
Multi-Channel TFT LCD TV Supply

FEATURES

- 8V to 16.5V input supply
- Current-mode boost regulator
 - 500k/750kHz selectable frequency
 - Integrated 20V/3.5A 100mΩ FET
 - Fast transient response to pulsed load
 - High efficiency up to 90%
 - Adjustable soft-start
 - Adjustable current limit for over current protection
 - Adjustable high-accuracy output voltage
 - Over voltage protection
- Current-mode buck regulator
 - Integrated 20V/3.2A 100mΩ FET
 - Fast transient response
 - Internal compensation
 - High efficiency
 - Internal 3ms soft-start
 - Adjustable high-accuracy output voltage
- VGH positive charge pump controller
- VGL negative charge pump controller
- High voltage LDO for gamma reference
 - Adjustable high-accuracy output voltage
 - Low drop-out voltage at 60mA output current (0.25V)
- Integrated high performance operational amplifier
 - ±200mA output short-circuit current
 - 45V/us fast slew rate
- Reset Function
- GPM controller
 - Adjustable falling time
 - Adjustable turn-on delay
- External gate control for AVDD sequencing
- Thermal shutdown
- Thin 7x7 mm 48-lead WQFN package

DESCRIPTION

The ANX6861 is an integrated power supply solution optimized for large thin-film transistor (TFT) liquid crystal display (LCD) TV panels which generates all voltage rails for the TFT LCD bias (AVDD, VGH, VGL, VCOM) and also a buck regulator for system logic supply. It is especially designed for 12V input. For better display quality control, the device also provides Gate-Pulse-Modulation block and high accuracy Gamma voltage reference for driver IC.

The boost regulator provides TFT source driver AVDD voltage. The integrated N-channel FET operates at a fixed frequency of 500k/750kHz which has a current limit up to 3.5A and can support output voltages up to 20V.

The buck regulator supplies system logic power with a current limit of 3.2A, it includes an internal power MOSFET and fixed-frequency operation allowing the use of small inductors and capacitors. Both boost and buck regulators feature internal soft-start function to limit inrush current and use current mode control to perform fast load transient response. The buck regulator is compensated internally and the boost regulator is compensated by an external RC network.

The gate-on and gate-off charge pumps provide TFT-LCD gate drivers regulated gate-on and gate-off supplies. Both outputs can be adjusted by external resistive voltage dividers. Internal soft-start function is also included.

The integrated operational amplifier is typically used for LCD VCOM driving, it features fast slew rate, wide bandwidth, and rail-to-rail output which can sink or source up to 200mA.

The GPM is a flicker compensation circuit to reduce the coupling effect of gate lines; the gate-shaping timing is controlled by the timing-controller to modulate the Gate-On voltage, VGHM.

The high voltage Gamma reference ensures a stable voltage to generate the Gamma correction voltages.

The ANX6861 is available in a thin 48-pin 7x7 mm WQFN green package.

Ordering Information

Part Number	Package
ANX6861AAQ	WQFN-48L, 7x7

Pin Configuration

