

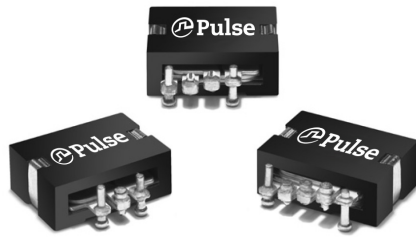





**THE DATASHEET OF
PA1294.450NLT**



SMT Power Inductors

Planar - PA1X9XNL Series



-  **Height:** 7.4mm
-  **Footprint:** 19.8mm x 19.6mm Max
-  **Current Rating:** up to 73A
-  **Inductance Range:** .405 μ H to 6.2 μ H

Electrical Specifications @ 25°C - Operating Temperature -40°C to +130°C⁸

Part ^{5,7} Number	Inductance @ Irated (μ H \pm 15%)	Irated ¹ (A _{DC})	DCR (m Ω)		Inductance @ 0 A _{DC} (μ H \pm 15%)	Saturation Current ²		Heating Current ³ (A)
			TYP	MAX		25°C	100°C	
2-Turn (Low-Loss) Series								
PA1294.450NL	0.45	73	.38	.48	0.45	95	80	73
PA1294.650NL	0.63	54	.38	.48	0.65	63	53	73
PA1294.910NL	0.85	39	.38	.48	0.91	46	37	73
PA1294.112NL	1.05	30	.38	.48	1.10	35	30	73
PA1294.132NL	1.25	25	.38	.48	1.30	29	26	73
PA1294.152NL	1.45	21	.38	.48	1.50	24	22	73
2-Turn Series								
PA1292.450NL *	0.45	52	.78	.98	0.45	95	80	52
PA1292.650NL	0.63	52	.78	.98	0.65	63	53	52
PA1292.910NL *	0.85	39	.78	.98	0.91	46	37	52
PA1292.112NL	1.05	30	.78	.98	1.10	35	30	52
PA1292.132NL	1.25	25	.78	.98	1.30	29	26	52
PA1292.152NL *	1.45	21	.78	.98	1.50	24	22	52
3-Turn Series								
PA1393.102NL	0.95	42	1.15	1.43	1.0	68	54	42
PA1393.152NL	1.40	36	1.15	1.43	1.5	43	35	42
PA1393.202NL	1.90	25	1.15	1.43	2.0	29	25	42
PA1393.252NL	2.40	20	1.15	1.43	2.5	23	21	42
PA1393.302NL	2.80	15	1.15	1.43	3.0	18	16	42
PA1393.352NL	3.40	12	1.15	1.43	3.5	15	13	42
4-Turn Series								
PA1494.162NL	1.60	37	1.44	1.80	1.60	55	43	37
PA1494.242NL	2.40	30	1.44	1.80	2.42	35	27	37
PA1494.362NL	3.30	17	1.44	1.80	3.60	20	18	37
PA1494.442NL	4.00	14	1.44	1.80	4.40	16	15	37
PA1494.532NL	4.90	11	1.44	1.80	5.34	13	12	37
PA1494.622NL	5.80	9	1.44	1.80	6.20	11	10	37

