

FAN6100Q

Secondary-Side Constant Voltage and Constant Current Controller Compatible with Qualcomm® Quick Charge 2.0

Product Overview

For complete documentation, see the data sheet.

The FAN6100Q is an integrated secondary side power adaptor controller that is compatible with Qualcomm® Quick Charge™ 2.0 Class A technology. It is designed for use in application that requires Constant Voltage (CV) and Constant Current (CC) regulation. The controller consists of two operational amplifiers for voltage and current loop regulation with adjustable reference voltage. The CC control loop also incorporates a current sense amplifier with gain of 10. Outputs of the CV and CC amplifiers are tied together in open drain configuration.

The FAN6100Q enables power adaptor's output voltage adjustment if it detects a protocol capable powered device. It can be capable of outputting 5.0 V at the beginning, and then 9 V or 12 V to meet requirement of High-Voltage Dedicated Charging Port (HVDCP) power supply. If a non compliant powered device is detected, the controller disables output voltage adjustment to ensure safe operation with smart phone and tablets that support only 5 V.

FAN6100Q also incorporates an internal charge pump circuit to maintain CC regulation down to power supply's output voltage, VBUS of 2 V without an external voltage supply to the IC. Programmable cable voltage drop compensation allows precise CV regulation at the end of a USB cable via adjusting one external resistor.

The device is available in the 20-pin MLP 3 x 4 package.

Features

- Supports Qualcomm® Quick Charge 2.0 Specification
- Secondary-Side Constant Voltage (CV) and Constant Current (CC) Regulation
- Built-in Charge-Pump Circuit for Low Output Voltage Operation
- Internal, Accurate, Adaptive CV/CC Reference Voltage
- Low-Value Current Sensing Resistor for High Efficiency
- Programmable Cable Voltage Drop Compensation
- Two Operational Transconductance Amplifiers with Open-Drain Type for Dual-Loop CV/CC Control
- Compatible with Fairchild's FAN501A
- Adaptive Secondary-Side Output Over-Voltage Protection through Photo-Coupler
- Output Under-Voltage Protection

For more features, see the data sheet

Applications

- AC-DC Merchant Power Supply
- Camcorder
- Consumer Appliances
- DSC
- Mobile Handsets