

Fairchild Reference Design

The following reference design supports inclusion of FL7701 in design of LED illumination. It should be used in conjunction with the FL7701 datasheet as well as Fairchild's application notes and technical support team. Please visit Fairchild's website at <http://www.fairchildsemi.com>.

Application	Fairchild Device	Input Voltage Range	Rated Output Power	Output Voltage (Rated Current)
LED Illumination	FL7701	90V _{ac} -264V _{ac}	2.52W	28.28V (0.1A)

Note) The FL7701 has phase differences a little bit between output voltage and current, so the real output power is slightly lower than simple calculation (apparent power), using two terms ($P_{out} \neq V_{out} \times I_{out}$).

Key Features

- Digital implemented active PFC function
- Built in HV supplying circuit: Self biasing
- AOCV function with auto restart mode
- Cycle-by-cycle current limit
- Current sense pin open protection
- Low operating current: 0.85mA (typ.)
- Programmable Oscillation Frequency
- Programmable LED Current
- Analog Dimming Function

1. Schematics

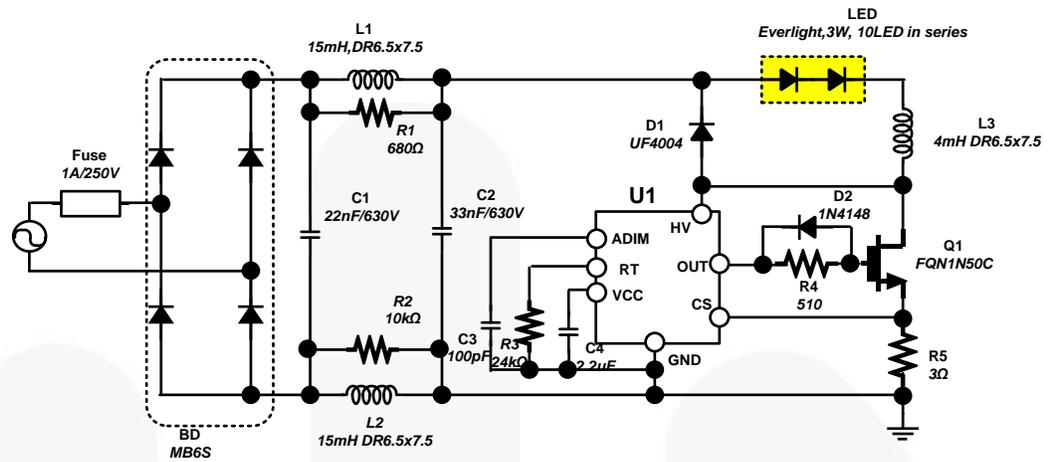


Figure 1. Schematic

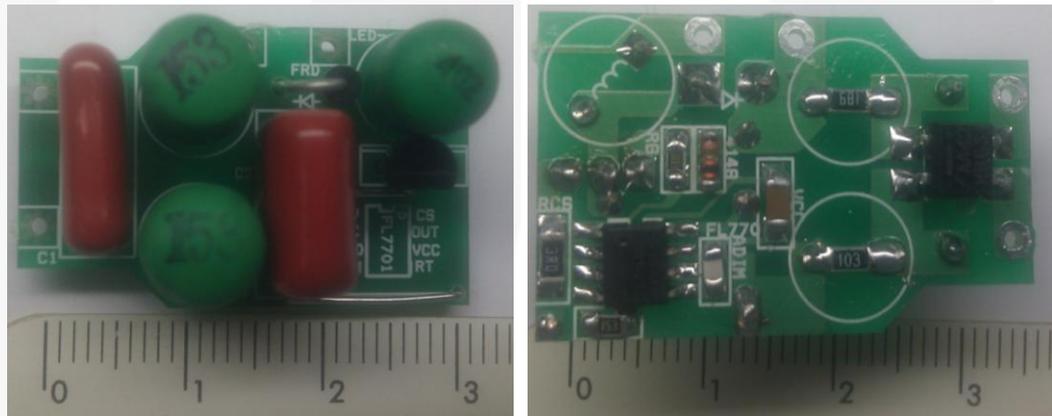


Figure 2. Real board size and pictures

2. Performances

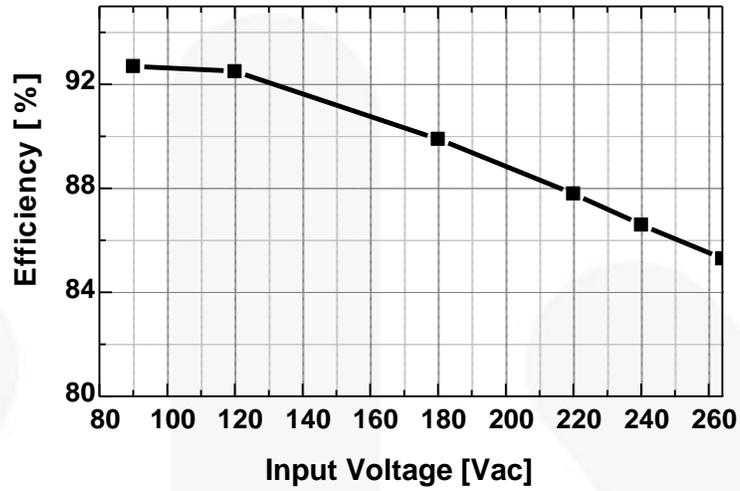


Figure 3. Efficiency vs. input voltage

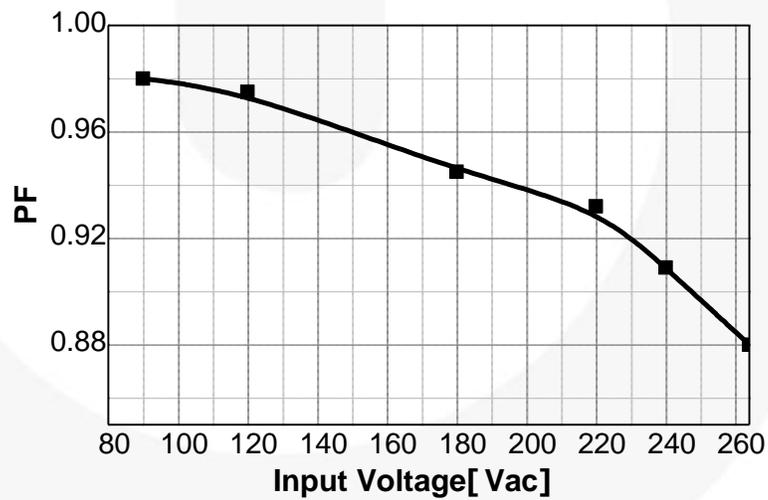


Figure 4. Power factor vs. Input voltage

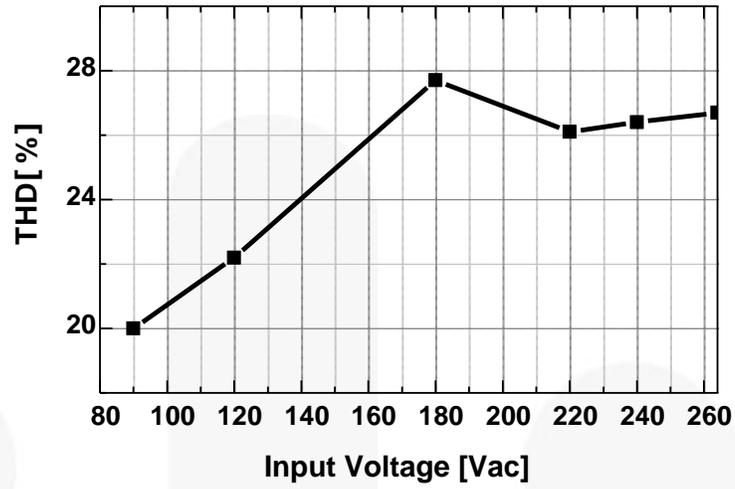


Figure 5. THD vs. Input voltage

3. Related Resources

[FL7701 — Smart LED Lamp Driver IC with PFC Function](#)

<http://www.fairchildsemi.com/support/referencedesign>

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