

Multi-Channel PMIC for TFT LCD TV Applications

Features

- 8 V to 14 V Input Supply Voltage
- Integrated MTP Non-Volatile Memory
- VIO Asynchronous Buck Converter
- AVDD Asynchronous Boost Converter with Internal Isolation Switch
- HAVDD Push-pull Regulator with OP-Amp
- VGL Negative Charge-pump Regulator
- VGH Positive Charge-pump Regulator with Temp. Compensation
- 10-channel Programmable Gamma Buffers
- 1-channel Programmable VCOM Output
- I²C Compatible Interface for Register Control

Applications

- LCD TV Panels
- LCD Monitor Panels

Description

The SM4807C consists of the AVDD boost converter, the VIO buck converter, the HAVDD push-pull regulator with a high-speed operational amplifier, the VGH positive charge pump regulator with temperature compensation, the VGL negative charge pump regulator, VCOM calibrator with a high-speed operational amplifier and gamma buffers.

All output voltages are programmable using I²C serial interface. The AVDD boost converter and the HAVDD push-pull regulator with operational amplifier provide regulated regulated supply voltages for the panel source driver ICs. And the VIO buck converter provides digital logic supply voltage for the system. The temperature compensated VGH positive charge pump regulator and the VGL negative charge pump regulator provide the TFT gate driver supply voltages. The device is optimized for thin-film transistor (TFT) liquid-crystal display (LCD) applications.

Device Information

Part	Package	Size
SM4807C	40 QFN	5 mm x 5 mm

Simplified Block Diagram

