



## 2A Boost Regulator with Bypass Mode

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

### Order Information

Part Number	VSEL Function	Max Load Current
HL7601WL01	V <sub>SEL</sub> =0, V <sub>OUT</sub> =3.15V; (Adjustable with I <sup>2</sup> C) ; V <sub>SEL</sub> =1, V <sub>OUT</sub> =3.35V. (Adjustable with I <sup>2</sup> C) ;	2A

For other default output voltage and maximum load current options, contact a Halo Micro sales representative.



## Typical Application Diagram

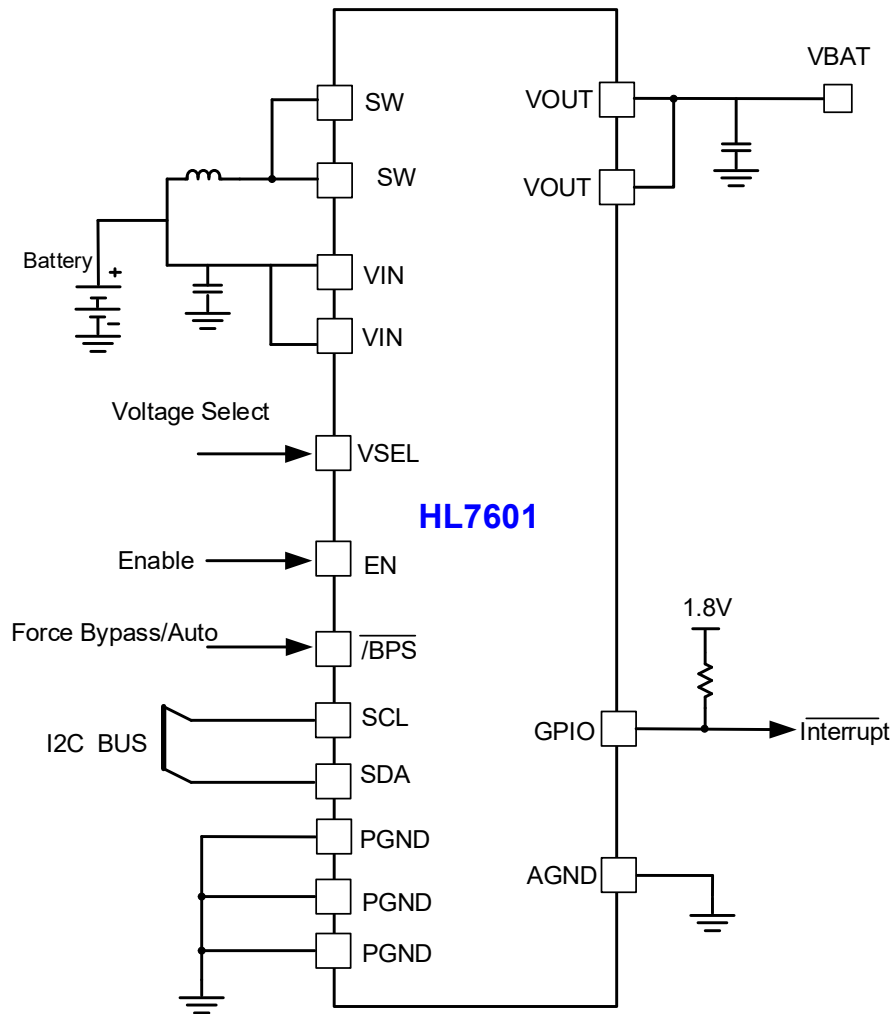


Figure 1 HL7601 Typical Application Diagram

Component	Part Number	Value	Size	Vendor
Cin	GRM188R60J226ME15# CAP FILM	22uF/6.3V, 20%	0603 (1.6x0.8x0.8mm)	MURATA
Cout	GRM188R60J226ME15# CAP FILM	22uF/6.3V, 20%	0603 (1.6x0.8x0.8mm)	MURATA
L1	WPN252010HR47MT	0.47uH/5.8A	2520	SUNLORD

Table 1 Recommended External Components



## 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)



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