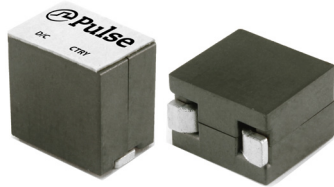


# SMT Power Inductors

Power Beads - PA5041 Series



- Current Rating:** Over 89Apk
- Inductance Range:** 120nH to 330nH
- Height:** 11mm Max
- Footprint:** 7.2mm x 6.7mm Max

Electrical Specifications @ 25°C — Operating Temperature -40°C to +130°C<sup>7</sup>

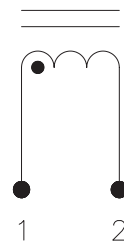
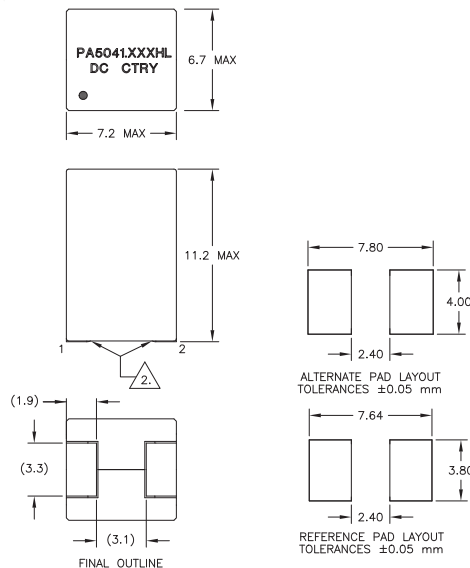
Part Number	Inductance <sup>1</sup> @ 0A <sub>dc</sub> (nH ±10%)	Inductance <sup>2</sup> @I <sub>rated</sub> (nH TYP)	I <sub>rated</sub> <sup>3</sup> (ADC)	DCR <sup>4</sup> (mΩ)	Saturation Current <sup>5</sup> (A TYP)		Heating Current <sup>6</sup> (A TYP)
					25°C	100°C	
PA5041.121HLT	120	120	40	0.29±10%	75	74	40
PA5041.151HLT	150	150	40		72	63	
PA5041.221HLT	220	220	40		50	42	
PA5041.331HLT	330	300	22		28	22	

- NOTES:**
- Inductance measured at 100kHz, 100mVrms.
  - Inductance at I<sub>rated</sub> is the value of the inductance at 25°C at the listed rated current.
  - The rated current as listed is either the saturation current (25°C or 100°C) or the heating current depending on which value is lower.
  - The nominal DCR is measured from point ① to point ②, as shown below on the mechanical drawing.
  - The saturation current is the typical current which causes the inductance to drop by 20% at the stated ambient temperatures (25°C, 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 when used in a typical application.
  - 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.
  - Parts with the HLT suffix are sold in tape and reel packaging. Pulse complies to industry standard tape and reel specification EIA-481. Samples of these parts can be ordered by removing the HLT suffix and replacing with HL.
  - The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.

