

O5

Compact Drive Electronics with Luminance Control for eMagin SVGA+ & SVGA-3D OLED Microdisplays

FEATURES

The O5 OLED driver board for the eMagin SVGA+ and SVGA-3D OLED is an optimal, compact electronic solution for monocular, binocular and stereoscopic applications.

The O5's mounting tabs can securely fasten the electronics to an enclosure, or can be detached, keeping the entire display engine as small as the display itself, 0.78" x 0.60".

A 14 pin connector inputs VESA VGA/SVGA video, NTSC/PAL monochrome composite video and 5V DC power, and a control interface. The O5 takes care of the rest including DC/DC power conversion, display initialization, and automatic video resolution and frequency detection (multi-sync). Simply attach the OLED, apply power and your video source, and the display is ready to use. Adjustment

of display luminance, signal gain and offset is also featured on the O5 by either wiring a momentary switch to the control pins, or using the O5 serial control interface.

On-board jumpers initialize the most common set-up features:

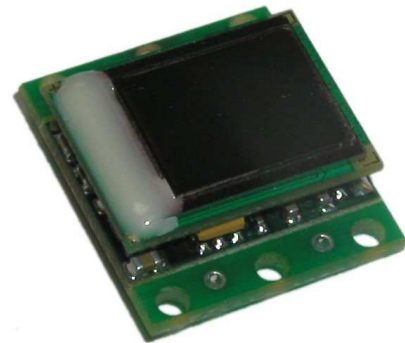
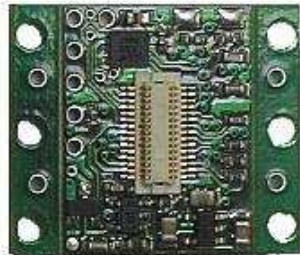
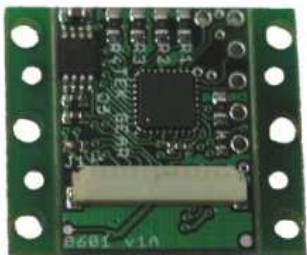
- NTSC or PAL video
- Image Flip and Rotate
- SVGA+ / SVGA-3D Display Select

Small size and ease of use makes the O5 ideal for both initial evaluation and production systems.

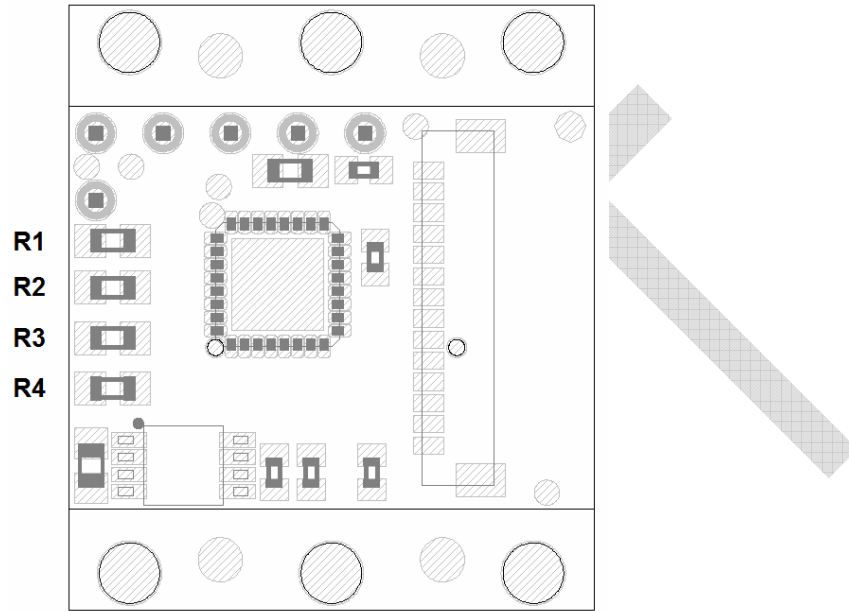
Contact us for quantity pricing or custom firmware and layout requirements.

eMagin OLED display is sold separately.

IMAGES



INTERFACE



Function	Resistor	Short [DEFAULT]	Open
Video Format	R1	NTSC	PAL
eMagin OLED Display Type	R2	SVGA+	SVGA-3D
Vertical Scan Direction	R3	Top to Bottom	Bottom to Top
Horizontal Scan Direction	R4	Left to Right	Right to Left

O5 boards with a magnetic reed switch do not make use of the R3 and R4 jumper settings; their configuration is ignored. Rather, the magnetic reed switch is used to rotate the image 180 degrees.

Serial control interface for further configuration is currently identical to the O4 control protocol. See O4 documentation for further details.



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SPECIFICATIONS

Microdisplay:	eMagin SVGA+ and SVGA-3D; standard and -XL series	
Dimensions:	With mounting tabs	19.8mm x 15.2mm (0.78" x 0.90")
	Without mounting tabs	19.8mm x 22.8mm (0.78" x 0.60")
Video Format:	SVGA (800x600) & VGA (640x480) @ 60/72/75/85 Hz NTSC (60 Hz), PAL (50Hz)*	
Input Voltage:	4.5 to 5.5 VDC, 5 VDC Recommended	
Power Consumption:	0.25W to 0.35W** total system power, <i>including OLED microdisplay</i>	

Input Cable Pin Assignments (J1)

1. Composite Video Signal
2. Composite Video Ground
3. VGA/SVGA Ground
4. Red
5. Green
6. Blue
7. HS
8. VS
9. Control Ground reference
10. Control0_Rx
11. Control1_Tx
12. Power Ground
13. Power +5VDC
14. <no connect>

Mating Wire Housing

14-pin 0.8mm Receptacle JST 14SUR-32S

* NTSC and PAL are displayed in monochrome. Only compatible with an SVGA+ type display

** Exact power draw dependent on video mode, image content, and gain/offset values