

Low-Profile Inductor Enables 1-cm High Power Supplies for LED Televisions

An 8-mm high PFC boost inductor developed by [Payton Planar Magnetics](#) is enabling the development of 200-W power supplies for 40-inch and larger LED televisions. This 300- μ H 6-A planar inductor has a 35-mm x 35-mm footprint. In the targeted application, the inductor achieves approximately 99% efficiency, which translates to less than 2.5 W of power dissipation with a temperature rise of 45°C. That performance requires no additional cooling in the form of heat sinks or forced air cooling.

According to the vendor, the LED TV for which this inductor was developed has an overall height requirement of just 1 cm, which applies to the power supply and other electronics in the TV (see the figure.) Payton Planar Magnetics has also developed 8-mm tall transformers for use in this power supply application.

Models of this inductor are also available with a separate bias winding, and with lower and higher inductance values with appropriate current ratings. All parts in this product family can be used without a heatsink.



Figure. This 8-mm high planar inductor enables the development of 200-W power supplies with a profile of less than 1 cm as required in large-format LED televisions.