## Mechanical

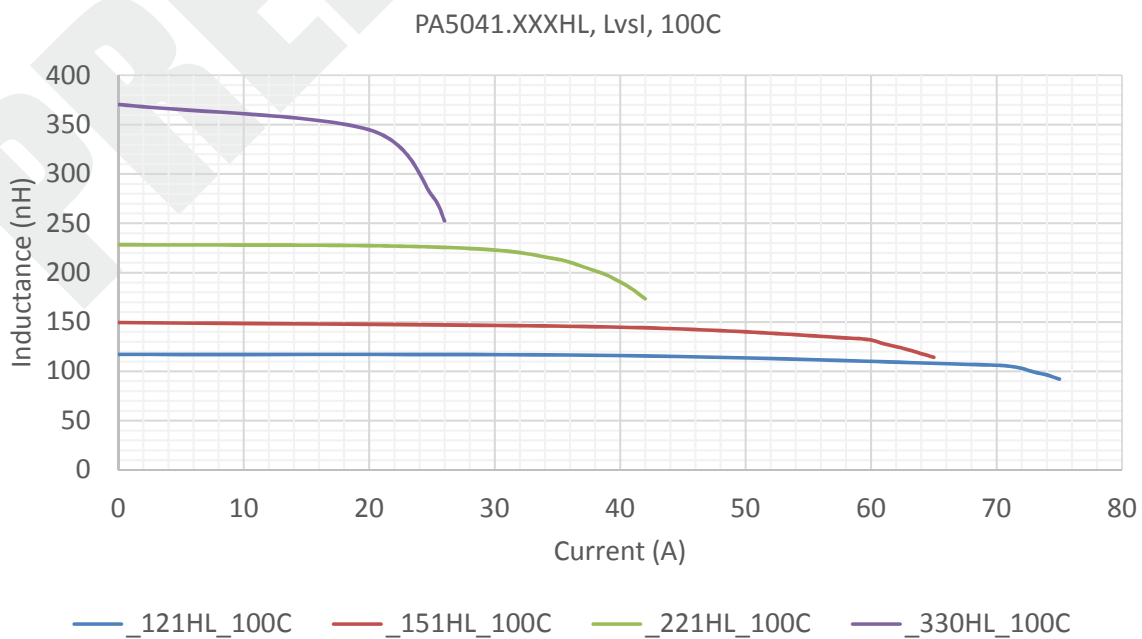
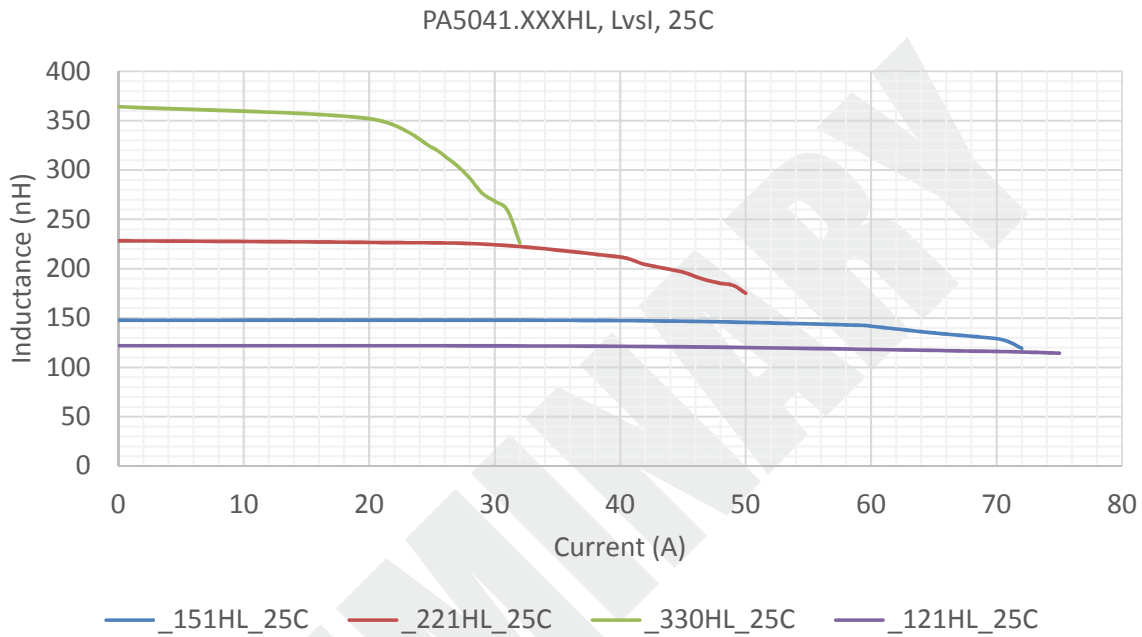
## Schematic