SMT Power Inductors

Planar - PA1X9XNL Series

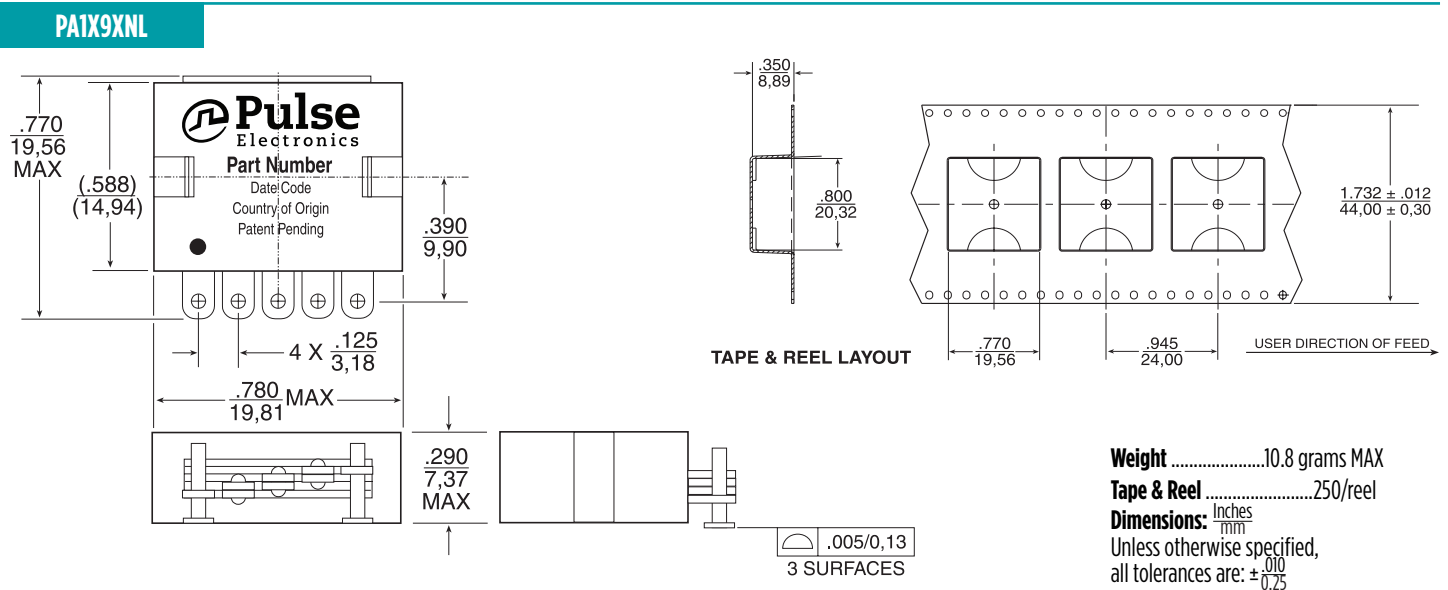


Notes:

1. The rated current as listed is either 85% of the saturation current or the heating current, depending on which value is lower.
2. The saturation current is the current which causes the inductance to drop by 15% 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 temperature of the part to increase by approximately 45°C. This current is determined by mounting the component on a PCB with .25" wide, 2 oz. equivalent copper traces, and applying the current to the device for 30 minutes with no forced air cooling.
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. In order to determine the approximate total losses (or temperature rise) for a given application, the total copper and core losses should be taken into account. For approximate value of core losses, in a given application, use the core loss graph on page 24.
5. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PA1294.450NL becomes PA1294.450NLT). Pulse complies to industry standard tape and reel specification EIA481.
6. Meets solderability test per IPC/EIA J-STD-002B using flux type ORLO.
7. The "NL" suffix indicates an RoHS-compliant, but are electrically and mechanically equivalent to NL versions. If a part number does not have the "NL" suffix, but an RoHS compliant version is required, please contact Pulse for availability.
8. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.

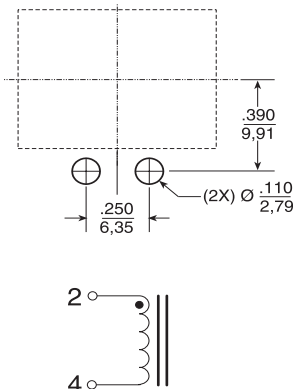
* Contact Pulse for availability

Mechanical

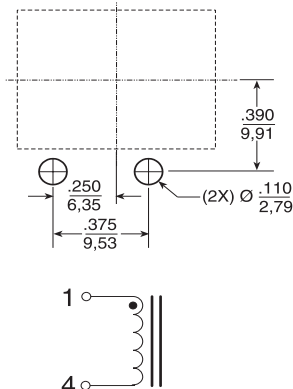


Suggested Pad Layouts and Schematics

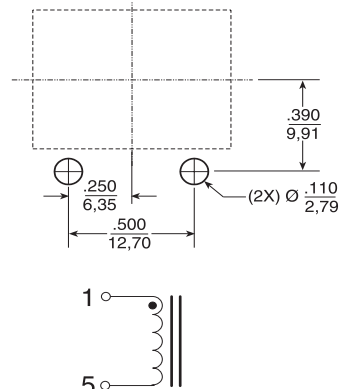
PA1292 & PA1294
 .405 to 1.50 µH
 21 to 73 Adc



