

# Displaytech® VGA FLCOS Microdisplay Panel



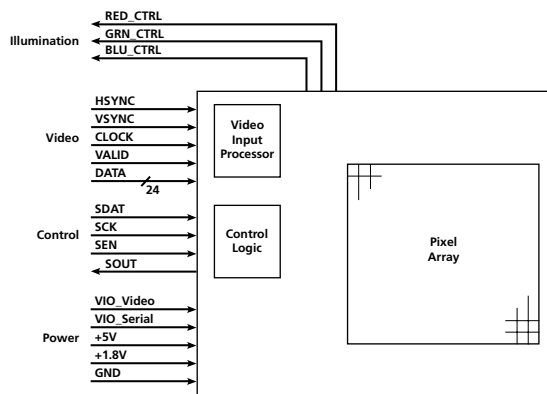
## VGA Microdisplay Panel Features

- 640 x 480 full-color pixels
- Fast switching ferroelectric liquid crystal (FLC) material eliminates motion smearing
- Full consumer-product temperature ranges with integrated temperature compensation
- Low power: 75mW typical operation
- 60Hz frame rate (360Hz RGB field rate)
- Adjustable gamma settings
- All digital pixel architecture with superior image quality
- Fully integrated display controller requires no additional circuitry to interface to digital video
- Flexible video interface is easily adapted to most digital video sources
- Programmable video cropping and downscaling
- Programmable color matrix processor
- Adjustable color field durations

## Compact Panel, Larger-than-Life Display

The Displaytech VGA panel is a compact, low-power display device designed for a wide range of magnified color display applications, including pico projection, head-mounted displays, and electronic viewfinders. This integrated solution incorporates the display panel and control circuitry in a compact package. This product takes advantage of the fast switching speeds and superior optical qualities of our patented ferroelectric liquid crystal (FLC) materials, delivering full-color video images free of motion smearing. The small size of the display allows for innovative end product designs while the low power consumption extends product battery life. Industry-standard digital interfaces are supported for easy product integration.

## Block Diagram



## Supported Interfaces

- 24-bit RGB-parallel data, Hsync, Vsync, Valid, Clock
- 24-bit YCrCb 4:4:4 data, Hsync, Vsync, Valid, Clock
- 16-bit YCrCb 4:2:2 data, Hsync, Vsync, Valid, Clock
- Industry-standard 4-wire serial interface (SPI-like)

## Applications

- Pico projectors
- Head-mounted displays
- Digital still camera viewfinders
- Video camcorder viewfinders
- Wireless communication devices
- Ultra-portable display applications

## Product Specifications

General	Format	640 x 480 full-color pixels
	Active Area Diagonal	9.40mm (0.37-inch)
	Pixel Pitch	11.75 $\mu$ m x 11.75 $\mu$ m
	Fill Factor	91.7%
	Color Depth	24-bit RGB
	Frame Rate	60Hz NTSC video input rate 50Hz PAL video input rate
	Package	23.4mm x 9.8mm x 3.6mm
Optical*	Reflectivity	62%
	Contrast Ratio	300:1
Electrical	Supported Interfaces	Video Data: 24-bit RGB, 24-bit YCrCb 4:4:4, 16-bit YCrCb 4:2:2 Video Timing: Hsync, Vsync, Valid, Clock Control: Sdat, Sck, Sen, Sout Industry-standard 4-wire serial interface (SPI-like)
	Connector	45-pin, 0.30mm-pitch
	Power Consumption*	Total module: 75mW (Display panel + Integrated controller)
	Power Supply Voltages	Core: 1.8V ( $\pm$ 8%) Analog: 5.0V ( $\pm$ 10%)
	I/O Input Level	VIO_Video sets level for video signals: 1.8V–3.3V ( $\pm$ 8%) VIO_Serial sets level for serial signals: 1.8V–3.3V ( $\pm$ 8%)
Thermal	Operating Temperature	-10°C to +70°C
	Storage Temperature	-30°C to +80°C
*Note: Typical values at standard operating conditions and room temperature.		

## Contact Us

To find out more about product specifications and availability, visit [micron.com/flcos](http://micron.com/flcos).

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