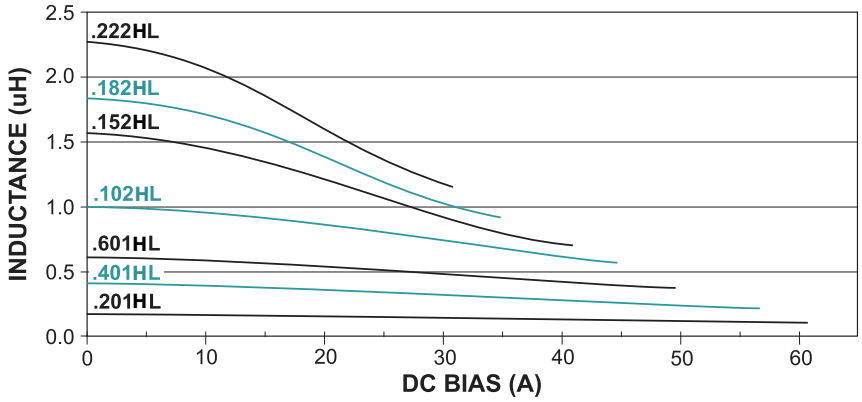


Weight 1.8grams
Tape & Reel 850/reel
Dimensions: Inches / mm
Unless otherwise specified,
all tolerances are: ±.010 / 0,25

PART NUMBER	"X" Dimension (mm MAX)
PG0255.201NL	.453/11.50
PG0255.401NL	.453/11.50
PG0255.601NL	.453/11.50
PG0255.222NL	.425/10.80
PG0255.152NL	.425/10.80
PG0255.102NL	.425/10.80
PG0255.182NL	.425/10.80



Typical Inductance vs DC Bias



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