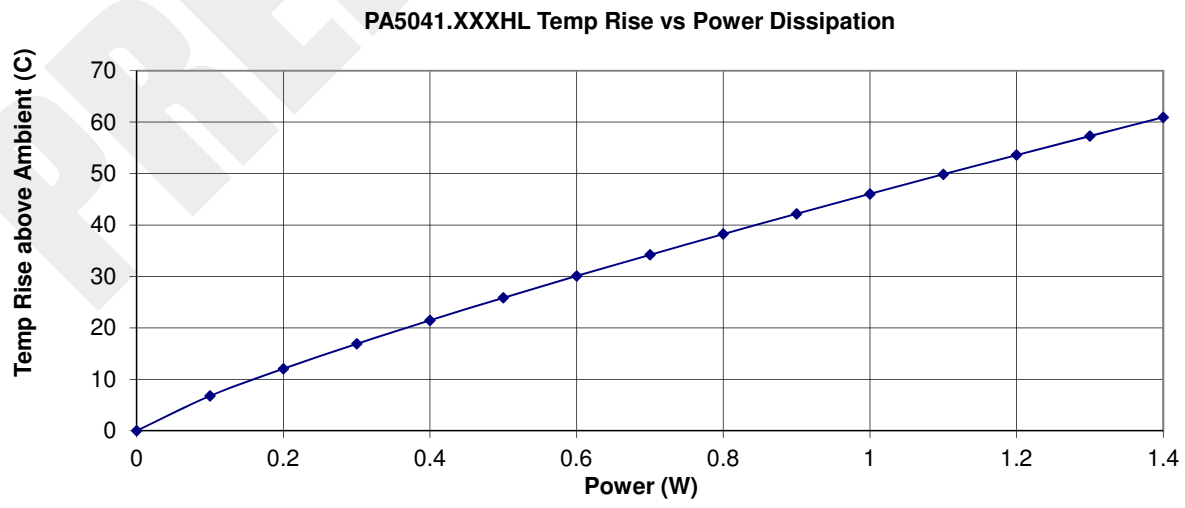
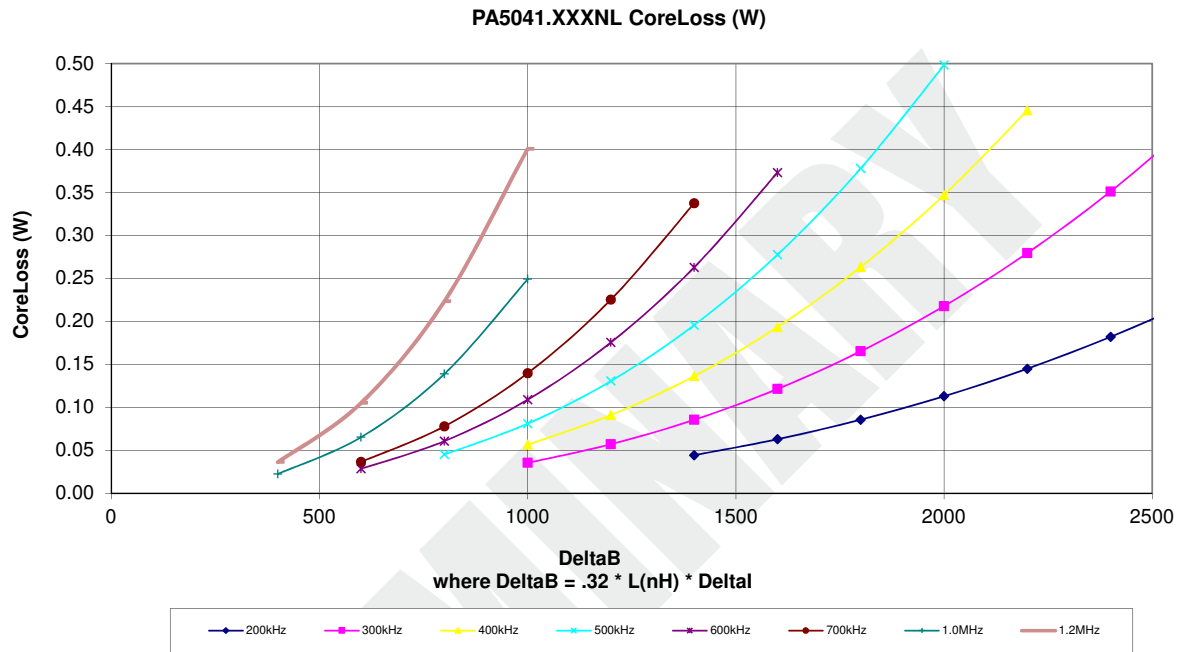
PA5041.XXXHLT



