To request the full datasheet, please visit www.intersil.com/products/isl91107

High Efficiency Buck-boost Regulator with 3.8A Switches

ISL91107

The ISL91107 is a highly-integrated buck-boost switching regulator that accepts input voltages either above or below the regulated output voltage. Unlike other buck-boost regulators, this regulator automatically transitions between operating modes without significant output disturbance.

This device is capable of delivering up to 2A of output current (PVIN = 2.8V, V_{OUT} = 3.3V) and provides excellent efficiency due to its fully synchronous 4-switch architecture. No-load quiescent current of only 45µA also optimizes efficiency under light-load conditions.

The ISL91107 is designed for standalone applications and supports 3.3V fixed output voltages or variable output voltages with an external resistor divider. Output voltages as low as 1V or as high as 5.2V are supported using an external resistor divider.

The ISL91107 requires only a single inductor and very few external components. Power supply solution size is minimized by a 2.15mmx1.51mm WLCSP and a 2.5MHz switching frequency, which further reduces the size of external components.

Features

- Accepts input voltages above or below regulated output voltage
- Automatic and seamless transitions between buck and boost modes
- Input voltage range: 1.8V to 5.5V
- Output current: up to 2A (PVIN = 2.8V, V_{OUT} = 3.3V)
- High efficiency: up to 96%
- 45µA quiescent current maximizes light load efficiency
- 2.5MHz switching frequency minimizes external component size
- Selectable forced PWM mode
- Fully protected for short-circuit, over-temperature and undervoltage
- Small 2.15mmx1.51mm WLCSP

Applications

- Smartphones and tablet PCs
- Wireless communication devices
- 2G/3G/4G power amplifiers

Related Literature

- AN1940, “ISL91107IIN-EVZ, ISL91107IIA-EVZ Evaluation Board User Guide”

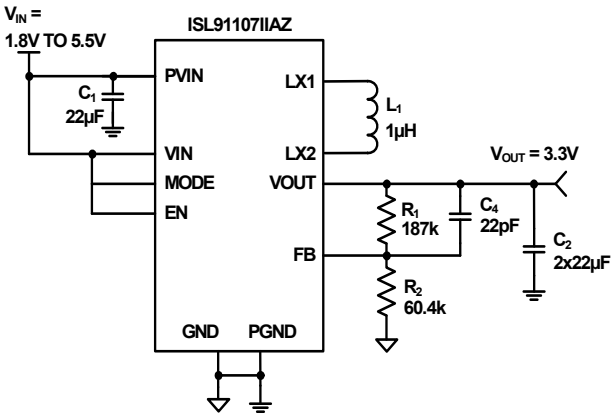


FIGURE 1. TYPICAL APPLICATION

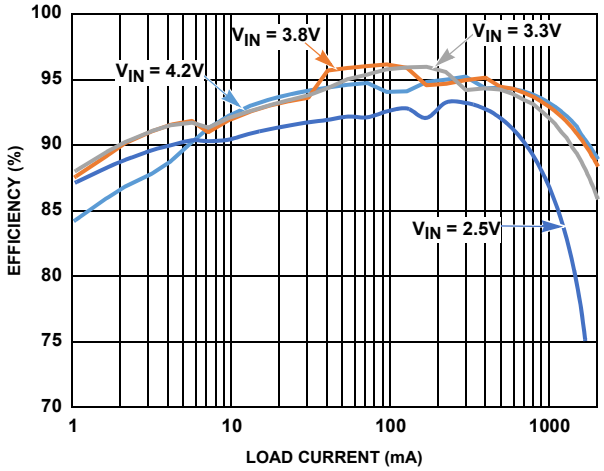


FIGURE 2. EFFICIENCY vs OUTPUT CURRENT (V_{OUT} = 3.3V)

CAUTION: These devices are sensitive to electrostatic discharge; follow proper IC Handling Procedures.
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