FAN48630J

2.5 MHz, 1500 mA, Synchronous TinyBoost Regulator with Bypass Mode

The FAN48630J allows systems to take advantage of new battery chemistries that can supply significant energy when the battery voltage is lower than the required voltage for system power ICs. By combining built-in power transistors, synchronous rectification, and low supply current; this IC provides a compact solution for systems using advanced Li-Ion battery chemistries.

The FAN48630J is a boost regulator designed to provide a minimum output voltage (VOUT(MIN)) from a single-cell Li-Ion battery, even when the battery voltage is below system minimum. Output voltage regulation is guaranteed to a maximum load current of 1500 mA. Quiescent current in Shutdown Mode is less than 3 µA, which maximizes battery life. The regulator transitions smoothly between Bypass and normal Boost Mode. The device can be forced into Bypass Mode to reduce quiescent current.

The FAN48630J is available in a 16-bump, 0.4 mm pitch, Wafer-Level Chip-Scale Package (WLCSP).

Features

- 3 External Components: 0.47 µH Inductor and 0603 Case Size Input and Output Capacitors
- Input Voltage Range: 2.35 V to 5.5 V
- Fixed Output Voltage Option: 3.15 V/3.6 V
- Up to 96%
- True Bypass Operation when V_{IN} > Target V_{OUT}
- Internal Synchronous Rectifier
- Soft-Start with True Load Disconnect
- Forced Bypass Mode
- VSEL Control to Optimize Target V_{OUT}
- Short-Circuit Protection
- Low Operating Quiescent Current
- 16-Bump, 0.4 mm Pitch WLCSP

Product

FAN48630BUC31JX

Product & Eco Status

Full Production
Green as of Nov 2014

China RoHS

Qualification Support

ESD (HBM) **4000V**

$R_{\Theta JA}$ **80°C/W**

Moisture Sensitivity Level (MSL) **1**

Max Reflow Temp **260**