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.

<table>
<thead>
<tr>
<th>Application</th>
<th>Fairchild Device</th>
<th>Input Voltage Range</th>
<th>Rated Output Power</th>
<th>Output Voltage (Rated Current)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED Illumination</td>
<td>FL7701</td>
<td>90Vac - 264Vac</td>
<td>2.52W</td>
<td>28.28V (0.1A)</td>
</tr>
</tbody>
</table>

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
- AOCP 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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