



Design Solution 8

SP7648 700mA Flash LED Driver

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Part Number: SP7648

Application Description: Camera flash driver for mobile phones

Electrical Requirements:

| | |
|----------------|------------------------------|
| Input Voltage | 3.0V – 4.2V |
| Output Voltage | 3.9V (depends on LED V_F) |
| Output Current | 700mA (Flash), 200mA (Torch) |
| LED | AOT P/N AOT2015HPW1915B |

Circuit Description:

The SP7648 is a high current boost regulator specifically designed to drive an LED in camera Flash applications. Application circuit in Fig. 3 provides up to 700mA of LED current in Flash mode, and is set to deliver 200mA Torch current. Internal reference voltage is automatically switched between two modes of operation providing improved efficiency and performance.

This report includes application schematic and figures 1 and 2 illustrating electrical performance of the design.

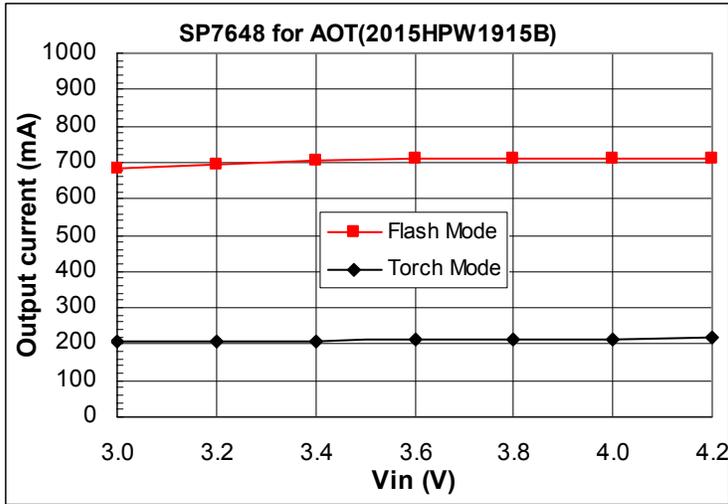


Figure 1. Output Current Regulation vs. Battery Voltage in Flash and Torch modes

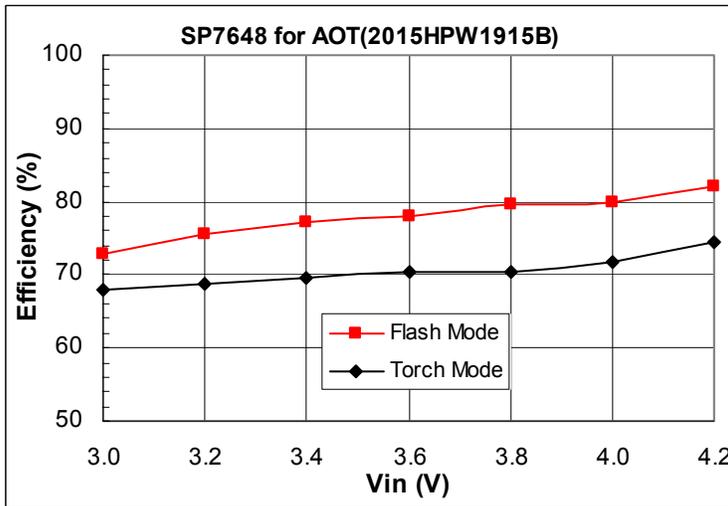


Figure 2. Boost Converter Efficiency in Flash and Torch Modes

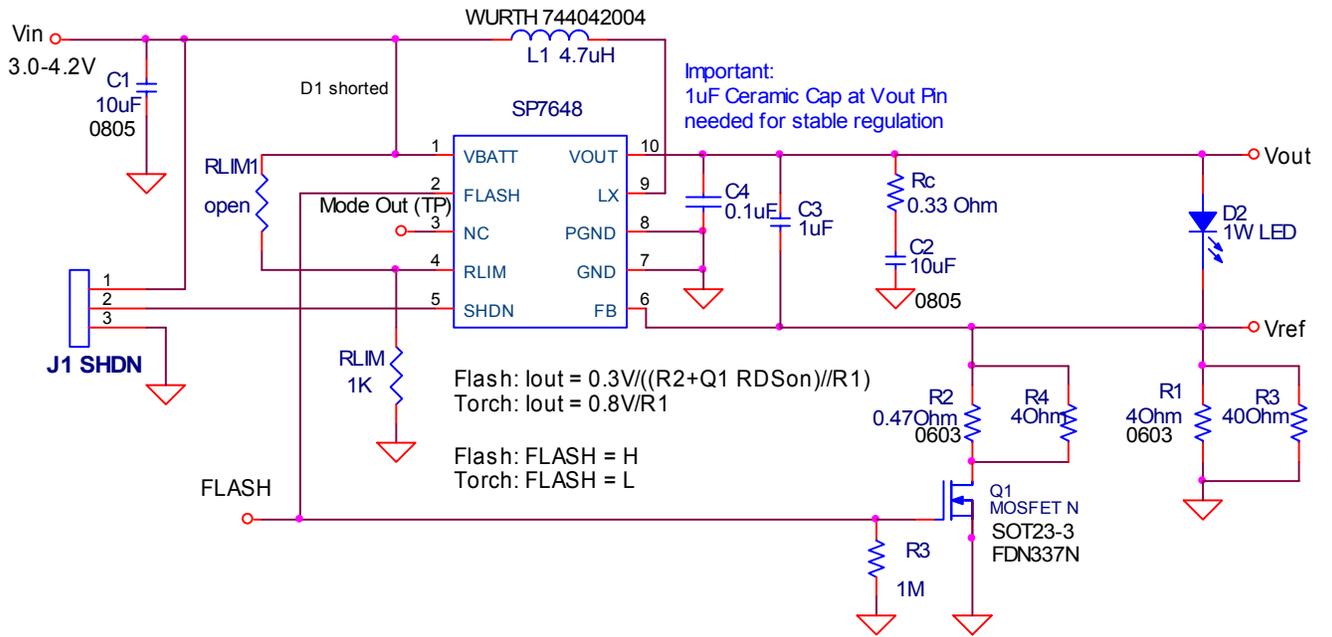


Figure 3. Applications Schematic