Power Beads - PA2080NL, PA1894NL, PA2150NL, and PA2125NL Series







Desktop/Server Vcore Inductors

**DCR Tolerance:** ±4%

**Current Rating:** Over 80Apk

Inductance Range: 140μH to 470μH

| Electrical Specifications @ 25°C – Operating Temperature –40°C to +130°C <sup>7</sup> |   |                                    |   |  |   |       |                                 |  |  |
|---|---|------------------------------------|---|--|---|-------|---------------------------------|--|--|
| Part<br>Number  | Inductance<br>@ OA <sub>DC</sub><br>(nH ±10%) | Inductance<br>@ Irated<br>(nH TYP) | Irated <sup>1</sup><br>(A <sub>DC</sub> ) | $\begin{array}{c} \text{DCR}^2\\ (\text{m}\Omega) \end{array}$ | <b>Saturation Current<sup>3</sup></b> (A TYP) |       | Heating <sup>4</sup><br>Current |  |  |
|   |   |                                    |   |  | 25°C  | 100°C | (A TYP)                         |  |  |
| PA2080NL Series - 10.5mm x 7.5mm x 8.9mm MAX  |   |                                    |   |  |   |       |                                 |  |  |
| PA2080.141NL *  | 140   | 140                                | 40  | 0.49 ±4.1%   | 85  | >80   | 40                              |  |  |
| PA2080.161NL  | 165   | 160                                | 40  |  | 70  | 60    |                                 |  |  |
| PA2080.191NL *  | 185   | 182                                | 40  |  | 65  | 55    |                                 |  |  |
| PA2080.221NL  | 215   | 207                                | 40  |  | 55  | 50    |                                 |  |  |
| PA1894NL Series - 10.0mm x 9.0mm x 10.0mm MAX   |   |                                    |   |  |   |       |                                 |  |  |
| PA1894.191NL  | 185   | 185                                | 35  | 0.64 ±4.6%   | 69  | 55    | 35                              |  |  |
| PA1894.221NL *  | 220   | 220                                | 35  |  | 63  | 51    |                                 |  |  |
| PA1894.271NL  | 250   | 250                                | 35  |  | 53  | 46    |                                 |  |  |
| PA1894.331NL *  | 335   | 268                                | 35  |  | 40  | 35    |                                 |  |  |
| PA2150NL Series - 11.   | 8mm x 9.0mm x 9.2mn                           | 1 MAX                              |   |  |   |       |                                 |  |  |
| PA2150.181NL *  | 180   | 180                                | 37  | 0.50 ±4.0%   | 74  | 67    | 37                              |  |  |
| PA2150.231NL  | 235   | 235                                | 37  |  | 56  | 50    |                                 |  |  |
| PA2150.261NL *  | 270   | 270                                | 37  |  | 52  | 44    |                                 |  |  |
| PA2150.371NL  | 370   | 296                                | 36  |  | 36  | 32    |                                 |  |  |
| PA2150.471NL *  | 470   | 376                                | 27  |  | 27  | 25    |                                 |  |  |
| PA2125NL Series - 15.   | 9mm x 9.0mm x 9.2mn                           | n MAX                              |   |  |   |       |                                 |  |  |
| PA2125.251NL *  | 250   | 250                                | 34  | 0.62 ±6.5%   | 68  | 63    | 34                              |  |  |
| PA2125.281NL *  | 285   | 285                                | 34  |  | 66  | 56    |                                 |  |  |
| PA2125.331NL *  | 335   | 335                                | 34  |  | 56  | 50    |                                 |  |  |
| PA2125.361NL  | 360   | 360                                | 34  |  | 52  | 46    |                                 |  |  |
| PA2125.441NL  | 440   | 440                                | 34  |  | 42  | 38    |                                 |  |  |

USA 858 674 8100 Germany 49 7032 7806 0 Singapore 65 6287 8998 Shanghai 86 21 62787060 China 86 755 33966678 Taiwan 886 3 4356768

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#### Notes:

- 1. The rated current as listed is either the saturation current or the heating current depending on which value is lower.
- 2. 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.
- 3. The heating current is the DC current which causes the part temperature to increase by approximately 40°C.

