

VMD3100

XGA Active Matrix LCOS Microdisplay



High-Resolution, High Performance LCOS Microdisplay Solution

General Description

The VaritronixR VMD3100 is an active matrix LCOS microdisplay with 1024 x 768 spatial resolution and 0.79" in diagonal. It is designed and fabricated using standard CMOS VLSI technology. It supports high voltage liquid crystal driving and hence flexibility in using different liquid crystal optical modes. Display drivers together with gamma correction circuitries are built-in to minimize associated electronics, to reduce size and cost of the system.

VMD3100 is easy for interface. All digital inputs accept 3.3v logic level. Grayscale can be fine tuned by adjusting gamma correction voltages and bias voltages for various application environments.

Specifications – VMD3100

Feature	Specification
Grayscale accuracy	8 bits
Display Type	Monochrome active matrix LCOS
Contrast Ratio	~ 700:1
Driving Scheme	Frame inversion : 60Hz – 180Hz
Pixel Pitch	15.8 μm x 15.8 μm
Fill Factor	> 90%
Display Area	16.2 mm H x 12.2 mm V
LC modes	Reflective NW / NB / VAN

Key Feature and Benefits

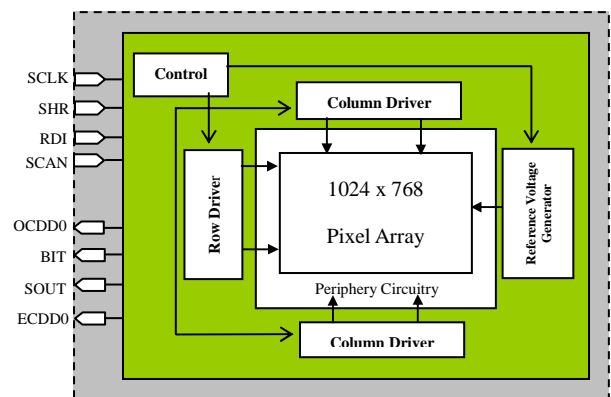
- High fill factor to enrich the image quality
- Flexible LC supply voltages supporting a variety of liquid crystal optical mode to achieve high contrast
- Integrated gamma correction circuitries
- Integrated digital-to-analog converters
- Supports fully digital DVI video interface
- Supports up to 180 Hz field rate
- Flexible timing control to support customized driving scheme
- Development Kits currently available

Typical applications

- Rear Projection Televisions
- Front Projectors



Internal architecture of VMD3100



Varitronix' LCOS Microdisplay Packaging Business

Varitronix is one of a few companies providing LCOS liquid crystal filling process and module assembly. We have state-of-the-art LCD and silicon processing equipment housed in 5K sq-ft clean room for LCOS microdisplay production. Utilizing Varitronix' 20+ years of LCD manufacturing experience, we are able to tackle the difficulties arise from LCOS manufacturing process.

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“We Put Our Heart on Display”

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