



A SAMSUNG DISPLAY COMPANY

SXGA096-dPd Tandem Microdisplay - Sample

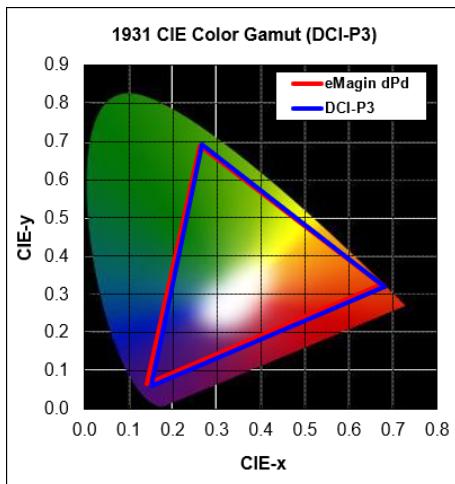
SXGA096-dPd Tandem Direct Patterned MICRODISPLAY CAPABILITIES

The SXGA096-dPd Tandem microdisplay from eMagin Corporation is an active-matrix organic light emitting diode (AMOLED) microdisplay intended for near-to-eye applications that demand high resolution, high luminance, high quality imaging, compact size, and low power. The SXGA096 microdisplay is built on a single crystal silicon backplane and features eMagin's proprietary dPd™ and tandem technology offering significant improvements in efficiency and luminance performance versus white OLED with color filters.

Each of the three OLED emission layers are directly patterned to form the primary colors of the display; color filters are not required, improving luminous efficiency significantly.

Luminance levels upwards of 20,000 nits are readily achievable.

The dPd technology also provides rich and deep colors with an 88% coverage of the DCI-P3 color gamut.



The SXGA096-dPd tandem microdisplay leverages eMagin's SXGA096 backplane and readily mechanically and electrically compatible with other eMagin Corporation's SXGA096 microdisplay products.



SXGA096-dPd Tandem MICRODISPLAY ADVANTAGES

- Compact, lightweight, HD emissive display
- Very high luminance (Max > 20,000 nits)
- Very low power
- High contrast
- D65 White
- Wide viewing angle
- Instant on at low temperatures/no heaters
- Integrated temperature sensor
- Low power LVDS interface
- Rolling shutter illumination
- High commercial/military ruggedness

APPLICATIONS

- Immersive 3D HD Gaming/Video Headsets
- Augmented reality HMDs
- HD Resolution Electronic Viewfinders
- Computer-based 3D Simulation & Training
- Night vision/thermal imaging devices
- Medical/Scientific imaging
- Fixed and Rotary Wing aircraft HMDs

eMagin Corporation

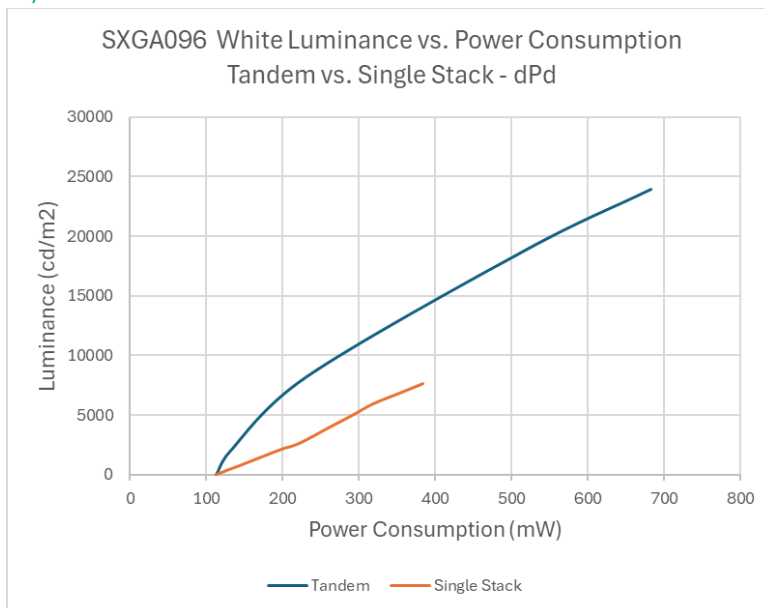
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GENERAL OPERATING CHARACTERISTICS

OPTICAL CHARACTERISTICS (At 20,000 nits, room temperature)

Symbol	Parameter	Min.	Typ.	Max.	Unit
LMAX	Front Luminance @ max gray level, all pixels on	2,000	20,000	>20,000	cd/m ²
	Variability (display to display)	0	3	5	%
LMIN	Minimum display luminance @ max. gray level	0.1	5	-	cd/m ²
CR	White to Black Contrast Ratio	2,000:1	20,000:1	> 100,000:1	
CIE White	CIE-X (1931 Standard)	0.326	0.327	0.342	
	CIE-Y (1931 Standard)	0.342	0.343	0.358	
CIE Red	CIE-X (1931 Standard)	0.663	0.678	-	
	CIE-Y (1931 Standard)	0.307	0.322	0.337	
CIE Green	CIE-X (1931 Standard)	0.242	0.257	0.272	
	CIE-Y (1931 Standard)	0.656	0.671	-	
CIE Blue	CIE-X (1931 Standard)	0.126	0.141	0.156	
	CIE-Y (1931 Standard)	0.044	0.059	0.074	
GL	Gray Levels	-	256	256	levels
F _R	Refresh Rate	30	60	85	Hz
Fill Factor	Emissive Area/Total Sub-pixel Area		0.45		
U _{LA}	End to end large-area uniformity	80	90		%
S _{VH}	Pixel spatial noise at ½ luminance (1STD)			5	%
T _{ON}	Time to recognizable image after application of power			0.5	sec

POWER CONSUMPTION (all pixels on)



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