

## Features

- DC-DC transformer: 48 to 70 watts
- Forward converter topology
- Low leakage inductance
- Low profile component
- Surface mount
- Operating temperature: -40 °C to +125 °C
- RoHS compliant\*

## Applications

- PoE applications
- Industrial power systems
- Switched-Mode Power Supplies (SMPS)
- LED lighting
- Battery Management Systems

# PLN Series – Planar Transformers

### General Specifications

Operating Temperature.....	-40 °C to +125 °C (Temperature Rise Included)
Storage Temperature with Packaging.....	-40 °C to +85 °C
Transformer Input Voltage .....	33-57 VDC
Switching Frequency .....	250 kHz
Volt-Time .....	81.6 (V-μsec.)
Moisture Sensitivity Level .....	1

### Additional Information

Click these links for more information:



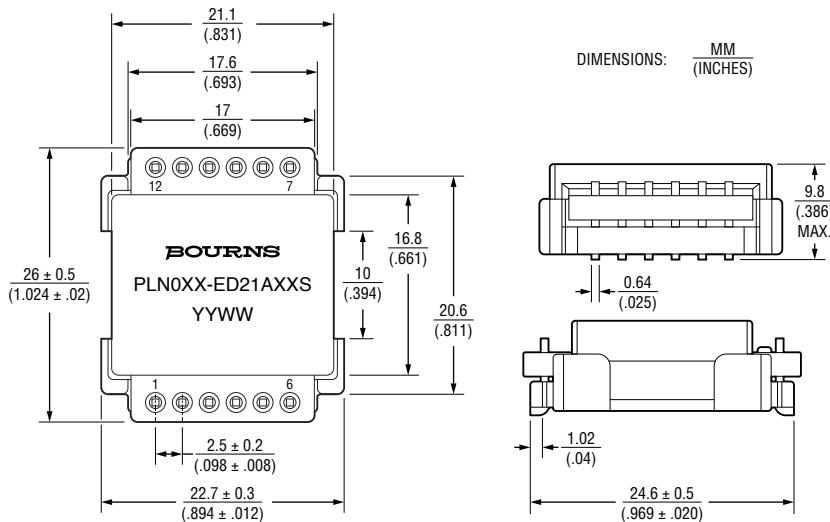
### Electrical Specifications @ 25 °C

Bourns Part Number	Primary Inductance <sup>1</sup> (μH)	Leakage Inductance <sup>2</sup> (μH) max.	DCR max. (mΩ)			Turns ratio ± 3 %		Hi - Pot <sup>3</sup>	Main Output
			(1,2-3,4)	(7,8, 9-10, 11,12)	(5-6)	(1,2-3,4 : 5-6)	(1,2-3,4 : 7,8,9-10, 11,12)		
PLN048-ED21A12S	90	0.290	80	26	210	1.33 : 1	1.6 : 1	1750 VDC	12 V / 4 A
PLN050-ED21A05S	153	0.400	90	4.7	150	1.6 : 1	4 : 1		5 V / 10 A
PLN070-ED21A05S	150	0.600	78	1.7	140	1.6 : 1	4 : 1		5 V / 14 A

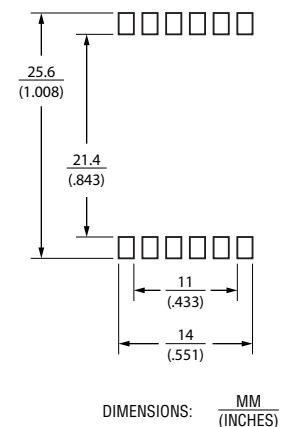
Notes:

1. Primary inductance measured from (1,2-3,4) @ 100 kHz, 0.1 V
2. Leakage inductance measured (1,2-3,4) w/(5-6 & 7,8,9-10,11,12) shorted @ 100 kHz, 0.1 V
3. Hi-Pot (Pri-Sec) ref. @ 3 sec. / 0.5 mA

### Product Dimensions



### Recommended Layout



**WARNING Cancer and Reproductive Harm -**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

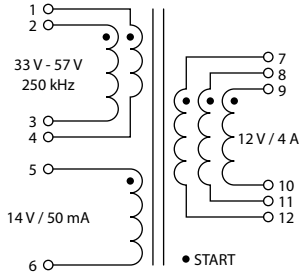
\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.  
 Specifications are subject to change without notice.  
 Users should verify actual device performance in their specific applications.  
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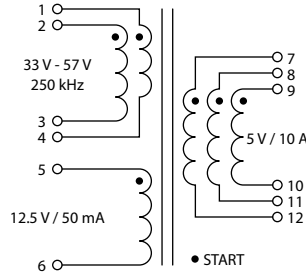
**BOURNS®**

