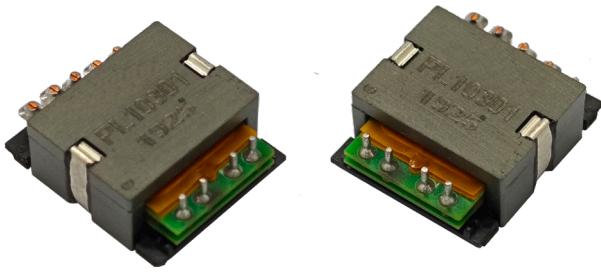


HIGH FREQUENCY PLANAR TRANSFORMERS

Ruggedized



- ⦿ Height: 0.339 to 0.382inch (8.6 to 9.7mm) MAX
- ⦿ Footprint: 0.921 x 0.850inch (23.4 x 21.6mm) MAX
- ⦿ Power Rating up to 140W
- ⦿ Frequency Range: 200kHz to 700kHz
- ⦿ Isolation (Primary to Secondary & Core): 1750VDC
- ⦿ Operating & Storage Temperature: -55°C to +125°C
- ⦿ Lead Finish: Sn90/Pb10
- ⦿ Moisture Sensitivity Level: 1

Electrical Specifications @ 25°C

Part Number	Turns Ratio 100KHz, 0.1Vrms (±5%)	Primary ³ Inductance (μH MIN)	Leakage ⁴ Inductance (μH MAX)	DCR (mΩ MAX)			Maximum Height (H) inch(mm)
	Pri A : Pri B : Sec			Primary A	Primary B	Secondary	
SCHEMATIC A1							
PL10301	1:1:1	153	0.45	17.5	17.5	7	0.339 (8.6)
PL10302	1:1.25:1	194	0.45	17.5	20	7	0.339 (8.6)
PL10303	1.25:1.25:1	240	0.45	20	20	7	0.339 (8.6)
PL10304	1.25:1.5:1	290	0.50	20	25	7	0.339 (8.6)
PL10305	1.5:1.5:1	345	0.55	25	25	7	0.339 (8.6)
SCHEMATIC A2							
PL10306	4:4:1:1	153	0.45	17.5	17.5	0.875 & 0.875	0.339 (8.6)
PL10307	4:5:1:1	194	0.45	17.5	20	0.875 & 0.875	0.339 (8.6)
PL10308	5:5:1:1	240	0.55	20	20	0.875 & 0.875	0.339 (8.6)
PL10309	5:6:1:1	290	0.60	20	25	0.875 & 0.875	0.339 (8.6)
PL10310	6:6:1:1	345	0.65	25	25	0.875 & 0.875	0.339 (8.6)
SCHEMATIC A3							
PL10311	4:4:2:1	153	0.45	17.5	17.5	1.75 & 1.75	0.339 (8.6)
PL10312	4:5:2:1	194	0.45	17.5	20	1.75 & 1.75	0.339 (8.6)
PL10313	5:5:2:1	240	0.50	20	20	1.75 & 1.75	0.382 (9.7)
PL10314	5:6:2:1	290	0.50	20	25	1.75 & 1.75	0.382 (9.7)
PL10315	6:6:2:1	345	0.55	25	25	1.75 & 1.75	0.382 (9.7)

NOTES:

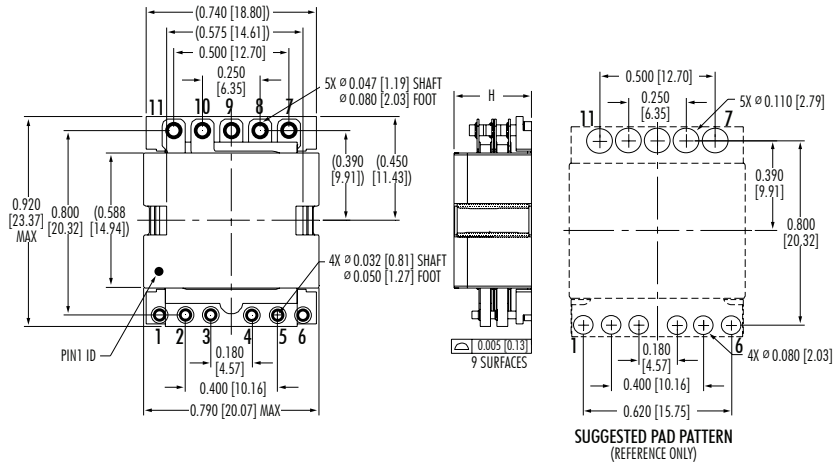
1. Add suffix "NL" for RoHS compliant version; i.e. PL10301 becomes **PL10301NL**.
2. For Tape & Reel packaging, add "T" suffix at the end of the part number: i.e. **PL10301T**.
3. Inductance is measured at 100KHz, 0.1Vrms across terminals 2-5 with terminals 3 and 4 connected together.
4. Leakage Inductance is measured at 100KHz, 0.1Vrms across terminals 2-5 with terminals 3 and 4 connected together and secondaries shorted.
5. It is possible to add a small gap to the transformer. Gapped transformers are non-standard and can be made available upon request, but are not typically available from stock. To request a gapped version of the transformer, add a suffix "G" to the base number, i.e. PL10301G or PL10301GNL. The nominal inductance with a gap can be calculated as: Primary inductance (μH Nominal) = 0.69(Primary Turns)².
6. 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. windings are non-standard and can be made available upon request, but are not typically available from stock. The primary aux. winding can be between 2 and 16 turns. To add a primary aux. winding to a given base, use the extension .00X. For example, to add a 4T aux. winding to the base part number PL10301NL, use the part number PL10301.004NL. To add a 16T aux. winding, use the part number PL10301.016NL.



