

[Provisional Translation Only]

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JDI Develops World's First 32-inch Automotive-Grade eLEAP+HMO Display

JDI has developed the world's first automotive-grade display that deploys JDI's gamechanging HMO (High Mobility Oxide) backplane technology in tandem with eLEAP, the world's first lithographic maskless deposition OLED technology. JDI's eLEAP enables production of large-size and free-form OLED displays, doubling the aperture ratio of conventional OLEDs to deliver extraordinarily bright and vivid displays and longer display lifetimes, a critical requirement for automotive applications.

HMO boasts robust tolerance towards high voltages and large electrical currents, thus allowing for the brighter displays sought by the automotive industry. HMO also makes possible high refresh rates and lower power consumption via low-frequency display driving.

Compared to JDI's existing high-end 32-inch automotive-grade LCD offering, JDI's new eLEAP+HMO technology cuts energy consumption by 76%, while increasing display resolution by 12%, brightness by 15%, and contrast by 690X.

World's First 32-inch Automotive-Grade eLEAP+HMO Display



eLEAP+HMO Delivers Breakthrough Improvements in Display Performance

	JDI Automotive-Grade LCD	JDI Automotive-Grade eLEAP
Spec Outline	LCD 32 inches	eLEAP 32 inches
Resolution	5760 x 1080 pixels 183 ppi	6460 x 880 pixels 205 ppi
Backplane Technology	LTPS	HMO
Brightness	870 cd/m ²	1,000 cd/m ²
Power Consumption	58 W *1	14 W *2
Contrast Ratio	1,450:1	1,000,000:1

Underlying Technologies

eLEAP
Lithographic
Maskless Deposition
&
HMO
High Mobility
Oxide

*1) LCD 3.5W + Backlight 54.5W (Variations in pixel-on/off ratio have negligible impact)
 *2) Calculated using a standardized pixel-on/off ratio of 30%/70%

By deploying eLEAP+HMO with its 2 Vision Display (2VD) technology and leveraging the free-form capabilities of eLEAP, JDI is working on both automotive applications and a broad set of new markets beyond automotive .

Large Free-Form eLEAP+2VD: Automotive Use Case Example



JDI has received strong interest in eLEAP+HMO from customers across the global automotive industry. As announced in today’s release “Innolux, CarUX, and JDI Launch eLEAP Strategic Alliance,” JDI is working to build a robust global eLEAP ecosystem that will serve this significant customer demand.



eLEAP environment positive
Lithography with maskless deposition
Extreme long life, low power, and high luminance
Any shape Patterning

eLEAP is a registered trademark of JDI.