## Electrical Schematic

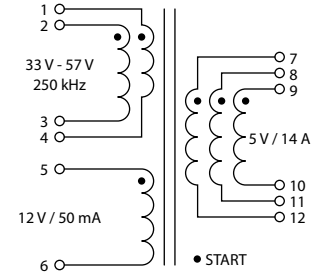
**PLN048-ED21A12S**



**PLN050-ED21A05S**



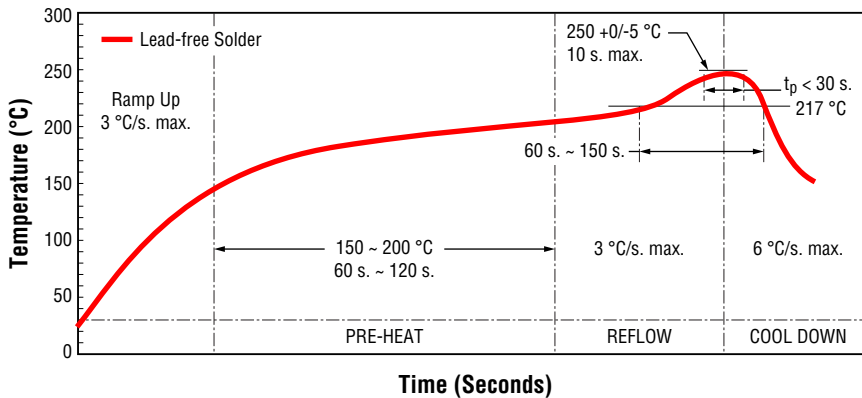
**PLN070-ED21A05S**



Primary windings and secondary windings to be connected in parallel on PC board.

## Soldering Profile

The duration from room temperature (25 °C) to peak temperature is 8 minutes maximum.



## How To Order

**PLN 048 - ED21 A 12 S**

Model \_\_\_\_\_  
 PLN =  
 Planar Transformer  
 Power Rating \_\_\_\_\_  
 048 = 48 W  
 Core and Size \_\_\_\_\_  
 ED21 = EED 20.9  
 Sub-series \_\_\_\_\_  
 A = A Series  
 Output Voltage \_\_\_\_\_  
 12 = 12 V  
 PCB type \_\_\_\_\_  
 S = SMD

## Materials

Bobbin ..... PM-9630 (JT BLACK)  
 PCB ..... S1150G  
 Tape ..... MXPI-310#  
 Core ..... JPP-95  
 Glue ..... S-9001  
 Solder ..... M20  
 Terminal ..... C5191

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

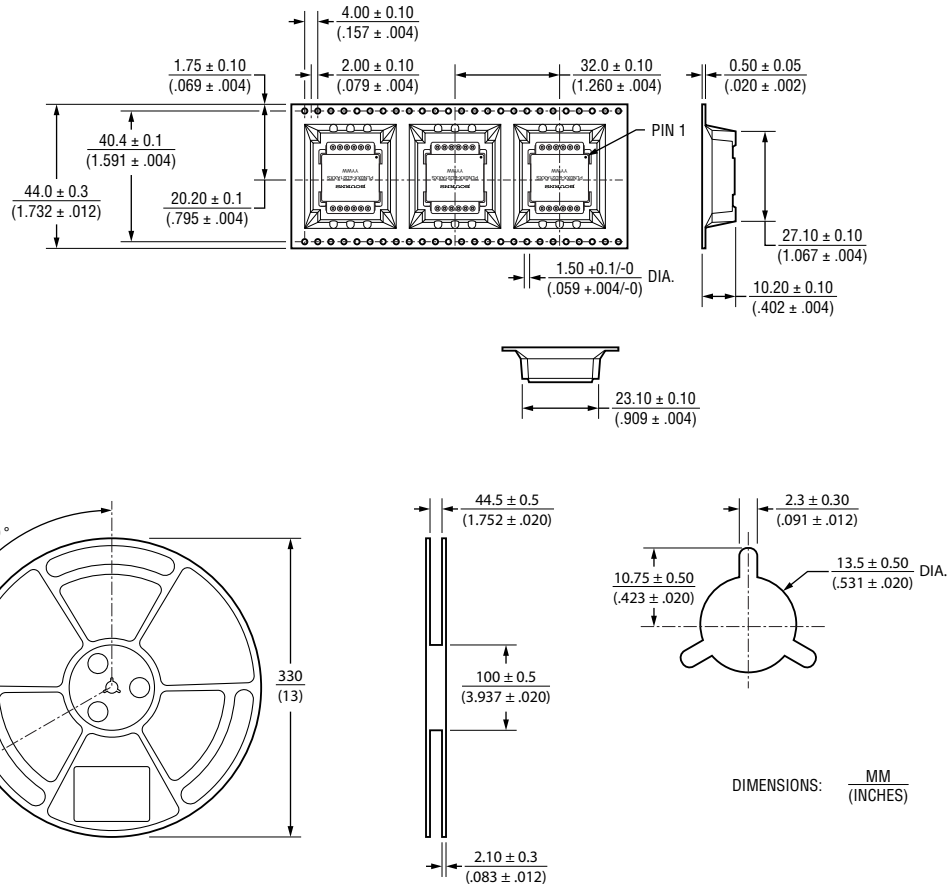
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# PLN Series – Planar Transformers

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## Packaging Specifications

150 pcs. per reel, 2 reels per carton



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