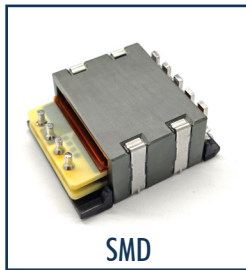


HIGH FREQUENCY PLANAR TRANSFORMERS

Ruggedized



- ⊗ Power Rating up to 1000W
- ⊗ Frequency Range: 100kHz to 700kHz
- ⊗ Isolation (Primary to Secondary & Core): 3000VAC
- ⊗ Package: SMD or THT
- ⊗ Operating & Storage Temperature: -55°C to +130°C
- ⊗ Lead Finish: SnPb
- ⊗ Moisture Sensitivity Level: 1

Electrical Specifications @ 25°C

Part Number	Turns Ratio (±5%)		ET ³ (V*μsec) MAX	Primary ⁴ Inductance (μH MIN)	Leakage ⁵ Inductance (μH MAX)	DCR (mΩ MAX)		
	Primary	Secondary	(1-4)			Primary A	Primary B	Secondary
SCHEMATIC A1 - SMD Package								
PL10510	6T&6T	4T (1T:1T:1T:1T)	440	810	0.60	18	18	1.5
PL10511	6T&8T		510	1110	0.80	18	24	1.5
PL10512	8T&8T		580	1450	1.10	24	24	1.5
PL10513	8T&10T		650	1830	1.40	24	30	1.5
PL10514	10T&10T		730	2260	1.80	30	30	1.5
PL10515	10T&12T		800	2740	2.20	30	36	1.5
PL10516	12T&12T		870	3260	2.70	36	36	1.5
SCHEMATIC A2 - SMD Package								
PL10517	6T&6T	2T (1T:1T)	440	810	0.60	18	18	0.50 & 0.50
PL10518	6T&8T		510	1110	0.80	18	24	0.50 & 0.50
PL10519	8T&8T		580	1450	1.10	24	24	0.50 & 0.50
PL10520	8T&10T		650	1830	1.40	24	30	0.50 & 0.50
PL10521	10T&10T		730	2260	1.80	30	30	0.50 & 0.50
PL10522	10T&12T		800	2740	2.20	30	36	0.50 & 0.50
PL10523	12T&12T		870	3260	2.70	36	36	0.50 & 0.50
SCHEMATIC A1 - THT Package								
PL10524	6T&6T	4T (1T:1T:1T:1T)	440	810	0.60	18	18	1.5
PL10525	6T&8T		510	1110	0.80	18	24	1.5
PL10526	8T&8T		580	1450	1.10	24	24	1.5
PL10527	8T&10T		650	1830	1.40	24	30	1.5
PL10528	10T&10T		730	2260	1.80	30	30	1.5
PL10529	10T&12T		800	2740	2.20	30	36	1.5
PL10530	12T&12T		870	3260	2.70	36	36	1.5
SCHEMATIC A2 - THT Package								
PL10531	6T&6T	2T (1T:1T)	440	810	0.60	18	18	0.50 & 0.50
PL10532	6T&8T		510	1110	0.80	18	24	0.50 & 0.50
PL10533	8T&8T		580	1450	1.10	24	24	0.50 & 0.50
PL10534	8T&10T		650	1830	1.40	24	30	0.50 & 0.50
PL10535	10T&10T		730	2260	1.80	30	30	0.50 & 0.50
PL10536	10T&12T		800	2740	2.20	30	36	0.50 & 0.50
PL10537	12T&12T		870	3260	2.70	36	36	0.50 & 0.50

NOTES:

1. Add suffix "NL" for RoHS compliant version; i.e. PL10501 becomes **PL10510NL**.
2. For Tape & Reel packaging, add "T" suffix at the end of the part number: i.e. **PL10510T**.
3. The maximum volt-μsec rating limits the peak flux density to 2200 Gauss when used in a unipolar drive application. For bi-polar drive applications a maximum volt-μsec of two times this rating is acceptable (i.e.: 2 * (volt*μsec rating) Volt*μsec = (voltage applied to the primary) * dutycycle / Frequency = V * alpha / Freq_Hz = V * μsec.
4. Inductance is measured at 100KHz, 0.1Vrms across terminals 1-4 with terminals 2 and 3 connected together.
5. Leakage Inductance is measured at 100KHz, 0.1Vrms across terminals 1-4 with terminals 2 and 3 connected together and secondaries shorted.



Dimensions: inch [mm]

Tolerance (unless otherwise specified): ± 0.020 [0.50]

Top view of the PCB showing dimensions and component locations. The overall width is 1.575 [40.00] MAX. The overall height is 1.929 [49.00] MAX. The distance between the center of the PIN1 ID and the center of the first circular feature is 4X 0.252 [6.40]. The distance between the center of the first circular feature and the center of the last circular feature is 3X 0.236 [6.00]. The distance between the center of the last circular feature and the right edge is 5. The distance between the center of the first circular feature and the left edge is 9.

