

Product Overview

FAN6100M: Secondary-Side Constant Voltage and Constant Current Controller Compatible with MediATek Pump Express™ Plus

For complete documentation, see the data sheet.

The FAN6100M is a highly integrated secondary side constant voltage and constant current controller that is compatible with MediaTek Pump Express™ Plus and Fairchild's FCP-Single communication protocol specifications. 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 FAN6100M enables power adaptor's output voltage adjustment if it detects a protocol capable powered device. It can be capable of outputting 5 V at the beginning, and then 7 V, 9 V or 12 V to meet requirements of a high voltage dedicated charging port (HVDCP) power supply or 4.8 V, 4.6 V, 4.4 V, 4.2 V or 4 V to maximize the charging current which is controlled by the power adaptor. If a non compliant powered device is detected, the controller disables output voltage adjustment to ensure safe operation with smart phones and tablets that support only 5 V. FAN6100M also incorporates an internal charge pump circuit to maintain CC regulation down to the power supply's output voltage, V_{bus} of 2 V without an external voltage supply to the IC. Programmable cable voltage drop compensation allows precise CV regulation at end of USB cable via adjusting one external resistor. The device is available in the 20-pin MLP 3 x 4 package.

Features

- Supports MediaTek Pump Express™ Plus and Fairchild's FCP-Single communication protocol Specifications
- 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
- Motion

Part Electrical Specifications

Product	Compliance	Status	Topology	Phases	Control Mode	V_{CC} Min (V)	V_{CC} Max (V)	f_{sw} Typ (kHz)	Package Type
FAN6100MMPX	Pb-free Halide free	Active							WQFN-20

For more information please contact your local sales support at www.onsemi.com.

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