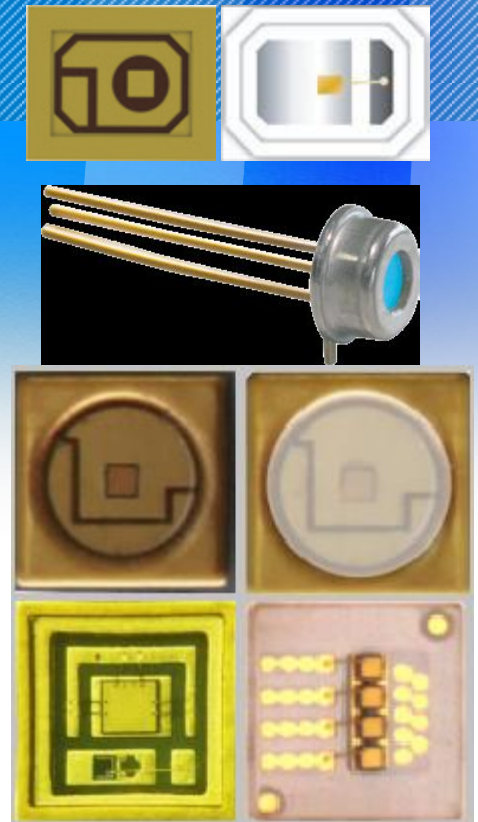


The background features a series of concentric circles in various shades of blue and purple, creating a ripple effect. A horizontal band of small, light blue dots is positioned above the text.

VCSELs

VCSEL Types



Device Target Parameters

- Wavelength; 808nm, 850nm, 940nm, 1,300nm, 1,550nm
- Optical power; From 5mW up to 800W
- Top hat beam profile
- Single or Multi Mode VCSELs
- Types; VCSEL chip & Diode, VCSEL+Diffuser, VCSEL+Diffuser+Photodiode

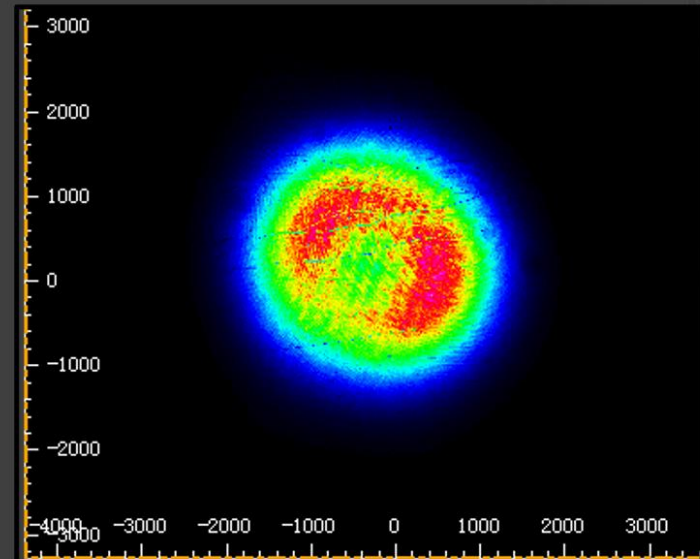
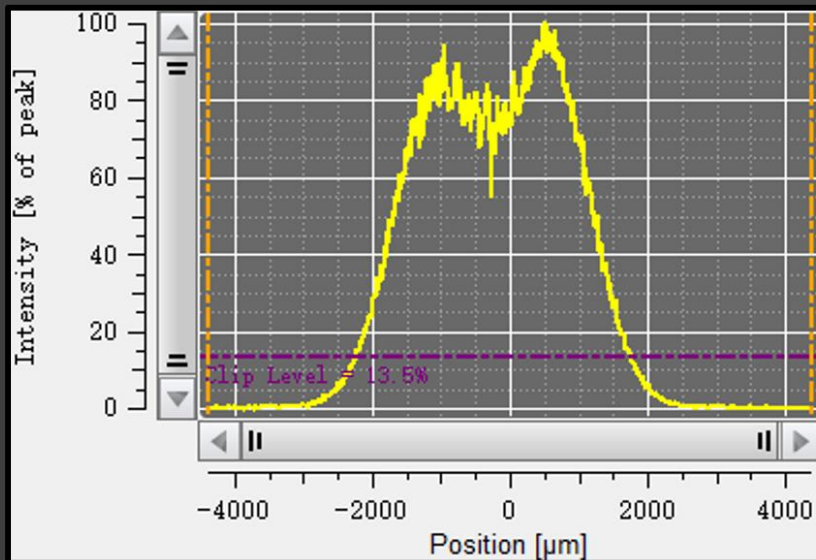
VCSEL Arrays for LIDAR & Proximity Sensor Applications