PA1393
 1.00 to 3.40 µH
 12 to 42 Adc

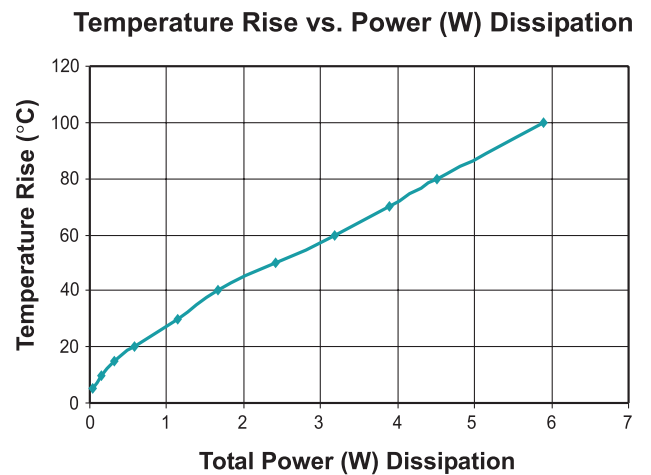
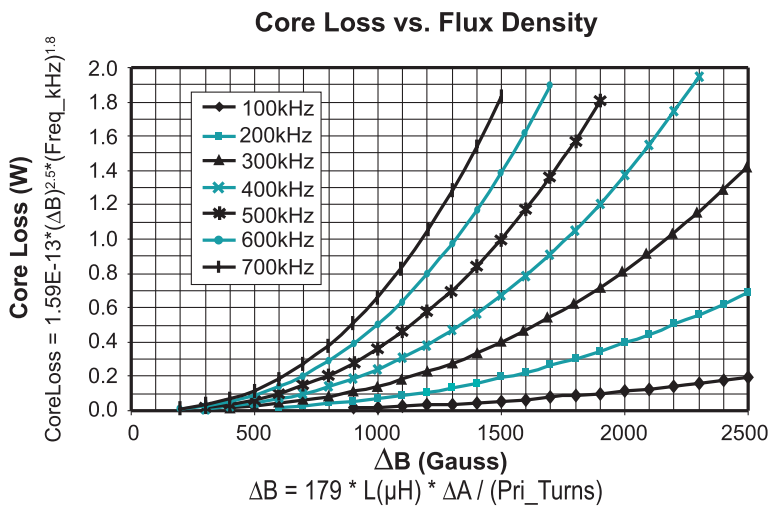
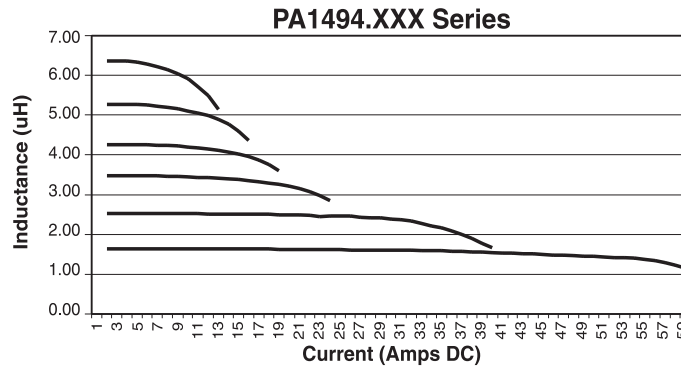
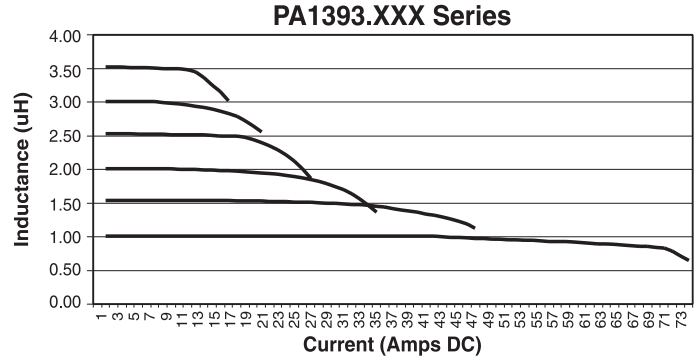
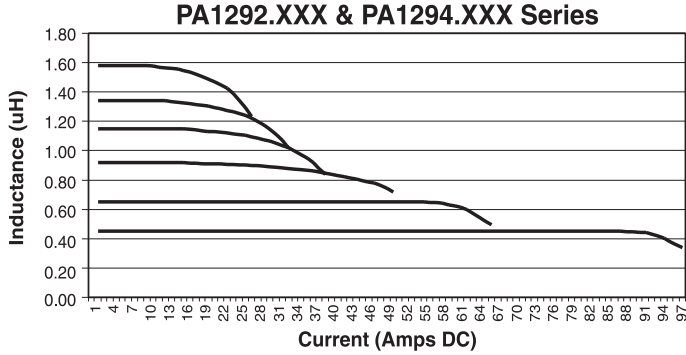


PA1494
 1.60 to 6.20 µH
 9 to 37 Adc



Inductance vs. Current Characteristics (25°C)

PA1X9XNL



Total Power Dissipation = Copper Loss (W) + Core Loss (W)

Copper Loss (W) = $\text{Current (rms)}^2 * \text{DCR (m}\Omega) / 1000$
 Core Loss (W) = per table

SMT Power Inductors

Planar - PA1X9XNL Series



For More Information

Pulse Worldwide Headquarters

15255 Innovation Drive Ste 100
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

Pulse Electronics (ShenZhen) CO., LTD
D708, Shenzhen Academy of
Aerospace Technology,
The 10th Keji South Road,
Nanshan District, Shenzhen,
P.R. 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

3 Fraser Street 0428
DUO Tower
Singapore 189352

Tel: 65 6287 8998
Fax: 65 6280 0080

Pulse North Asia

1F., No.111 Xiyuan Road
Zhongli District
Taoyuan City 32057
Taiwan (R.O.C)

Tel: 886 3 4356768
Fax: 886 3 4356820

Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners. © Copyright, 2019. Pulse Electronics, Inc. All rights reserved.

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

 [View PA1294.450NLT on WIN SOURCE](#)

 [Pulse Information](#)

Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management