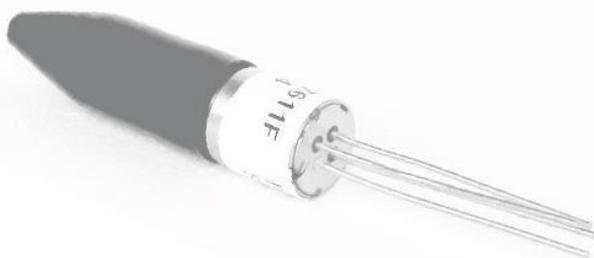
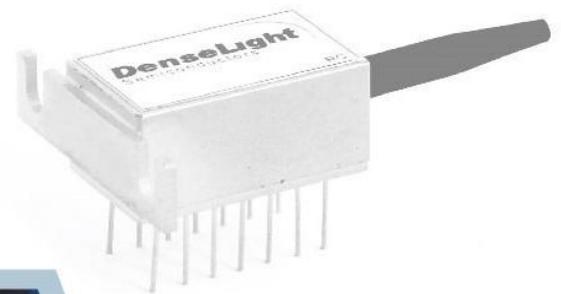


# **DenseLight**

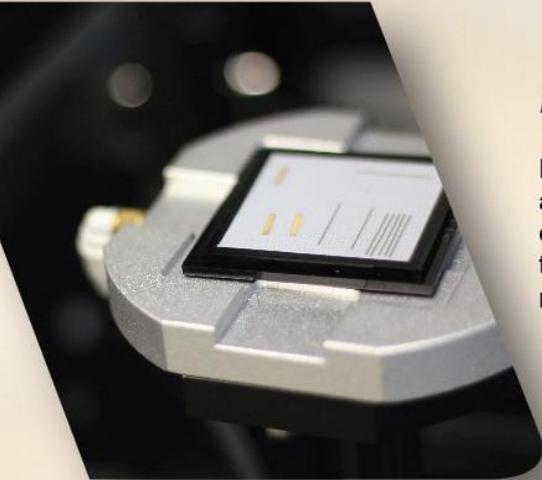
a POET Company



**Enabling Integrated  
Photonic Solutions**



## The DenseLight Advantage



### *Innovative Products*

DenseLight makes use of cutting edge optical and photonics technology to design and manufacture SLEDs and other laser products. These products are key components in diverse applications that will pave the way to revolutionising the technology of the future: self-driving cars, quantum optics, structural health monitoring, renewable energy harvesting, optical test and measurement solutions.

### *Comprehensive In-house Capabilities*

DenseLight brings together state-of-the-art photonics technology and a highly qualified, experienced team in its 50,000-square-foot purpose-built headquarters that houses R&D, product design and manufacturing.

DenseLight's ability to produce prototypes of customised photonics devices and arrays also allows customers to outsource the photonics supply chain to DenseLight.



### *Commitment to Quality*

Denselight was awarded the ISO 9001:2015 certification in January 2018

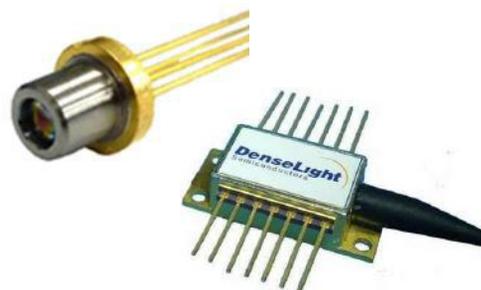


## 16xx nm DFB

The DL-DFB6XXXX series is an InGaAsP based distributed feedback laser series in available in a TO-56 package, with an aspherical lens. 1653nm wavelength for gas sensing is available in BTF & chip form.

These devices have been optimized for telecommunication, test & measurements as well as photonic sensing applications (gas).

DenseLight's DFB chips are grown in our own wafer fabrication facility in Singapore.



### APPLICATIONS

**OTDR**

**Photonic Sensing (gas)**

**Biomedical Sensing**

**Telecommunication**

### PRODUCT OFFERING

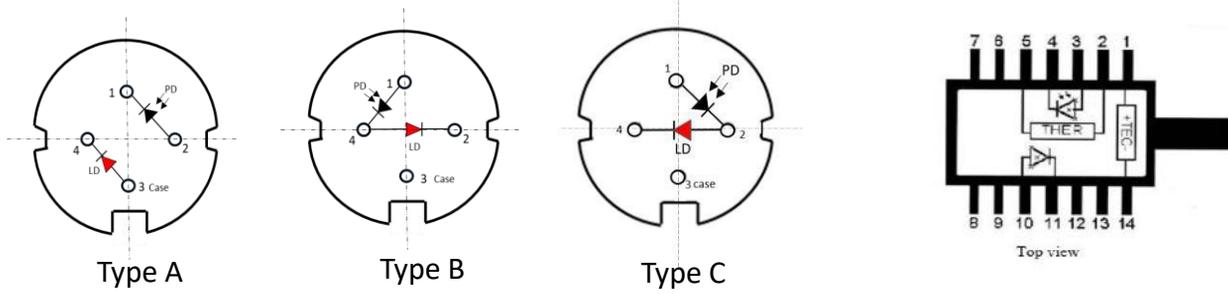
| Part No         | $\lambda$ nm | P <sub>o</sub> (mW) | Pkg   |
|-----------------|--------------|---------------------|-------|
| DL-DFB65003T-A  | 1650         | 3                   | TO-56 |
| DL-DFB62503T-A  | 1625         | 3                   | TO-56 |
| DL-DFB61003T-A  | 1610         | 3                   | TO-56 |
| DL-DFB65306D-02 | 1653         | 6                   | Chip  |
| DL-DFB65303B-02 | 1653         | 3                   | BTF   |