BRIGHTLASER

Low-divergence VCSEL arrays for LiDAR and Proximity Sensor application

To reduce the noise of detection, **BRIGHTLASER** VCSEL as a light source of sensor can emit a smaller divergence angle beam on the target. It can be used for proximity sensor in mobile phone and TWS earphone.



Wavelength= 940nm | Optical Power= 150mW in CW mode |
| **Divergence Angle (FWHM)= 11°** , (1/e²)= 15° |
| Ta=25° C | Current= 180mA | Voltage= 2.3V | Distance= 15mm

Line Laser Module

808nm, 50mW line shaped laser module is compact, low-cost with the next specification

- Housing dimension is only $\Phi 8 \times L11$ (mm),
- Output power & wavelength; 50mW, 808nm
- Fan angle of 130° ,
- Linewidth is only 2mm at 100mm distance.

< Features >

- ☐ Uniform and detail-oriented
- ☐ No stripes & No noise
- ☐ Compact, small size
- ☐ Low thermal resistance
- ☐ High power conversion efficiency

< Applications >

- ☐ Machine vision
- ☐ 3D measurement
- ☐ Indication and positioning
- ☐ Smart housing system
- ☐ Sweeping robot



Dot Laser Module

30mW 940nm dot laser module is small size, economic with the next specification

- Housing dimension is only $\Phi 24 \times L32$ (mm),
- Output power & Wavelength; 30mW, 940nm
- Beam emission angle of 1.5mrad;

< Features >

- ☐ VCSEL light source
- ☐ Low divergence angle
- ☐ No stripes & No noise
- ☐ Wavelength drift 0.07nm/°C
- ☐ Low thermal resistance
- ☐ High power conversion efficiency

< Applications >

- ☐ Oil fume monitor
- ☐ Smoke detector
- ☐ Dust detector
- ☐ PM2.5/PM10
- ☐ Medical and beauty application
- ☐ Safety light curtain
- ☐ Smart housing system
- ☐ Sensor equipment



Pulsed & Multichannel pulsed VCSEL Diodes

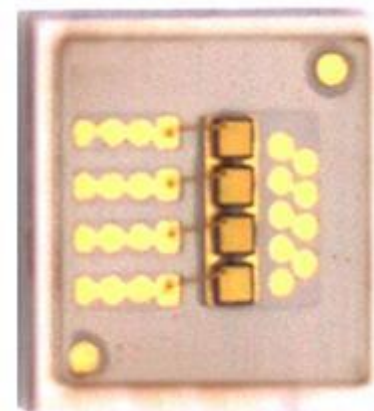
Pulsed VCSELs - Key Features:

- Wavelength: 850nm or 940nm
- Up to 800W (with 16 emitter array)
- Single-emitter, 1x4, 1x8, 1x16
- Pulse Width down to 6.2ns
- 50,000+ hour lifetime
- Good thermal conduction
- Short rise time
- Oxide isolation



Pulsed VCSELs - Key Applications

- Multichannel LIDAR
- Proximity Sensors
- Laser Curtain
- Medical Applications
- Military Applications
- Laser Range Finder
- 3D detection



Mixed VCSEL Diodes



Applications

- Proximity sensors
- Wristband pulse oximeter
- Gas sensors
- Smoker detectors
- Steam sensors

