HIGH FREQUENCY FLAT COIL PLANAR TRANSFORMERS

PH08XXNL Series (up to 160W)

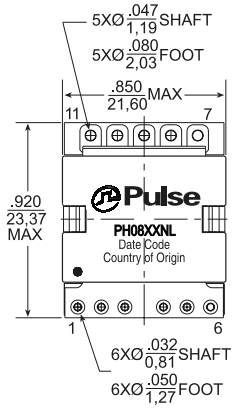
- ***Power Rating:*** *up to 160 W*
- ***Height:*** *8.6mm to 9.1mm Max*
- ***Footprint:*** *23.4mm x 21.6mm Max*
- ***Frequency Range:*** *200kHz to 700kHz*
- ***Isolation (Primary to Secondary):*** *1500 VDC*

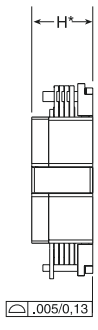
Electrical Specifications @ 25°C – Operating Temperature -40°C to +125°C

Part[3] Number	Turns			Schematic	Primary[1] Inductance (µ MIN)	Leakage[2] Inductance (µ MAX)	DCR (mΩ MAX)			Maximum Height (mm)
	Primary A	Primary B	Secondary				Primary A	Primary B	Secondary	
PH0801NL	4T	4T	4T (1T:1T:1T:1T)	A1	153	0.45	8.5	8.5	7	8.6
PH0802NL	4T	5T			194	0.45	8.5	12.5	7	8.6
PH0803NL	5T	5T			240	0.55	12.5	12.5	7	8.6
PH0804NL	5T	6T			290	0.60	12.5	14.2	7	9.1
PH0805NL	6T	6T			345	0.65	14.2	14.2	7	9.1
PH0806NL	4T	4T	1T & 1T	A2	153	0.45	8.5	8.5	.875 & .875	8.6
PH0807NL	4T	5T			194	0.55	8.5	12.5	.875 & .875	8.6
PH0808NL	5T	5T			240	0.55	12.5	12.5	.875 & .875	8.6
PH0809NL	5T	6T			290	0.90	12.5	14.2	.875 & .875	9.1
PH0810NL	6T	6T			345	1.00	14.2	14.2	.875 & .875	9.1
PH0811NL	4T	4T	2T & 1T	A3	153	0.45	8.5	8.5	1.75 & 1.75	8.6
PH0812NL	4T	5T			194	0.45	8.5	12.5	1.75 & 1.75	8.6
PH0813NL	5T	5T			240	0.55	12.5	12.5	1.75 & 1.75	9.1
PH0814NL	5T	6T			290	0.65	12.5	14.2	1.75 & 1.75	9.1
PH0815NL	6T	6T			345	0.85	14.2	14.2	1.75 & 1.75	9.1

Mechanicals

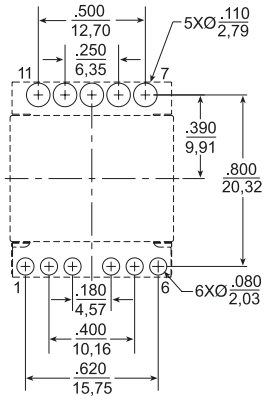
PH08XXNL

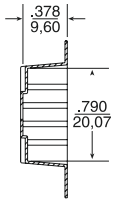




*H - Maximum Height (see table above)

SUGGESTED PAD LAYOUT



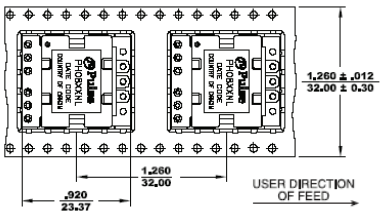


Weight .....11.0 grams
Tape & Reel.....180/reel
Tray.....40/tray

Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010/0,25

Tape & Reel Layout for PH0801NL THRU PH0815NL



NOTE: The above is a universal footprint for a component that has all 11 pins populated. For a given part number, it is only necessary to provide pads for the terminations shown in the schematics on the next page.

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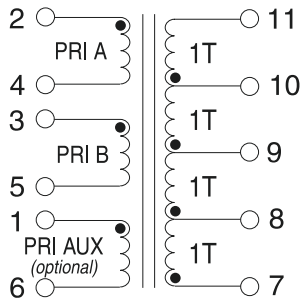
PH08XXNL Series (up to 160W)