### FEATURES & PERFORMANCE

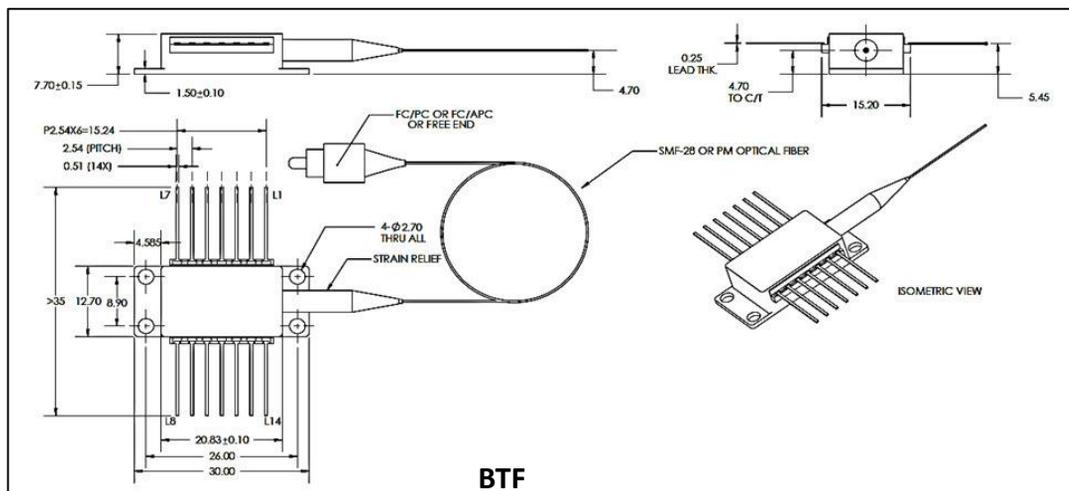
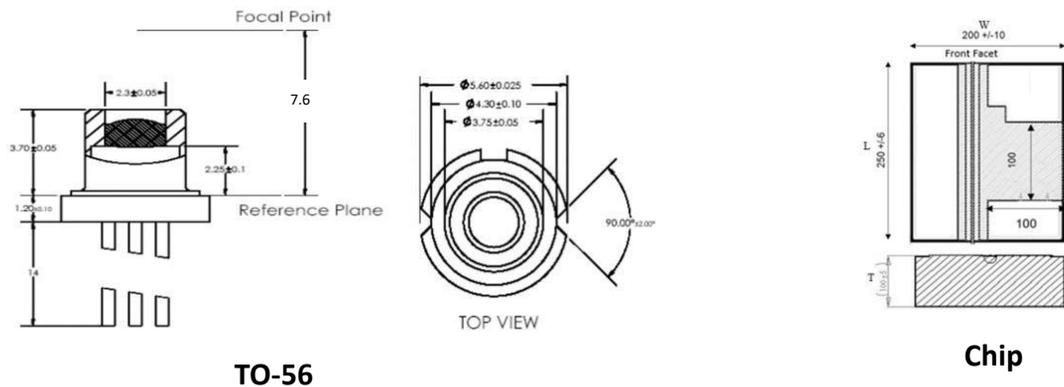
- Uncooled 16xxnm DFB laser
- Operating temperature from -5C to 70C
- 1653nm selection for Gas Sensing
- Optical output min. 3mW (TO)

DenseLight has capability to do other wavelengths. Please contact your local sales or write to [info@denselight.com](mailto:info@denselight.com) for information

## PRODUCT OFFERINGS



## PHYSICAL & MECHANICAL SPECIFICATION





## 1310nm DFB (20mW)

The DL-DFB31020D is an InGaAsP based distributed feedback laser chip.

These devices have been optimized for telecommunication test & measurements as well as Datacom applications.

DenseLight's DFB lasers are grown in our own wafer fabrication facility in Singapore.

### APPLICATIONS

**OTDR**  
**FTTx**  
**PSM-4**  
**CWDM**

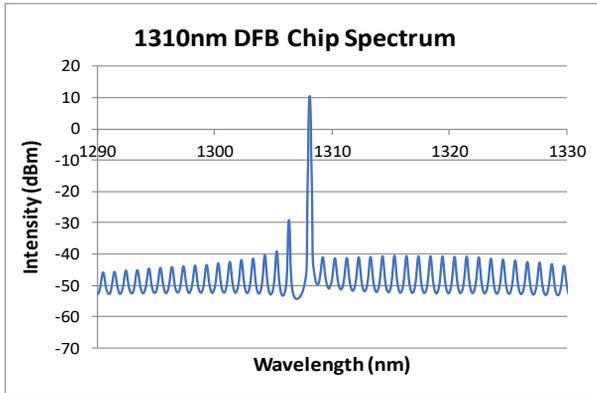
### PRODUCT OFFERING

| Part No      | $\lambda$ nm | Po (mW) | Pkg  |
|--------------|--------------|---------|------|
| DL-DFB31020D | 1310         | 20      | Chip |
| DL-DFB31040D | 1310         | 40      | Chip |
| DL-DFB31070D | 1310         | 70      | Chip |

DenseLight has capability to do other wavelengths. Please contact your local sales or write to [info@denselight.com](mailto:info@denselight.com) for information

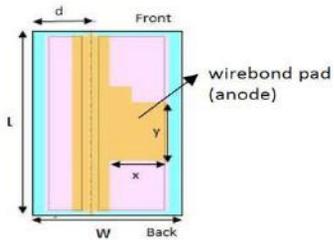
### FEATURES & PERFORMANCE

- