

Automotive

◀ Smart Exterior ▶

Ennostar upholds high standards in automotive optoelectronic technology, continuously enhancing the interaction between humans and vehicles. By leveraging innovative automotive lighting solutions, such as smart exterior displays and exterior matrix displays, Ennostar aims to create a safer driving environment.

TOP
10

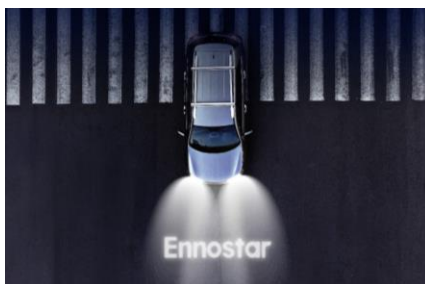
The world's top ten
automotive LED suppliers.

50%

Taillight and signal light chip
shipments account for over
50% of the global market share.



Matrix Display

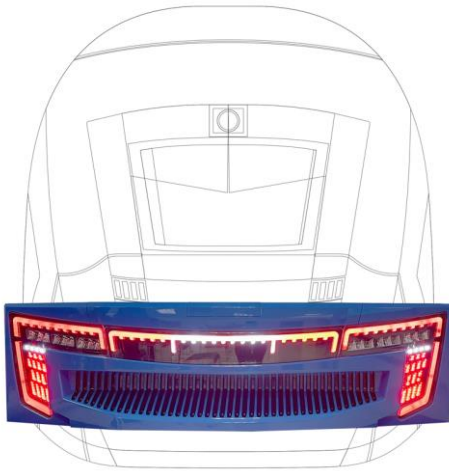


ADB



Lighting

Vehicle Headlight Complying



Chip size (μm)	300
Backplane	MCPCB
Color	RGB
Brightness (mcd)	2310 (pixel)

Market Trends and Potential

- **Smart Transportation and Infrastructure Upgrades:** As global rail transportation and smart traffic systems advance, the demand for high-performance vehicle headlights continues to rise, driving stable market growth.
- **Stricter Safety Standards:** With increasingly stringent vehicle safety regulations, headlight technology is evolving toward higher brightness, enhanced stability, and intelligent warning functions.

Technical Highlights

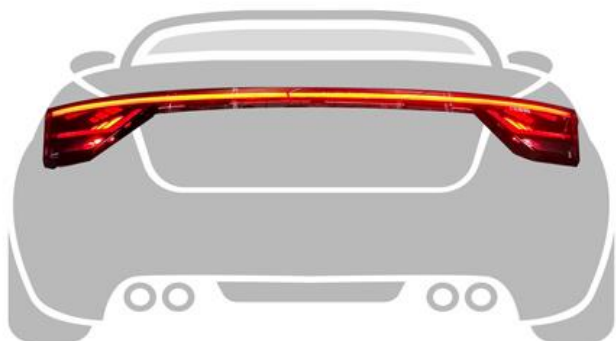
- ISELED packaging technology enables precise color control.
- Complies with stringent automotive standards (AEC-Q102), ensuring stable performance in extreme environments such as high temperature and vibration.
- Reduces driving energy consumption by over 10% compared to traditional products.
- Multi-color and flashing mode designs enhance driving safety by serving as emergency signals and safety warnings.

✦ Sustainable Development Goals (SDGs)





Full-Width Taillight



Grayscale (bits)

12

Brightness (nits)

5,000

Market Trends and Potential

With changing market demands, including high-end luxury cars and mid-to-high-end models, more and more vehicles are adopting full-width taillight designs to enhance the aesthetic quality of their products. The highly uniform and bright light makes vehicles easily recognizable in the dark, further improving nighttime driving safety. As technology costs decrease, full-width taillights are expected to expand the market and become standard designs for more economical vehicles.

Technical Highlights

- **Lightweight materials** can reduce taillight weight by 20%.
- **Energy-saving benefits** can reduce energy consumption by 80% compared to traditional taillights.

✦ Sustainable Development Goals (SDGs)





Vehicle ISD Modules Mini, Mini-like & 2016



Grayscale (bits)	12
Brightness (nits)	5,000



■ Market Trends and Potential

- The ISD (Intelligent Signal Display) module can instantly display changes in traffic signals, speed limits, pedestrian alerts, road conditions, navigation, and other information, helping drivers react quickly and enhancing driving safety and convenience.

