

ISL24837A

Programmable TFT-LCD  $V_{REF}$  Generator

FN7645  
Rev 1.00  
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The ISL24837A contains a programmable 10-bit, 8-channel gamma DAC generator, a programmable 10-bit, 4-channel level shifter reference generator with external gain control, a trimmed bandgap voltage reference, and a digitally-controlled  $V_{COM}$  calibrator. The reference voltage of ISL24837A is set by the bandgap and two external feedback resistors, so the output voltages are independent of  $A_{VDD}$ . The  $V_{COM}$  calibrator is the sink-current output that attaches to an external voltage divider. The desired  $V_{COM}$  setting is controlled by the I<sup>2</sup>C interface. Two banks of channels with external pin or I<sup>2</sup>C control enable fast switching between 2 different gamma curves stored in internal EEPROM.

The ISL24837A is available in a 32 Ld QFN package and is specified for operation over the -40°C to +85°C temperature range.

Related Literature

- See [FN6842](#), "8-Channel Programmable I<sup>2</sup>C TFT-LCD Reference Voltage Generator with Band Gap Trimmed Reference, 4-Channel Programmable Amps with Negative Feedback Inputs, 1-Channel  $V_{COM}$  Op Amp, Integrated  $V_{COM}$  Calibrator and 2 Banks of Integrated EEPROM"

Features

- 8 Programmable 10-bit Gamma Voltages with Bandgap-Trimmed Reference
- 4-Channel, 10-bit Programmable Amps with Feedback Inputs for Level Shifter Reference Voltages
- Integrated Programmable  $V_{COM}$  Calibrator
- 1  $V_{COM}$  Op Amp
- 2 Banks of EEPROM Storage, Rewriteable >300 Times
- 10-bit Resolution on all DACs
- 20ms DAC Loading Time at Power-On
- Analog Supply: 12V to 18V @ 15mA (Unloaded)
- Digital Supply: 2.5V to 3.3V @ 1mA (Unloaded)
- I<sup>2</sup>C Interface
- Pb-free (RoHS Compliant)

Applications

- TFT-LCD Column Driver Reference Generator
- General-Purpose Reference Voltage Generators

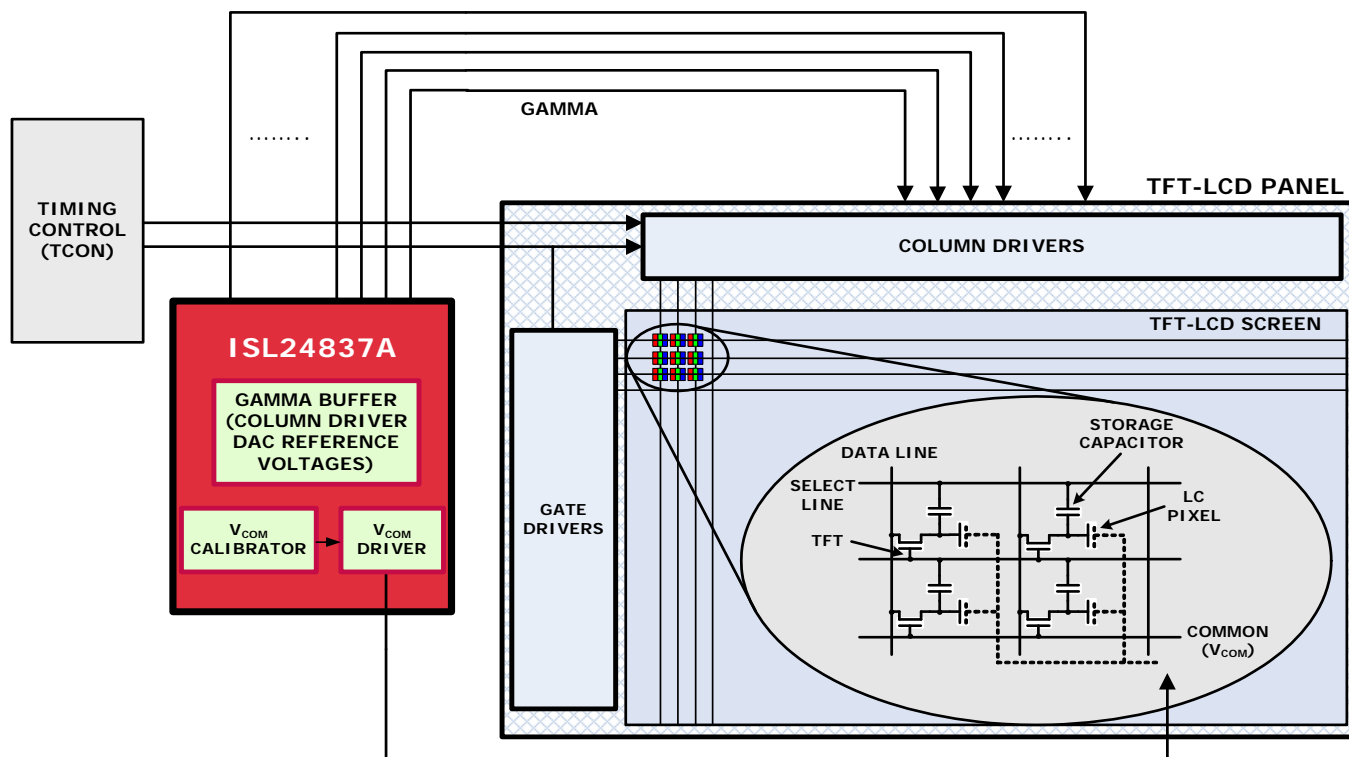


FIGURE 1. TYPICAL APPLICATION

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