

15-Channel I²C Programmable TFT-LCD Reference Voltage Generator with Dual-Bank, DVR V_{COM}, GND Outputs, EEPROM, and Ultra-low Power Operation

ISL24867

The ISL24867 is a programmable reference voltage generator for TFT-LCDs featuring ultra-low power operation. The ISL24867 contains an I²C programmable, 10-bit, 14-channel gamma reference voltage generator with buffered dual bank outputs, an 8-bit programmable DVR V_{COM} calibrator, high output current V_{COM} amplifier, and a GND outputs function with logic (EN) control. The integrated EEPROM, for storing all reference voltage data, features an endurance of 10,000 write cycles and is read/write capable over the digital supply voltage range.

The dual bank outputs are capable of fast switching between different sets of voltage reference data. Bank switching is ideal to quickly change between gamma curves for 2D/3D TFT-LCD applications. The device's outputs are double buffered, which allows for updating data in one bank while data is simultaneously output from the other bank.

Combining gamma and V_{COM} reference voltage generators, with low power operation, and EEPROM, the ISL24867 provides a complete reference voltage solution ideal for tablet, monitor, and mobile TFT-LCD applications.

The ISL24867 is available in a Super Thin 28 Ld 4x5mm X2QFN thermally enhanced package. It is specified for operation over the -40°C to +85°C ambient temperature range.

Features

- 15-Channel Reference Voltage Outputs, I²C Programmable
 - 14-Channel Gamma References, 10-bit Resolution with Buffered Dual Bank Outputs
 - 1-Channel V_{COM} Calibrator ("DVR"), 8-bit Current-Sink DAC
- High Output Current V_{COM} Amplifier
- Dual Bank Gamma Output, with Fast Output Bank Switching
- GND Outputs Function, with Logic Control
- Ultra-low Power Operation, Ideal for Tablet and Mobile TFT-LCD Applications: Quiescent Power 13mW @ 8V A_{VDD}
- EEPROM Endurance: 10,000 Write Cycles
 - Read/Write Capable Over 2.25V to 3.6V D_{VDD} Range
- 6.3V to 19V Analog Supply Operating Range
- 2.25V to 3.6V Digital Supply Operating Range
- 28 Ld 4x5mm Super Thin X2QFN Package
- Pb-free (RoHS Compliant)

Applications

- Tablet, Notebook, Monitor TFT-LCD
- Mobile - 2D/3D TFT-LCD
- General-Purpose Reference Voltage Generator

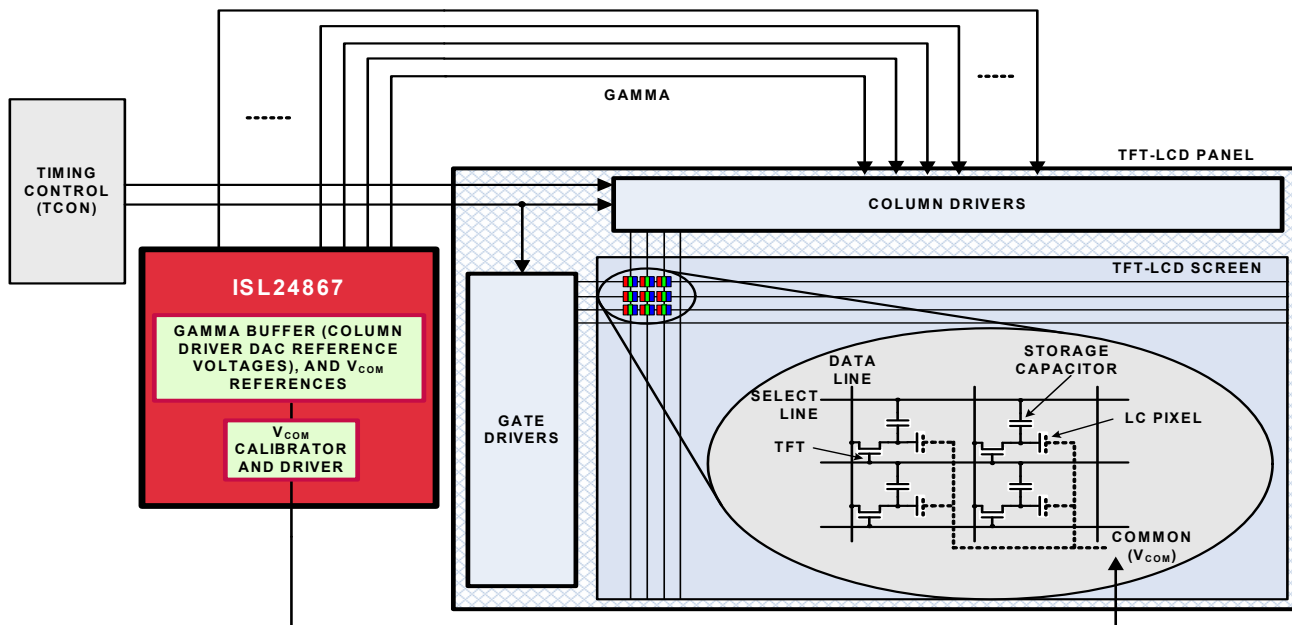


FIGURE 1. TYPICAL APPLICATION: TFT-LCD REFERENCE VOLTAGE GENERATOR

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