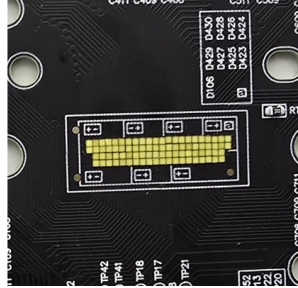
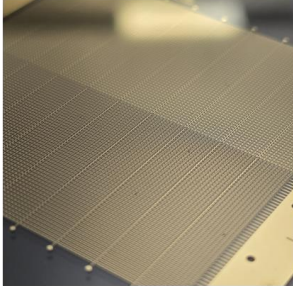
■ Technical Highlights

- It can solve cross talk issues and reduce secondary optical processes, lowering costs. Compared to traditional displays, it cuts power consumption by 50%. The module lasts 50,000 to 100,000 hours, reducing replacement frequency.
- Ennostar offers various sizes, including 0405 NCSP, 2016, and 3030, to meet different vehicle light design needs.
- With the rise of autonomous driving and the Internet of Vehicles, the market for energy-efficient and durable ISD modules is expected to grow quickly, especially in high-end and new energy vehicles

★ Sustainable Development Goals (SDGs)



Adaptive Driving Beam System



Package size(mm)	0.7 x 0.7
Color Temperature(K)	6,000

Market Trends and Potential

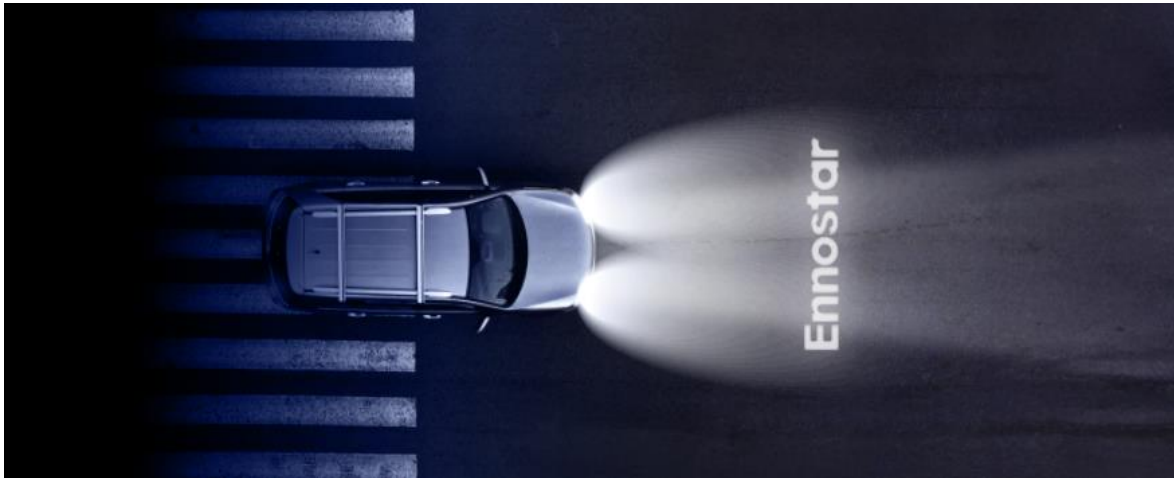
The ADB market has significant growth potential. With the popularization of mass production technology, ADB technology is penetrating from high-end models to mid-range models and is expected to become mainstream vehicle equipment in the future.

Technical Highlights

- The lighting brightness is five times that of halogen lamps, and the lifespan is extended by 50 times, achieving efficient and sustainable lighting.
- Dynamic beam control and adaptive beam shaping technology can automatically switch lighting modes according to different scenarios, enhancing nighttime driving safety.
- Anti-glare high beams prevent direct exposure to oncoming vehicles and road users, and can also project images or text to inform road users about driving conditions..

✦ Sustainable Development Goals (SDGs)





■ Market Trends and Potential

With the advancement of autonomous driving technology, the need for communication between vehicles and between vehicles and pedestrians has significantly increased, highlighting the market's growth potential. The application of this product with CMOS interfacing technology can lay the foundation for future intelligent vehicle communication.

■ Technical Highlights

- Dynamic beam control and anti-glare design effectively reduce discomfort caused by headlight glare for preceding vehicles, oncoming vehicles, and pedestrians.
- Precision control technology achieves a distance between chips of less than 10μm, promoting more efficient CMOS interfacing.

★ Sustainable Development Goals (SDGs)