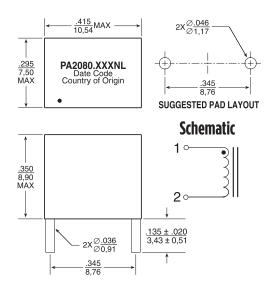
- Pulse
- 4. In high volt\*time applications, additional heating in the component can occur due to core losses in the inductor which may necessitate derating the current in order to limit the temperature rise of the component. To determine the approximate total losses (or temperature rise) for a given application, the coreloss and temperature rise curves can be used.
- 5. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.

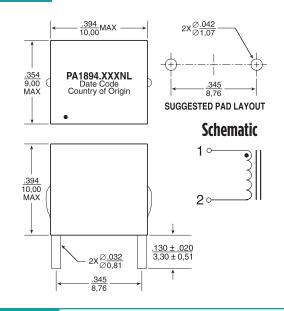
\*Contact Pulse for availability

#### **Mechanicals**

PA2080.XXXNL

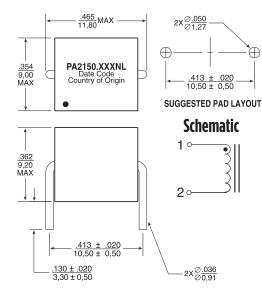
#### PA1894.XXXNL

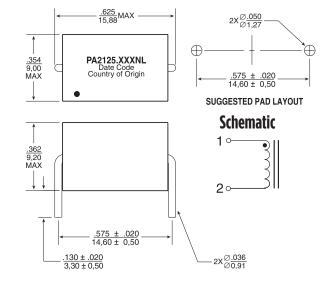




PA2150.XXXNL

#### PA2125.XXXNL





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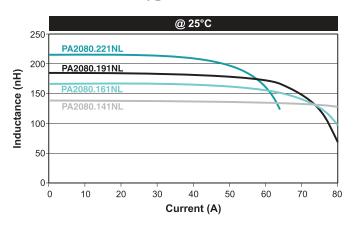
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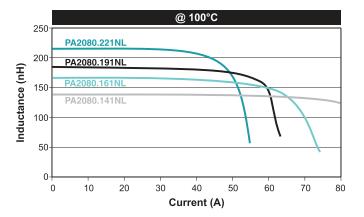
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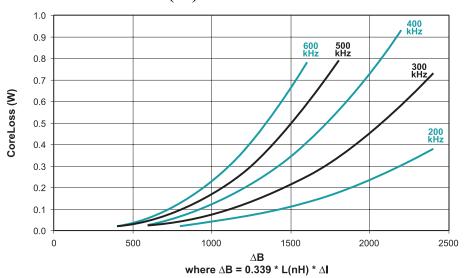


### Typical Inductance vs DC Bias for PA2080.XXXNL Series

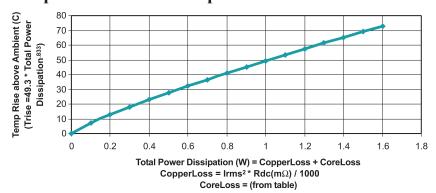




#### CoreLoss (W) for PA2080.XXXNL Series



### Temp Rise vs Power Dissipation for PA2080.XXXNL Series

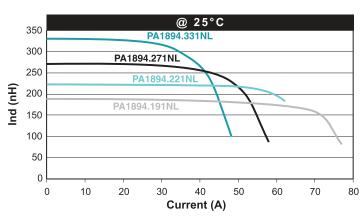


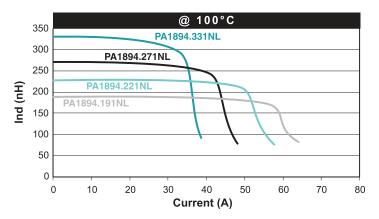
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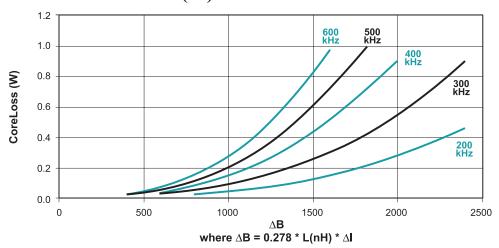


### Lvsl for PA1894.XXXNL Series

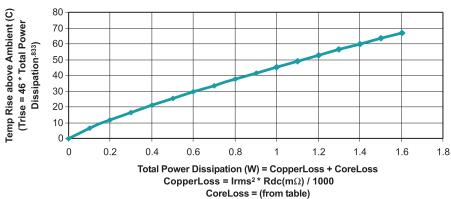




### CoreLoss (W) for PA1894.XXXNL Series



## Temp Rise vs Power Dissipation for PA1894.XXXNL Series

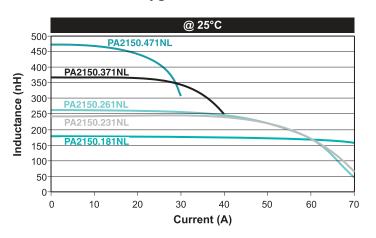


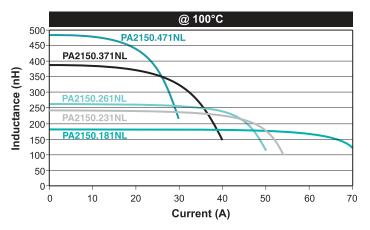
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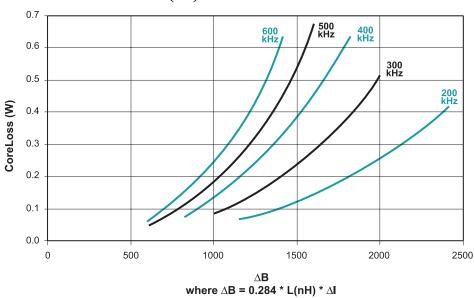


### Typical Inductance vs DC Bias for PA2150.XXXNL Series

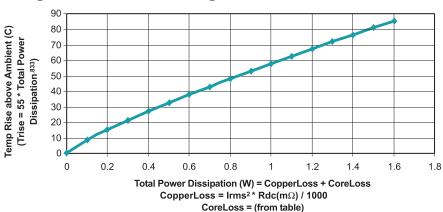




### CoreLoss (W) for PA2150.XXXNL Series



## Temp Rise vs Power Dissipation for PA2150.XXXNL Series

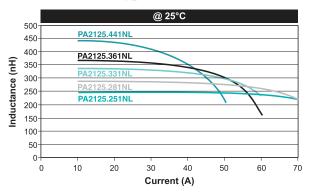


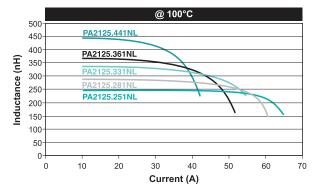
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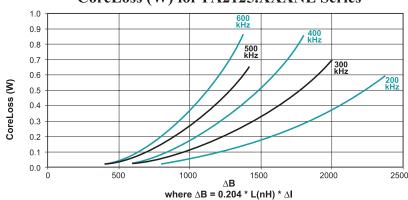
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#### Typical Inductance vs DC Bias for PA2125.XXXNL Series

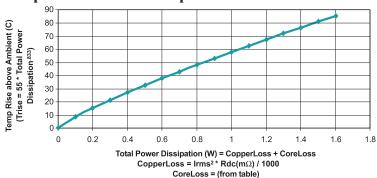




#### CoreLoss (W) for PA2125.XXXNL Series



#### Temp Rise vs Power Dissipation for PA2125.XXXNL Series



#### For More Information

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|---------------------------------|--|--|-------------------------------------|--|--|--|--|--|--|
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|                                 |  | Nanshan District   | Shanghai 200336                     |  | Tel: 886 3 4356768                     |  |  |  |  |
|                                 |  | Shenzen. PR China  | China                               | Tel: 65 6287 8998                            | Fax: 886 3 4356823 (Pulse)             |  |  |  |  |
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