Mechanicals

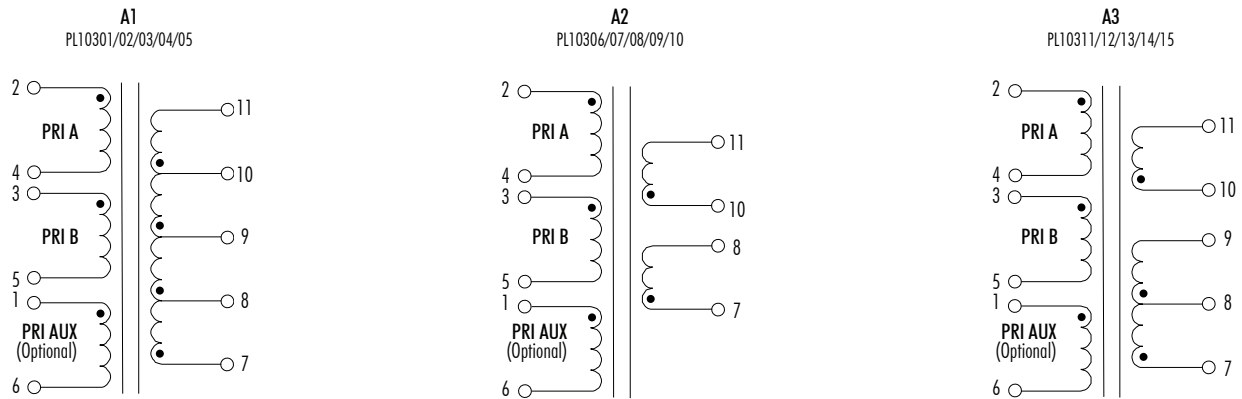
PL103XX

Dimensions: inch [mm]
Tolerance (unless otherwise specified): ±0.010 [0.25]



