STMicroelectronics

STEVAL-TLL012V1

4-channel LED driver with charge pump based on the STP4CMP

Data brief

Features

- Operating voltage range: 2.7 V to 5.5 V
- Full RGB function support
- 4-channel LED driver with individual ON/OFF control directly from input pins
- Individual programmable output current for the 4 channels through 4 external resistors with a max. capability of 30 mA
- Absolute output current accuracy of max. ±7% and channel-to-channel mismatch of max. ±4%
- Selectable charge pump enable/disable
- Thermal protection
- RoHS compliant

Description

The STEVAL-TLL012V1 demonstration board demonstrates the performance of the STP4CMP, a charge pump based 4-channel LED driver designed for RGB illumination or LCD display backlighting.

This device works off a battery with an input voltage between 2.7 V - 5.5 V. The device generates regulated current sinks with high absolute and channel-to-channel accuracy to drive up to 4 LEDs.

It can support LEDs with forward voltage as high as 3.8 V.

The current sink for each channel can be set with 4 individual external resistors. Each channel is controlled independently.

The PWM control can be applied directly to the 4 EN (enable) inputs to provide brightness control.
1 Schematic diagram

Figure 1. Schematic diagram
2 Revision history

Table 1. Document revision history

<table>
<thead>
<tr>
<th>Date</th>
<th>Revision</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>08-Jun-2012</td>
<td>1</td>
<td>Initial release.</td>
</tr>
</tbody>
</table>