General Description

The TCS3815 is a low-power boost regulator designed to provide a minimum voltage-regulated rail from a standard single-cell Li-Ion battery and advanced battery chemistries. Even below the minimum system battery voltage, the device maintains the output voltage regulation for a minimum output load current of 1A. The combination of built-in power transistors, synchronous rectification, and low supply current suit the TCS3815 for battery-powered applications.

The TCS3815 is available in a 9-bump, 0.4mm pitch, WLCSP.

Features

- Input Voltage Range:2.3V to 5.5V
- Output Voltages: 5.0V
- I_{OUT} ≥1A at V_{OUT} =5.0V, V_{IN} ≥ 2.5V
- I_{OUT} ≥1.5A at V_{OUT} =5.0V, V_{IN} ≥ 3V
- Up to 94% Efficient
- Automatic Pass-Through Operation when V_{IN} >V_{OUT}
- Internal Synchronous Rectification
- Soft-Start with True Load Disconnect
- Short-Circuit Protection
- 9-Bump, 0.4 mm Pitch ,WLCSP
- Three External Components: 0.47 uH Inductor, 0603 Case Size Input / Output Capacitors
- Total Application Board Solution Size: < 11 mm^2

Application

- Class-D Audio Amplifier and USB OTG Supply
- Boost for Low-Voltage Li-Ion Batteries
- Smart Phones, Tablets, Portable Devices

Pin Configuration