



FAN49103 — 2.5 A, 1.8 MHz, TinyPower™ I²C Buck-Boost Regulator

Features

- 24 μ A Typical PFM Quiescent Current
- Above 95% Efficiency
- Total Layout Area = 11.61 mm²
- Input Voltage Range: 2.5 V to 5.5 V
- Maximum Continuous Load Current:
 - 2.5 A at V_{OUT}=3.4 V, V_{IN}=3.6 V
 - 2 A at V_{OUT}=3.4 V, V_{IN}=2.5 V
- I²C Compatible Interface
- Programmable Output Voltage:
 - 2.8 V to 4.0 V in 25 mV Steps
- 1.8 MHz Fixed-Frequency Operation in PWM Mode
- Automatic / Seamless Step-up and Step-down Mode Transitions
- Forced PWM and Automatic PFM/PWM Mode Selection
- 0.5 μ A Typical Shutdown Current
- Low Quiescent Current Pass-Through Mode
- Internal Soft-Start and Output Discharge
- Low Ripple and Excellent Transient Response
- Internally Set, Automatic Safety Protections (UVLO, OTP, SCP, OCP)

Applications

- Smart Phones
- Tablets, Netbooks®, Ultra-Mobile PCs
- Portable Devices with Li-ion Battery
- 2G/3G/4G Power Amplifiers
- NFC Applications

Description

The FAN49103 is a high efficiency buck-boost switching mode regulator which accepts input voltages either above or below the regulated output voltage. Using full-bridge architecture with synchronous rectification, the FAN49103 is capable of delivering up to 2.5 A while regulating the output at 3.4 V. The FAN49103 exhibits seamless transition between step-up and step-down modes reducing output disturbances. The output voltage and operation mode of the regulator can be programmed through an I²C interface.

At moderate and light loads, Pulse Frequency Modulation (PFM) is used to operate the device in power-save mode to maintain high efficiency. In PFM mode, the part still exhibits excellent transient response during load steps. At moderate to heavier loads or Forced PWM mode, the regulator switches to PWM fixed-frequency control. While in PWM mode, the regulator operates at a nominal fixed frequency of 1.8 MHz, which allows for reduced external component values.

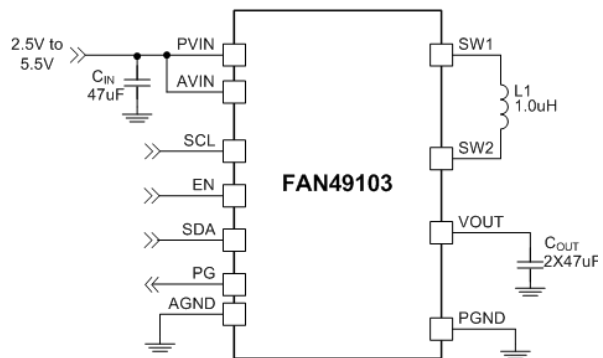


Figure 1. Typical Application

Additional Information

For the full datasheet, please contact a Fairchild Sales Representative.

Ordering Information

| Part Number | Output Discharge | Temperature Range | Packing Method |
|-----------------|------------------|-------------------|----------------|
| FAN49103AUC340X | Yes | -40 to 85°C | Tape and Reel |



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|--------------------------|-----------------------|---|
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