



SYL2030 Product Brief



High Resolution LCOS Light Modulation Panel

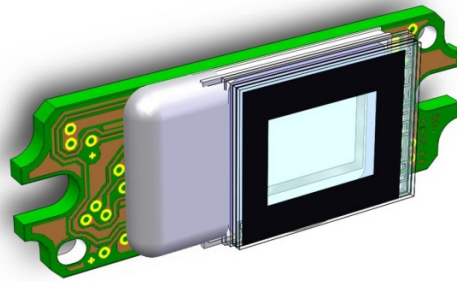
Features

LCOS Panel

- Single panel field sequential color Liquid Crystal On Silicon (LCOS)
- WVGA Resolution (854x480)
- Algorithm controlled Color Field Duration and Rate
- Color depth up to 10 bits
- Fast raster scan display update enables panel illumination times up to 90%
- Compatible with LED or Laser light source
- Mature 0.18 μm digital CMOS process
- Low power, 85 mW average WVGA at 180 FPS
- Fast TN (Twisted Nematic) Liquid Crystal with 200 μs drive to black time

LCOS Controller

- Fully compatible with the Syndiant SYA1022 LCOS Controller
- Converts video signals into efficient formats used by Syndiant VueG8™ LCOS panels
- Up to 24 bit RGB Video Input
- Integrated controllers for DRAM, FLASH, and illumination devices
- I2C interface



For illustration only

Specifications

Resolution	WVGA (854x480 Pixels)	Reflectivity	65%
Display Diagonal	0.21"	Package Height	6 mm
Contrast Ratio	500:1 QWP Compensated	Package Type	Panel on mini PCB
Pixel Pitch	5.4 μm	Operating Temperature	-10°C to 70°C
Fill Factor	92.7%	Storage Temperature	-40°C to 80°C
Response Time	Rise time: 600 μs Fall Time: 200 μs	Light-on Duty Cycle	85-90%

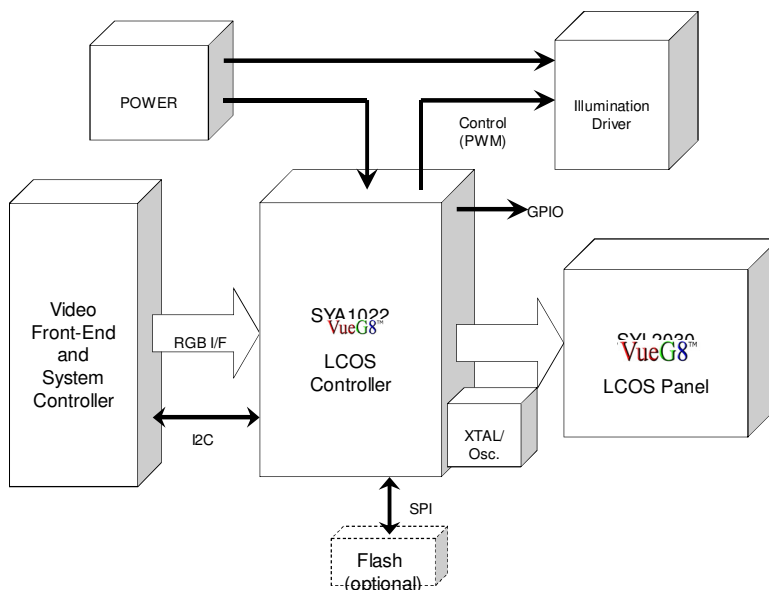
Overview

The Syndiant SYL2030 provides WVGA resolution in a 0.21" diagonal panel that is only 6 mm tall, enabling very thin optical engines that fit in thinner handsets. The SYL2030 also provides excellent image quality with vivid saturated colors while delivering the low cost and power efficiency requirements for battery operated handheld devices.

Syndiant's patented LCOS microdisplay architecture integrates all-digital smart electronics onto the display panel. An application specific SIMD processor performs bit serial data manipulation to control each pixel. The intelligence is divided between the Controller and the panel; the Controller formats and arbitrates data flow to the panel, and the panel logic computes new pixel values and updates the pixels. This efficient methodology enables high bit depth liquid crystal drive while requiring minimal data bandwidth to the panel.

With Syndiant's VueG8 technology, it is not necessary to sacrifice image quality in ultra-portable projection applications.

System Block Diagram



Syndiant Advantages

- World-leading resolution vs. imager size, which easily scales to higher resolutions
- Higher resolution offers a rich user experience by supporting a full range of content including reading email attachments, web browsing, text, graphics, multimedia, and full-motion video
- Smooth gray scale at all brightness levels, matching the visual response of the eye
- Meets form factor requirements for ultra-small embedded applications
- High quality image and video reproduction
- Fast LC response enables saturated colors and high illumination on time (85-90% duty cycle)
- Display modes are highly configurable, enabling optimum system performance
- High reliability and long lifetimes suitable for consumer applications
- Flexible - can use LED or Laser light sources