

## TW8819

### Ultra Low Cost LCD Controller

FN8597

Rev. 2.00

December 23, 2015

## Description

The TW8819 is an ultra low cost highly integrated LCD controller. It combines a high quality 2D comb NTSC/PAL/SECAM video decoder, high quality scaler, Font based OSD engine, and image enhancement functions. It also supports panoramic scaling for conversion to wide screen display. The TW8819 supports analog composite video inputs and the output supports a wide variety of digital LCD panel types.

## Applications

- Rear camera display
- Video door phone

## Features

### Analog Video Decoder

- NTSC (M, 4.43) and PAL (B, D, G, H, I, M, N, N combination), PAL (60), SECAM with automatic format detection
- 10-bit ADC and analog clamping circuit
- Fully programmable static gain or automatic gain control for the Y or CVBS channel
- Programmable white peak control for the Y or CVBS channel
- High quality adaptive 2D comb filter for both NTSC and PAL inputs
- PAL delay line for color phase error correction
- Image enhancement with 2D dynamic peaking and CTI
- Digital sub-carrier PLL for accurate color decoding
- Digital horizontal PLL and advanced synchronization processing for VCR playback and weak signal performance
- Programmable hue, brightness, saturation, contrast and sharpness

### TFT Panel Support

- Built-in programmable timing controller
- Supports 3, 4, 6 or 8 bits per pixel up to 16.8 million colors with built-in dithering engine

- Supports digital panels up to WXGA+ (1366x768) resolution

- Supports serial (8-bit) RGB panels

### Timing Controller (TCON)

- Supports programmable timing interface signals for control
- Column (source) driver/row (gate) driver

### On Screen Display

- 256 Font RAM and 512 Display RAM
- Four windows font OSD with bordering/shadowing
- 1/2/3/4 bits/pixel
- Supports variable width (12/16), height (2~32)

### Image Processing

- High quality scaler with both up/down and nonlinear scaling support
- Panorama/water-glass scaling
- Built-in 2D de-interlacing function
- Programmable hue, brightness, saturation, contrast and sharpness
- Programmable cropping of input video and graphics
- Independent RGB gain and offset controls
- Programmable 8-bit Gamma correction for each color
- Operates in Frame Sync mode
- Black/White Stretch

### Clock Generation

- Spread spectrum clock
- Selectable modulation frequency and spread width

### Power Management

- Supports functional based independent power down
- 1.8/3.3 V operation

### Miscellaneous

- Short to Battery Detection Test
- Short to Ground Detection Test
- Supports 2-wire serial bus interface
- Single 27MHz crystal
- 48 pin WFQFN package (Wettable Flank QFN available)

**© Copyright Intersil Americas LLC 2013-2015. All Rights Reserved.**  
**All trademarks and registered trademarks are the property of their respective owners.**

For additional products, see [www.intersil.com/product\\_tree](http://www.intersil.com/product_tree)  
Intersil products are manufactured, assembled and tested utilizing ISO9001 quality systems as noted  
in the quality certifications found at <http://www.intersil.com/en/support/qualandreliability.html>

---

*Intersil products are sold by description only. Intersil may modify the circuit design and/or specifications of products at any time without notice, provided that such modification does not, in Intersil's sole judgment, affect the form, fit or function of the product. Accordingly, the reader is cautioned to verify that datasheets are current before placing orders. Information furnished by Intersil is believed to be accurate and reliable. However, no responsibility is assumed by Intersil or its subsidiaries for its use; nor for any infringements of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Intersil or its subsidiaries.*

---

For information regarding Intersil Corporation and its products, see <http://www.intersil.com>

## Данный компонент на территории Российской Федерации

### Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9