

HL7601

2A Boost Regulator with Bypass Mode

Description

The HL7601 provides a power supply solution for products powered by Li-Ion Battery. By combining built-in power transistors, synchronous rectification, and low supply current, this IC is optimized for single-cell portable applications like in smart-phones or tablet PCs.

The HL7601 is a boost regulator designed to provide a minimum output voltage from a single-cell Li-Ion battery, even when the battery voltage is below system minimum. This extends the battery run-time and overcomes input current and voltage limitations of the powered system. The output voltage regulation is guaranteed up to a maximum load current of 2A. The regulator transitions smoothly between Bypass and normal Boost Mode. The device can be forced into Bypass Mode to reduce quiescent current.

The HL7601 is available in a 16-bump, 0.4mm pitch, Wafer-Level Chip-Scale Package (WLCSP).

Features

- Input Voltage Range: 2.3V~5.5V
- Fixed Output Voltage Options: 2.85V~ 6V
- Maximum Output Current: 2A
- 2.5MHz Operation Frequency with Seamless PWM/PFM Transition for Light-load Efficiency
- Optional Auto Bypass Mode and Forced Bypass Mode
- Output Capacitor Discharge
- Low Operating Quiescent Current
- Comprehensive Protection
 - Input Under-Voltage Lockout (UVLO)
 - Over Current and Short-Circuit Protection
 - Thermal Shut-down
- Soft Start
- 16-Bump, 0.4mm Pitch WLCSP

Applications

- Smart Phone
- Tablet PC
- Wireless Communication Device
- 2G/3G/4G RF Power Amplifier
- Audio Power Amplifier
- USB OTG Power Source

Typical Application Diagram

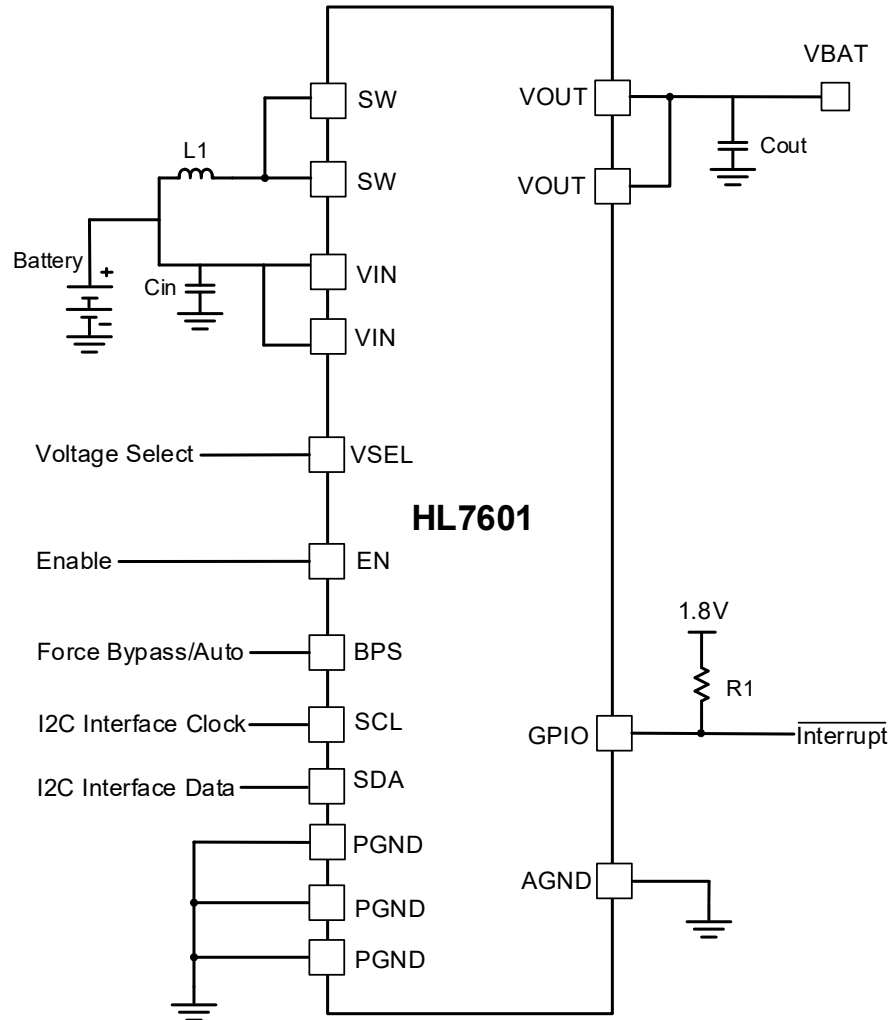


Figure 1. Typical Application Diagram

Order Information

Part Number	VSEL Function	Max Load Current
HL7601WL01	V _{SEL} =0, V _{OUT} =3.15V; (Adjustable with I ² C); V _{SEL} =1, V _{OUT} =3.35V. (Adjustable with I ² C);	2A
HL7601WL02	V _{SEL} =0, V _{OUT} =4.50V (Adjustable with I ² C); V _{SEL} =1, V _{OUT} =5.00V (Adjustable with I ² C);	2A
HL7601WL03	V _{SEL} =0, V _{OUT} =5.10V (No I ² C); V _{SEL} =1, V _{OUT} =5.30V (No I ² C);	2A
HL7601WL04	V _{SEL} =0, V _{OUT} =3.50V (No I ² C); V _{SEL} =1, V _{OUT} =3.70V (No I ² C);	2A

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