Features

- Consist of two VCSEL chips
- Multimode VCSEL
- Oxide isolation technology
- Low threshold current

Diffuser VCSEL package



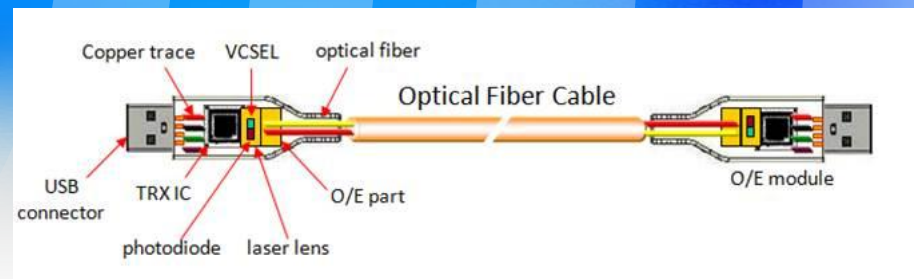
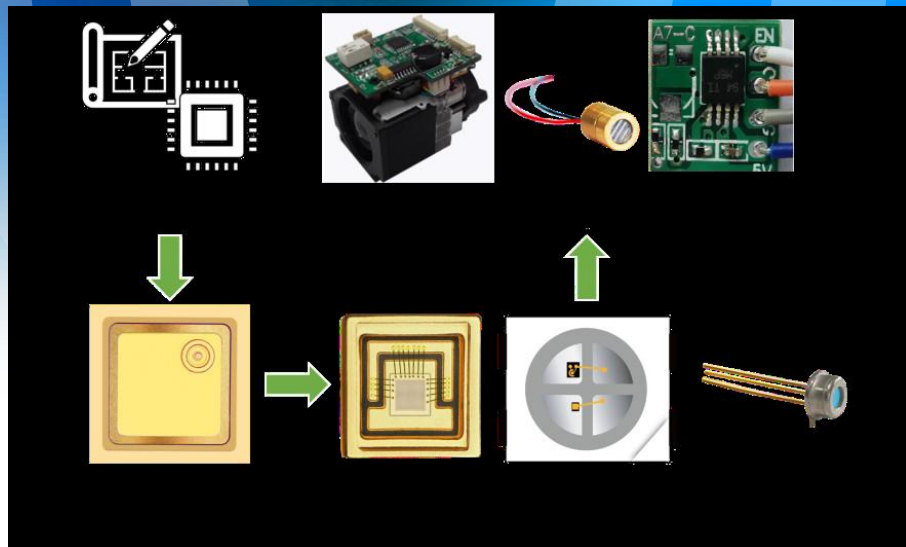
Applications

- Time of Flight (TOF) Cameras; Gesture Recognition
- Uniform Illumination of Laser Beam
- Medical Laser Source
- Optical Sensors
- Smart Home Devices

Features

- 20mW-4W Optical Power
- 850nm 940nm Wavelength
- Customized FOV available
- STD FOV : 60X45, 72X58, 85X30, 90X70, 11X85, 120X90

Customized VCSEL Solutions



Applications

- Laser curtain
- Particulate matter sensors
- LiDAR
- Axial optical cables
- Temperature measurement

Features

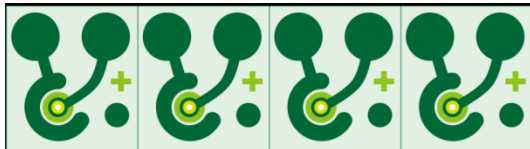
- Consist of two chips; one VCSEL & one photodiode chip
- High sensitivity photodiode with coated bandpass filter
- Multimode VCSEL, low wavelength drift
- Oxide isolation technology

Optical communications with VCSEL chip



Applications

- Broadband access network
- Video transmission
- Data interconnections
- Industrial communication
- CWDM



Features

- 850nm VCSEL short distance transmission with transmission rate 1-25Gbps suitable to broad access
- Low power consumption
- Low wavelength drift
- Data rates up to 10Gbps/25Gbps