



Bourns Releases New Planar Transformers

Model PLN Series

Riverside, California – March 2, 2023 – Bourns Custom Magnetics Product Line is pleased to introduce the new [Model PLN Series Planar Transformers](#). These new planar transformers are designed for PoE applications from 48 W to 70 W requiring a low profile and high power density.

The new Model PLN Series planar transformers are forward converter transformers operating at a switching frequency of 250 kHz with low leakage inductance from 0.29 μH to 0.6 μH . The available output voltages are 5 V and 12 V with output current from 4 A to 14 A, all of which can withstand hi-pot at 1750 VDC. The operating temperature range is from $-40\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$ for these low profile, RoHS compliant*, surface mount components.

The PLN Series is suitable to be used in various applications, including forward transformers for PoE applications, industrial power systems, Switched-Mode Power Supplies (SMPS), LED lighting, and Battery Management Systems (BMS).

Electrical Specifications @ 25 $^{\circ}\text{C}$

Bourns Part Number	Primary Inductance ¹ (μH)	Leakage Inductance ² (μH) max.	DCR max. (m Ω)			Turns ratio $\pm 3\%$		Hi - Pot ³	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

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Samples and production quantities are now available.

For additional details on Bourns® Planar Transformers, visit the Bourns website at bourns.com/products/magnetic-products/transformers-planar.

If you have questions or need additional information, please feel free to contact [Bourns Customer Service/Inside Sales](#).

Features

- DC-DC transformer for a 48 to 70 watt forward converter
- Low leakage inductance from 0.29 μ H to 0.6 μ H
- Low height profile component
- Surface mount
- Operating temperature: -40 °C to +125 °C
- RoHS compliant*

Applications

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

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.