

Free Form See Through HD Optical Engine

SYE2271-FF-ST

SYE2271-FF-STM-00 – Syndiant Free Form See Through Monocular HD Optical Engine

SYE2271-FF-STB-00 – Syndiant Free Form See Through Binocular HD Optical Engine

Features

Optical Engines

- SYE2271-FF-STM-00 Monocular
- SYE2271-FF-STB-00 Binocular
- See Through 2D/3D capable
- Fixed Focus
- RGB backlight micro-display
- Low power consumption
- Light Weight
- Turn Key Solution for wearable devices

SYL2271 LCOS Panel (integrated)

- Field sequential color Liquid Crystal On Silicon (LCOS) reflective panel with digital drive
- 0.37” active display diagonal
- 720p (1280x720) array of 6.4µm mirrors
- Displays sequential colors up to 9 Color Fields per Frame (CF/F) with programmable color field duration
- Panel illumination times greater than 95%

Overview

Innovative high performance free form optical engine for wearable near-eye display market, featuring excellent image quality with vivid colors, low cost, and low power requirements for battery operated devices.

The See-Through binocular near-eye engine features Syndiant’s SYL2271 HD LCOS panel that is capable of displaying both 2D and 3D content. The patented LCOS micro-display all digital architecture integrates smart electronics to achieve full 720p HD resolution in a highly compact 0.37” diagonal panel.

The combination of the all-digital panel architecture and the optimized optical engine provide an excellent solution for any near-eye application requiring a large virtual image with outstanding picture quality.

Syndiant Advantages

- High resolution: Offers a rich user experience by supporting a full range of content including web browsing, text, graphics, multimedia, and full-motion video
- Low power: Great for mobile battery powered products
- Small form factor meets requirements for near eye applications
- Smooth gray scale at all brightness levels, matching the visual response of the eye
- The optical engine pre-installed with Syndiant’s 2271 720p HD panel accelerates design to market for ultra-portable see-through applications.

Specifications

Resolution	1280x720	Optical Structure	Free Form Eyepiece
Display Diagonal	0.37"	IPD	63.5mm – fixed binocular
Pixel Pitch	6.4 um	Diopter	ADJ (optional) -0.5D
Virtual screen size	~ 90"@3m	See Through transmittance	48% +/-10%
Eye Relief	20mm	Power	TBD
Eye Box	8mm	Brightness	TBD
Contrast Ratio	300:1	Weight	14g +/- 1g (binocular)
FOV	34.8 degrees mono 39 degrees binocular	Package size (L x W x H)	33.4 x 24.6 x 11.2 mm monocular 96.9 x 24.2 x 11.2 mm binocular
		Operating Temperature	0°C to 60°C
		Storage Temperature	-20°C to 60°C



