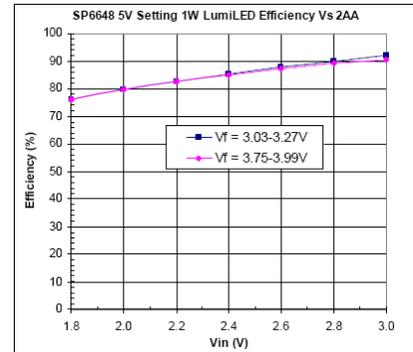


SP6648 Flashlight Application

FEATURES

- 1.8V → 3.2V Input range
- Regulated 350mA output current
- Highly integrated design, minimal components
- On chip synchronous power switches
- Small 3x3mm 10 Pin DFN package
- High efficiency: Greater than 90%
- Constant brightness over full battery range
- Uses 2 cell Alkaline, NiCAD or NiMH battery
- Also works for Lithium camera battery

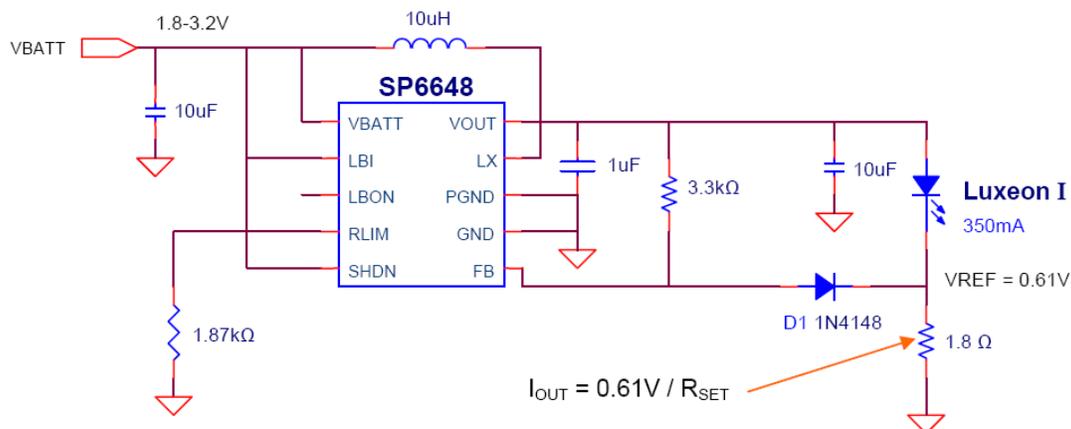


Efficiency over full battery voltage range.

Introduction

The SP6648 integrated synchronous boost regulator is a compact circuit that provides a ultra-high efficiency drive current for an LED flashlight using a Luxeon™ I light source. The circuit shown below is configured to provide 350mA constant output current for a two cell alkaline battery application. All components are compact surface mount devices, yielding a tiny final solution.

Diode D1 has been added to reduce the effective feedback voltage from 1.25V down to 0.61V to improve efficiency. The LED current can be programmed as high as 900mA depending on the set resistor value. Operating quiescent current of the part is only 12uA, so only a negligible amount of power is used by the part itself. The SP6648 is available in MSOP for easy pin access in prototype and testing, and also 3x3mm DFN for the smallest production circuit.



Application Schematic

For further assistance:

Email: Sipexsupport@sipex.com
WWW Support page: <http://www.sipex.com/content.aspx?p=support>
Live Technical Chat: <http://www.geolink-group.com/sipex/>
Sipex Application Notes: <http://www.sipex.com/applicationNotes.aspx>



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