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 °C to +125 °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 °C

<table>
<thead>
<tr>
<th>Bourns Part Number</th>
<th>Primary Inductance1 (μH)</th>
<th>Leakage Inductance2 (μH) max.</th>
<th>DCR max. (mΩ)</th>
<th>Turns ratio ± 3 %</th>
<th>Hi-Pot3</th>
<th>Main Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1,2-3,4) (7,8,9-10,11,12)</td>
<td>(5-6)</td>
<td>(1,2-3,4 : 5-6)</td>
<td>(1,2-3,4 : 7,8,9-10,11,12)</td>
<td>1750 VDC</td>
<td></td>
</tr>
<tr>
<td>PLN048-ED21A12S</td>
<td>90</td>
<td>0.2908</td>
<td>80</td>
<td>26</td>
<td>210</td>
<td>1.33 : 1</td>
</tr>
<tr>
<td>PLN050-ED21A05S1</td>
<td>153</td>
<td>0.400</td>
<td>90</td>
<td>4.7</td>
<td>150</td>
<td>1.6 : 1</td>
</tr>
<tr>
<td>PLN070-ED21A05S1</td>
<td>150</td>
<td>0.600</td>
<td>78</td>
<td>1.7</td>
<td>140</td>
<td>1.6 : 1</td>
</tr>
</tbody>
</table>

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

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](http://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 μH to 0.6 μH
- 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)