- **SYE2271-FF-STM Monocular OE**

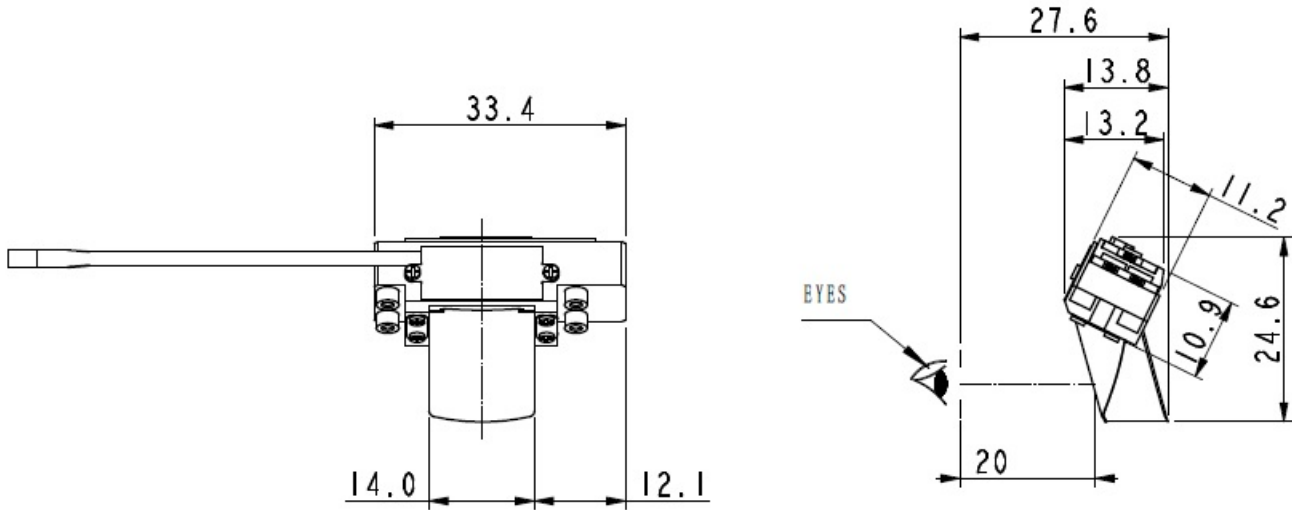


- **SYE2271-FF-STB-00 Binocular**

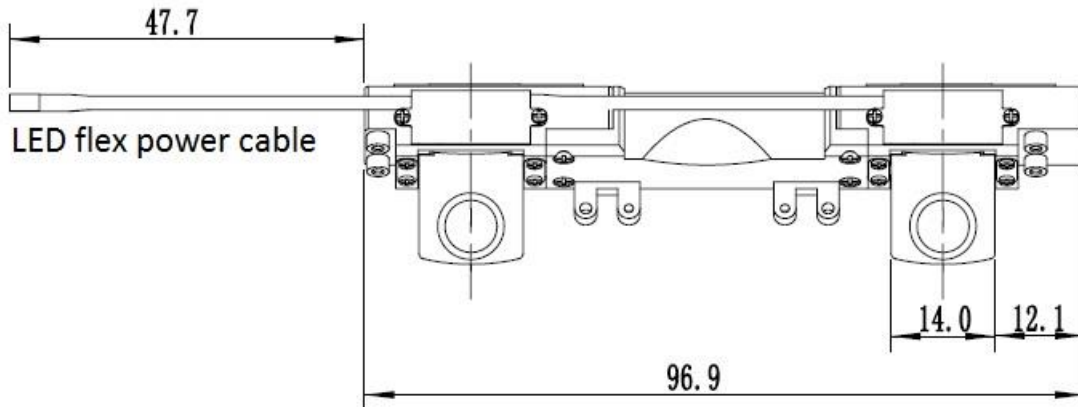
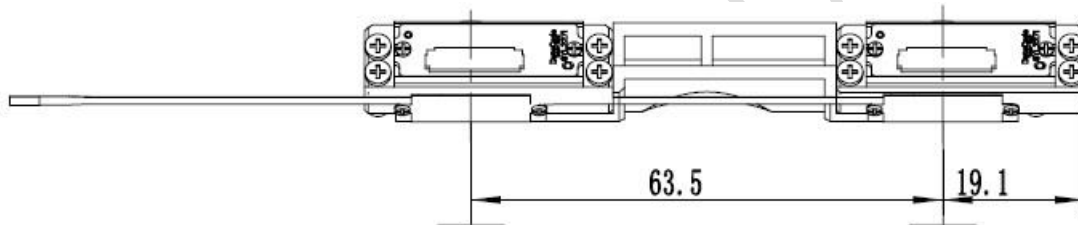
Ordering Information

Part Number	Description
61-2271-FF-STM-00	SYE2271-FF-STM-00 - Free Form See Through Monocular HD Optical Engine with preinstalled SYL2271 panel (42-2271-V0)
64-2271-FF-STM-00	SYM2271-FF-STM-00 - Free Form See Through Monocular HD Module with OE (61-2271-FF-STM-00), SYL2271 panel (42-2271-V0) and DB7 driver Board (42-1410-00)
61-2271-FF-STB-00	SYE2271-FF-STB-00 – Free Form See Through Binocular HD Optical Engine with preinstalled SYL2271 panels (42-2271-V0)
64-2271-FF-STB-00	SYM2271-FF-STB-00 – Free Form See Through Binocular HD Module with OE (61-2271-FF-STB-00), SYL2271 panels (42-2271-V0) and 2D/3D driver Board (42-1480-00)

Mechanical Dimensions



- SYE2271-FF-STM Monocular OE



- SYE2271-FF-STB-00 Binocular

Rev	Description
1.0	Initial Release
1.1	Updated mechanical drawing
1.2	Added Eye relief information
1.3	Updated part numbers
1.4	Added specs