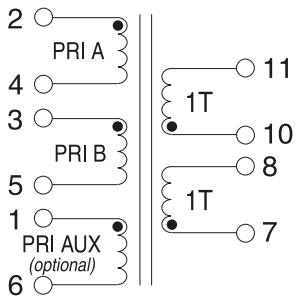
Schematics

PH08XXNL

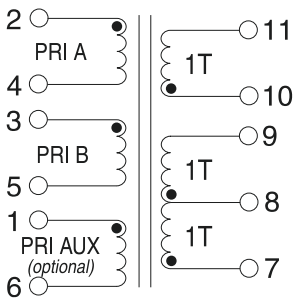
A1
PH0801 / 02 / 03 / 04 / 05



A2
PH0806 / 07 / 08 / 09 / 10

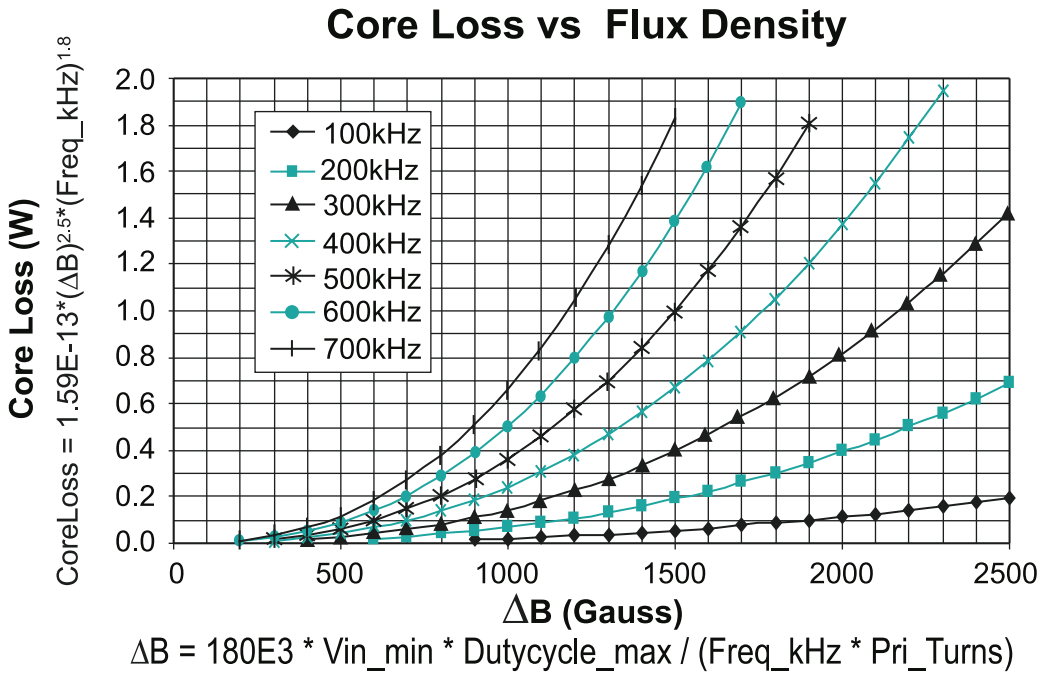


A3
PH0811 / 12 / 13 / 14 / 15

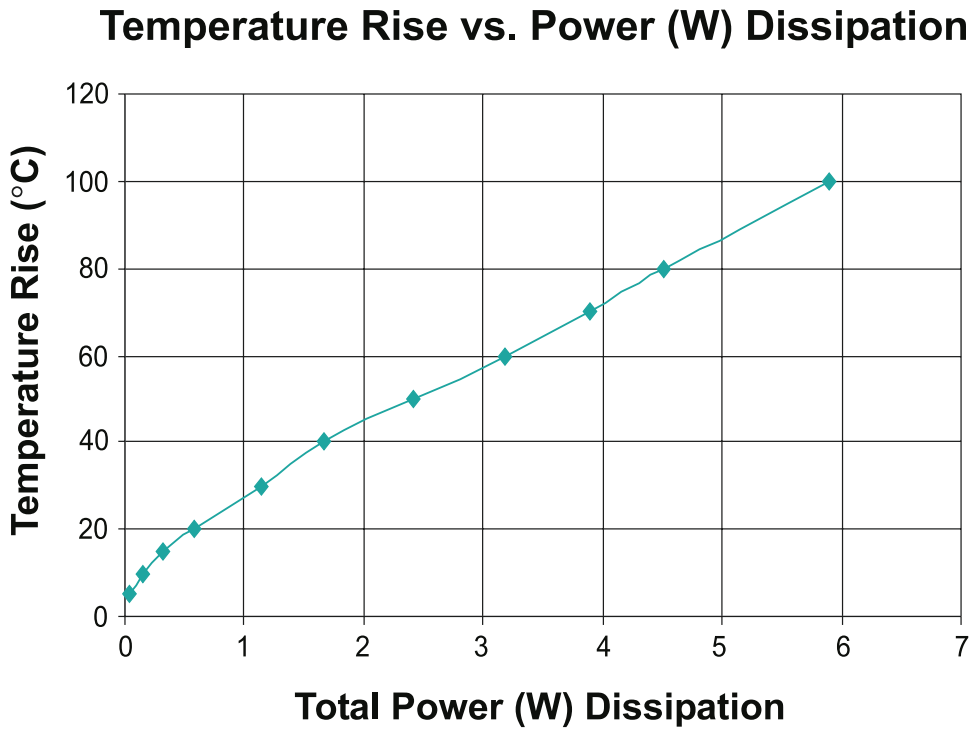


Notes:

1. Inductance is measured with both primary windings connected in services (2 to 5, with 3 and 4 shorted).
2. Leakage inductance is measured on winding (2-5) with (3-4) and (7, 8, 9, 10, 11) shorted.
3. The "NL" suffix indicates an RoHS-compliant part number.
4. It is possible to add a primary side aux.winding to any of the above configurations as shown in the schematics. Transformers with primary side aux. winding are non-standard and can be made available upon request. The primary aux. winding can be between 2 and 16 turns. To add a primary aux. winding to a given base, use the extension .xxx. For example, to add a 4T aux. winding to the base part number PH0801NL, use the part number PH0801.004NL. The height increases by 0.5mm for .xxx part. For example, **PH0801NL** is 8.6mm MAX, **PH0801.004NL** is 9.1mm MAX.
5. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the complete number (i.e. **PH0801.009NL** becomes **PH00801.009NLT**).
6. To determine if the transformer is suitable for your application, it is necessary to ensure that the temperature rise of the component (ambient plus temperature rise) not exceed its operating temperature. To determine the approximate temperature rise of the transformer, refer to the graphs below.



ΔB = 180E3 * Vin_min * Dutycycle_max / (Freq_kHz * Pri_Turns)



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