0.768
[19.50]
MAX

FRONT VIEW

5X 0.059*0.118 [1.50*3.00] SHAFT
0.106*0.118 [2.70*3.00] FOOT

4X $\varnothing 0.074 [1.88]$ SHAFT
 $\varnothing 0.100 [2.54]$ FOOT

0.005 [0.130]

SIDE VIEW

Dimensions: inch [mm]

Tolerance (unless otherwise specified): ± 0.020 [0.50]

Top view of the PCB showing dimensions and component locations. The overall width is 1.575 [40.00] MAX. The overall height is 1.870 [47.50] MAX. The distance between the center of the first and last component in the top row is 4X 0.252 [6.40]. The distance between the center of the first and last component in the bottom row is 3X 0.236 [6.00]. The distance from the left edge to the center of the first component in the top row is 9. The distance from the right edge to the center of the last component in the top row is 5. The distance from the left edge to the center of the first component in the bottom row is 1. The distance from the right edge to the center of the last component in the bottom row is 4. A dimension line labeled PIN1 ID points to the first component in the bottom row.

0.756 [19.20] MAX

0.158 ± 0.020 [4.00 ± 0.50]

5X 0

FRONT VIEW

Side view of the mechanical part. Dimensions and tolerances are indicated:

- Vertical dimension: ± 0.020 [0.50]
- Horizontal dimension (left): $5X \ 0.059 \pm 0.118$ [1.50/3.00]
- Horizontal dimension (right): $4X \ \varnothing 0.074$ [1.88]

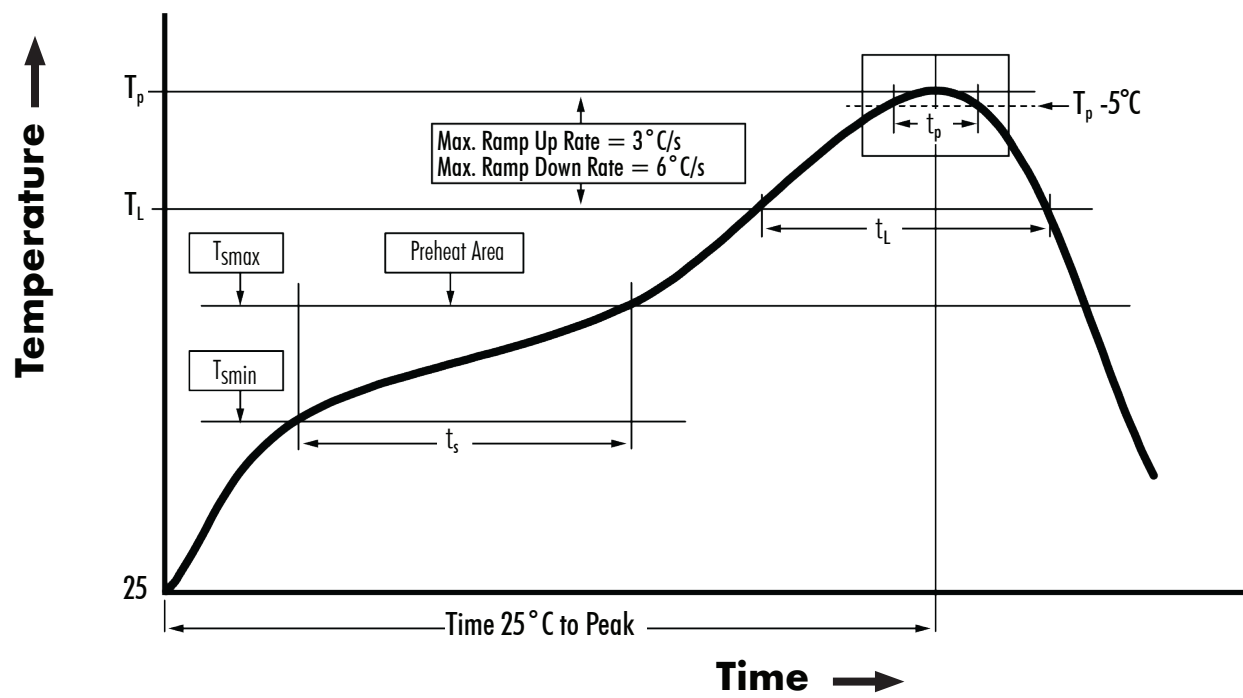
SIDE VIEW

Double Interleave Schematics

PL105XX



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.



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M570 (07AUG25)