

KEY FEATURES

- MOCVD Epitaxy.
- 3/4/6 Inch.
- High Efficiency.
- Low Power Consumption.
- High Uniformity & Reliability.

APPLICATIONS

- Telecommunications
- Gesture Recognition
- 3D Imaging

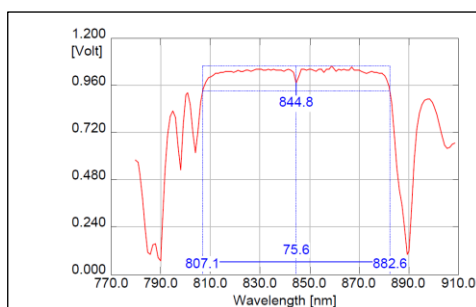
● PRODUCT DESCRIPTION

The 850 nm vertical-cavity surface-emitting laser (VCSEL) epi-wafer, designed especially for the telecommunication/gesture recognition/3D imaging applications, is grown by metal-organic chemical vapor deposition (MOCVD) by Huaxing OPTO, with GaAs/AlGaAs multiple quantum wells (MQWs) as the active layer.

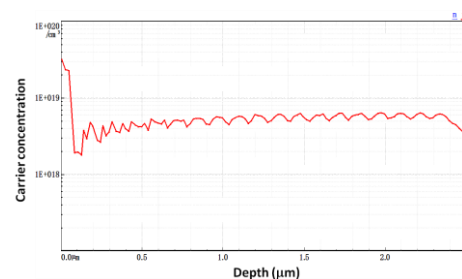
● EPITAXY STRUCTURE

| |
|-------------------------|
| p+-GaAs |
| P-AlGaAs |
| P-DBR |
| Al _{0.98} GaAs |
| MQWs |
| AlGaAs |
| n-DBR |
| n-GaAs buffer layer |
| n-GaAs substrate |

● WAFER CHARACTERIZATION



Reflectivity spectrum of 4-inch epi-wafer



Concentration depth profile of 4-inch epi-wafer

● TYPICAL EPITAXY PARAMETERS

| Parameters | Typical Values |
|-----------------------------|----------------|
| SB center | < ±10 nm |
| Thickness uniformity | < ±2.5% |
| PL wavelength uniformity | < ±1.5 nm |
| Doping control | < ±30% |
| Mole Fraction (x) Tolerance | < ±2% |

● TYPICAL DEVICE PERFORMANCE

| Parameters | Typical Values |
|------------------------|------------------------|
| Threshold current@25°C | < 2 mA (15μm aperture) |
| Wavelength | 845-855 nm |
| Slope efficiency | > 0.5 W/A |
| Operating temperature | 0°C ~ 80°C |



华兴激光
HUAXING OPTO

FOCUSING ON EPITAXIAL WAFER

PRECISE, EFFICIENT AND PROFESSIONAL