

# SMT Power Inductors

Power Beads - PA2509NL Series



- Current Rating:** Over 75A<sub>pk</sub>
- Inductance Range:** 70nH to 200nH
- Height:** 8.0mm Max
- Footprint:** 7.0mm x 8.5mm Max

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

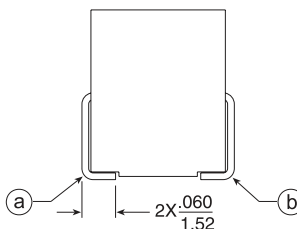
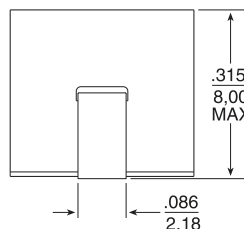
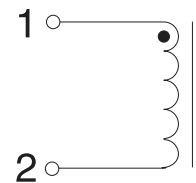
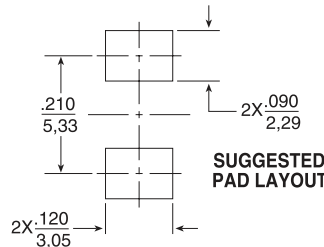
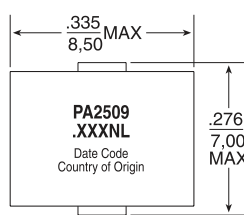
Part Number	Inductance @ 0A <sub>DC</sub> (nH ±10%)	Inductance @ I <sub>rated</sub> (nH TYP)	I <sub>rated</sub> <sup>1</sup> (A <sub>DC</sub> )	DCR <sup>2</sup> (mΩ)	Saturation Current <sup>3</sup> (A TYP)		Heating <sup>4</sup> Current (A TYP)
					25°C	100°C	
PA2509.700NL	70	70	30	0.35 ±8.5%	107	75+	33
PA2509.900NL	90	90	30		83	75	
PA2509.101NL	105	105	30		75	66	
PA2509.121NL	120	120	30		64	58	
PA2509.161NL	160	160	30		48	43	
PA2509.201NL	200	190	30		36	31	

- Notes:**
- The rated current as listed is either the saturation current or the heating current depending on which value is lower.
  - The nominal DCR is measured from point (a) to point (b), as shown on the mechanical drawing below.
  - The saturation current is the typical current which causes the inductance to drop by 20% at the stated ambient temperatures (25°C and 100°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.
  - The heating current is the DC current which causes the part temperature to increase by approximately 40°C. This current is determined by soldering the component on a typical application PCB, and then applying the current to the device for 30 minutes.
  - In high volt\*time applications, additional heating in the component can occur due to core losses in the inductor which may necessitate derating the current in order to limit the temperature rise of the component. To determine the approximate total losses (or temperature rise) for a given application, the coreloss and temperature rise curves can be used.
  - Optional tape and reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PA2509.121NL becomes PA2509.121NLT). Pulse complies to industry standard tape and reel specification EIA481. The tape and reel for this product has a width (W=24mm), pitch (Po=16.0mm) and depth (Ko=8.9mm).
  - The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.

### Mechanical

### Schematic

PA2509.XXXNL



Weight .....1.5 grams

Tape & Reel .....500/reel

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

Unless otherwise specified, all tolerances are  $\pm \frac{.010}{0.25}$

USA 858 674 8100

Germany 49 2354 777 100

Singapore 65 6287 8998

Shanghai 86 21 62787060

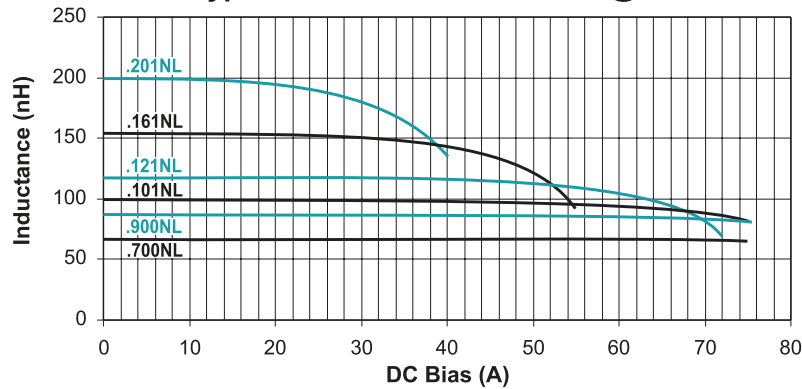
China 86 755 33966678

Taiwan 886 3 4356768

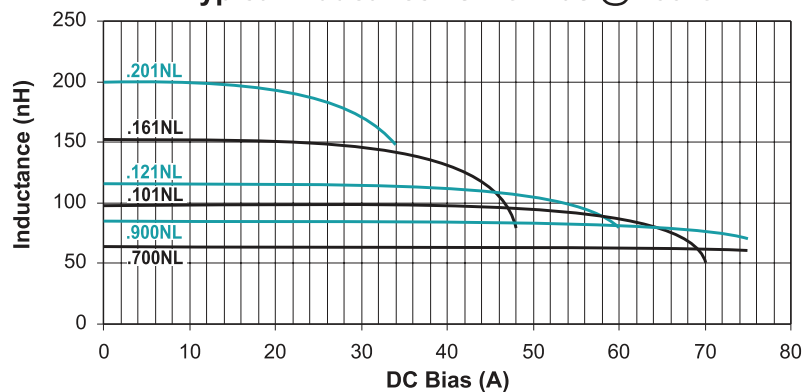
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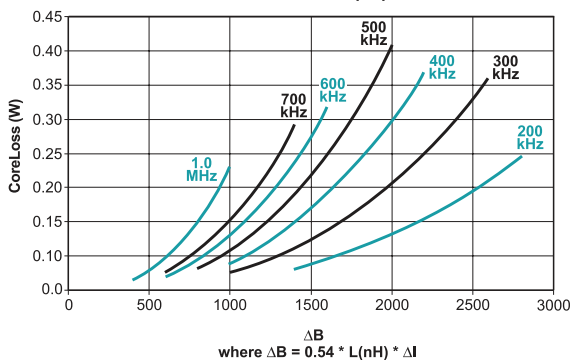
Typical Inductance vs DC Bias @ 25°C



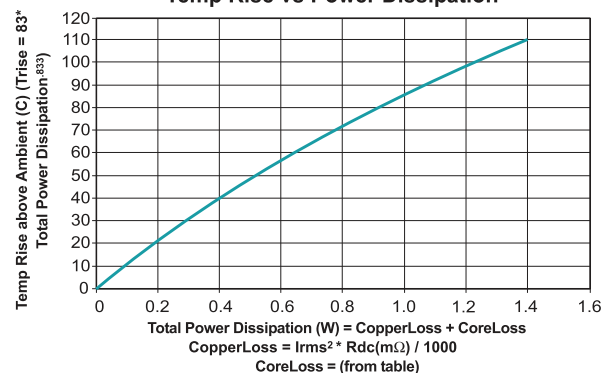
Typical Inductance vs DC Bias @ 100°C



CoreLoss (W)



Temp Rise vs Power Dissipation



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