Schematics

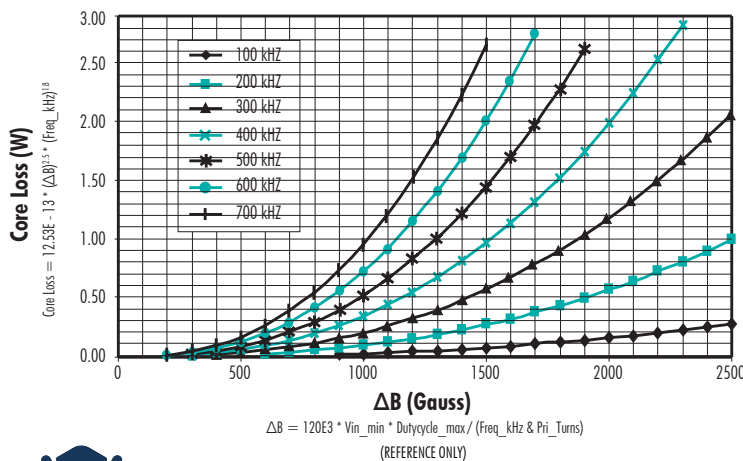
PL103XX



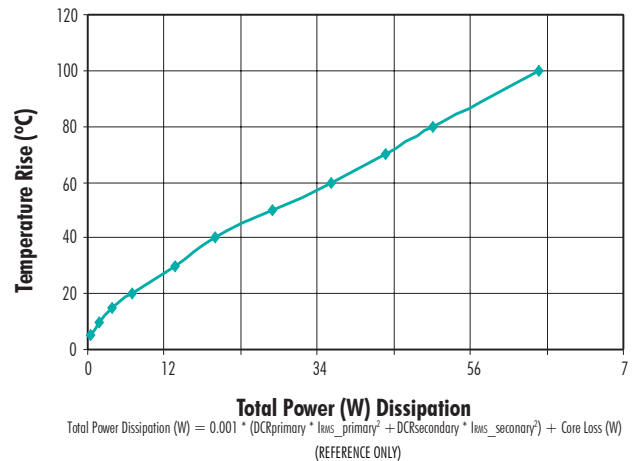
NOTES:

- 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) does not exceed its operating temperature. To determine the appropriate temperature rise of the transformer, refer to the graphs below.

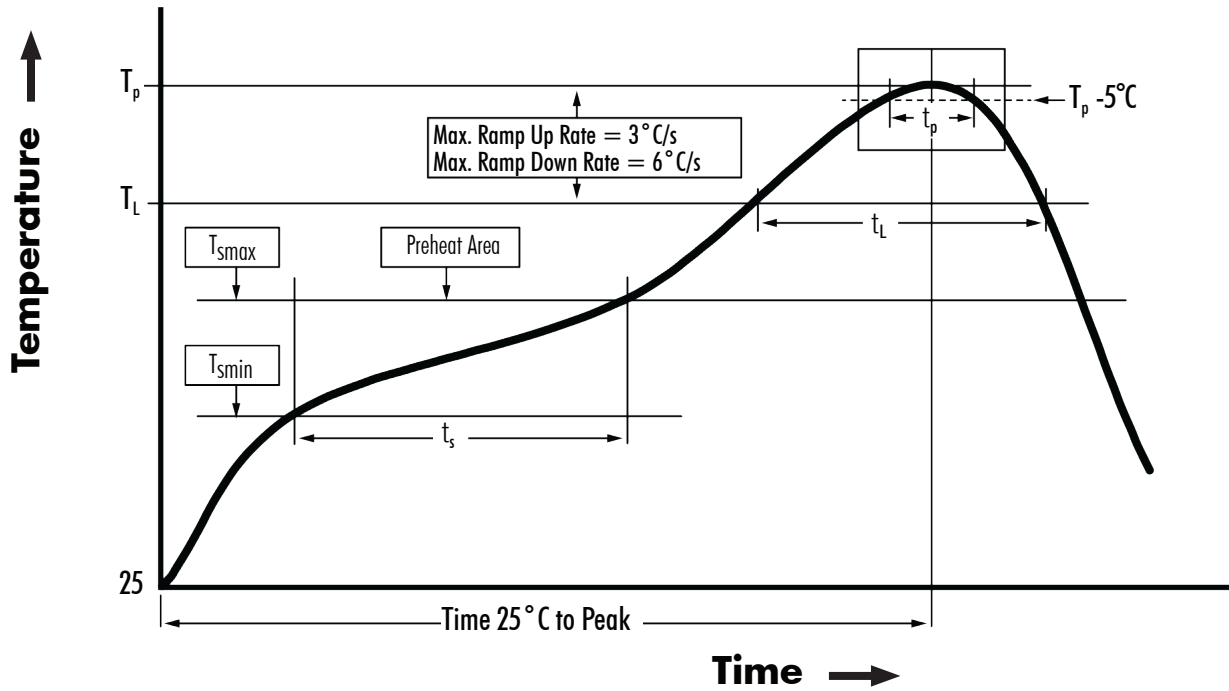
Core Loss vs. Flux Density



Temperature Rise vs. Power (W) Dissipation



Recommended Reflow Profile (Based on J-STD-020D)



T_{SMIN} (°C)	T_{SMAX} (°C)	T_L (°C)	T_P (°C MAX)	t_s (s)	t_L (s)	t_p (s MAX)	Ramp-up rate (T_L to T_p)	Ramp-down rate (T_p to T_L)	Time 25°C to peak temperature (s MAX)
Tin/Lead Profile									
100	150	183	220	60 - 120	60 - 150	20	3°C/s MAX	6°C/s MAX	360
Non-Lead Profile									
150	200	217	245	60 - 120	60 - 150	30	3°C/s MAX	6°C/s MAX	480

NOTES:

1. All temperatures measured on the package leads.
2. Maximum number of reflow cycles not to exceed 2.

