

## High-Resolution, High Performance LCOS Microdisplay Solution



### Key Feature and Benefits

- High resolution supporting 1920x1280 High Definition Television Broadcasting standard
- High aperture ratio to optimize the light efficiency
- Flexible LC supply voltages supporting a variety of liquid crystal optical mode to achieve high contrast
- Proprietary driving scheme enhancing color depth and image quality
- Supports standard CMOS input signals
- Supports up to 60 Hz field rate
- Flexible timing control to support 3 panel solutions
- Flexible image controls such as contrast and display orientation



The Varitronix VMD6100 is an active matrix LCOS microdisplay with 1920 x 1280 spatial resolution and 0.82" in diagonal. It is designed and fabricated using standard CMOS VLSI technology. It supports 5V liquid crystal driving and thus enhances flexibility in using different liquid crystal optical modes. VMD6100, which is integrated with proprietary driving scheme and new gamma correction algorithm, enriches image quality and enhances color depth.

### Functional Description

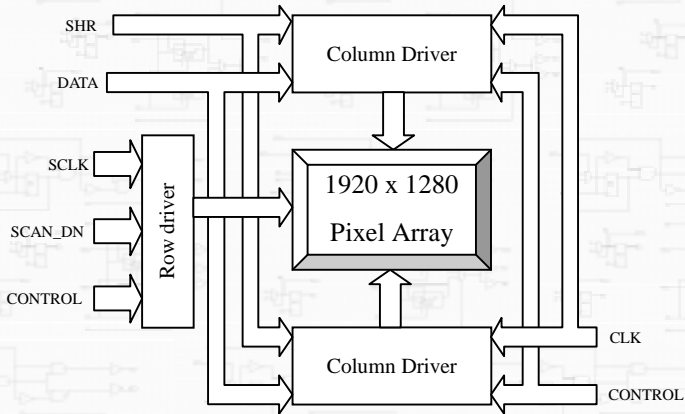
VMD6100 is easy for interface with all digital inputs compatible with 3.3V to 5V standard CMOS logic level. With proprietary gamma correction scheme, grayscale can be fine tuned by a predefined look up table for various application environments. It greatly improves the manual tuning by programmability.

Designed with proprietary driving scheme, data shifting and scanning directions can be programmable controlled. It can enhance the capability of display effect such as horizontal and vertical flip without affecting video data structure.

VMD6100 is integrated with new architecture meeting the performance demands for high-speed and high-resolution display applications such as rear projection television and home theater front projection systems.

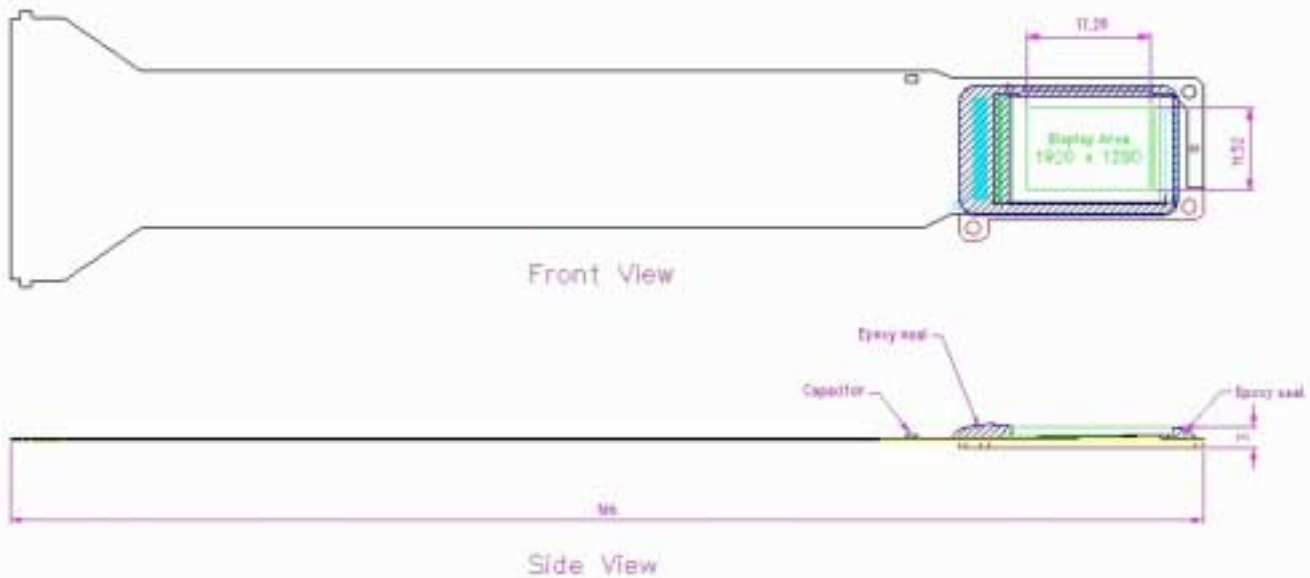
# VMD6100

## Internal architecture of VMD6100



## Specifications – VMD6100

Feature	Specification
Display Type	Monochrome active matrix LCOS
Display Mode	Reflective NB/NW MTN, VAN
Resolution	1920 (H) x 1280 (V)
Grayscale accuracy	> 256
Display Size	17.3mm H x 11.52mm V
Pixel pitch	9um
Aperture ratio	~90%
Contrast ratio	> 1500:1
LC Response time	< 12 ms
Supply voltages	3.3V, 5V
Field rate	60 Hz
Signal interface	3.3V Standard CMOS Compatible
Projection	16:9 Aspect Ratio
Additional Features	Support 3 panel solutions



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.

VARITRONIX reserves the right to make changes to any specifications without further notice for performance, reliability, production technique and other considerations.