**Weight** .....1.8 grams  
**Tape & Reel** .....300/reel

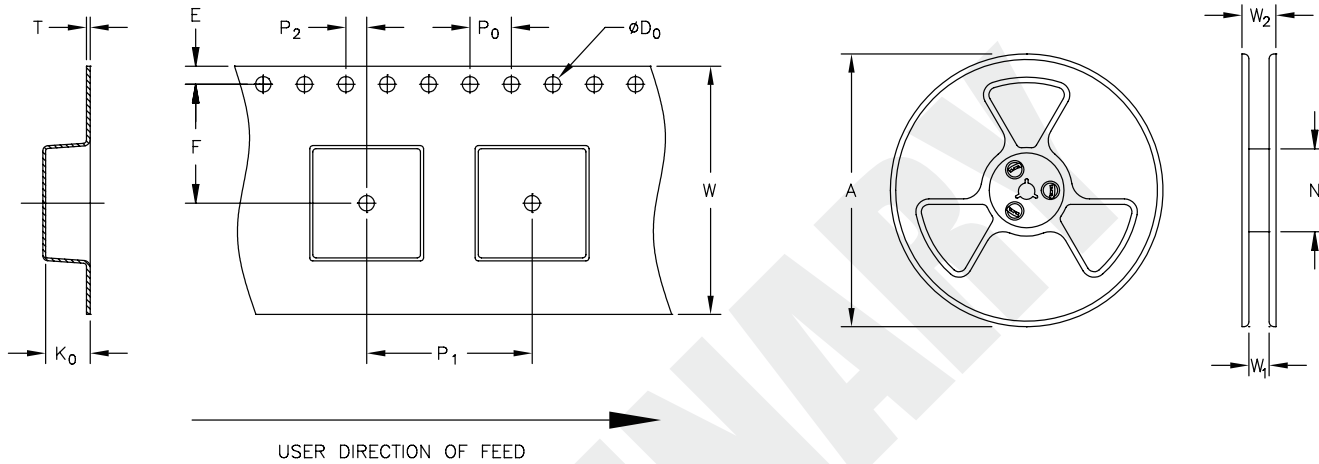
**Dimensions: mm**  
 Unless otherwise specified,  
 all tolerances are ±0.25





**Total Power Dissipation (W) = CopperLoss + CoreLoss**  
**CopperLoss =  $I_{rms}^2 * R_{dc}(mOhms) / 1000$**   
**CoreLoss = (from table)**

### TAPE & REEL INFO



### SURFACE MOUNTING TYPE, REEL/TAPE LIST

TYPE	REEL SIZE (mm)				TAPE SIZE (mm)								QTY PCS/REEL	
	A	W <sub>1</sub>	W <sub>2</sub>	N	E	F	D <sub>0</sub>	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	W	T		K <sub>0</sub>
PA5041.XXXHLT	Ø330	24.4	30.4	100	1.75	11.5	1.5	4	16	2	24	0.6	11.2	300

### For More Information

#### Pulse Worldwide Headquarters

15255 Innovation Drive Ste 100  
San Diego, CA 92128  
U.S.A.

#### Pulse Europe

Pulse Electronics GmbH  
Am Rottland 12  
58540 Meinerzhagen  
Germany

#### 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

#### Pulse North China

Room 2704/2705  
Super Ocean Finance Ctr.  
2067 Yan An Road West  
Shanghai 200336  
China

#### Pulse South Asia

3 Fraser Street  
0428 DUO Tower  
Singapore 189352

#### Pulse North Asia

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

Tel: 858 674 8100  
Fax: 858 674 8262

Tel: 49 2354 777 100  
Fax: 49 2354 777 168

Tel: 86 755 33966678  
Fax: 86 755 33966700

Tel: 86 21 62787060  
Fax: 86 2162786973

Tel: 65 6287 8998  
Fax: 65 6280 0080

Tel: 886 3 4356768  
Fax: 886 3 4356820

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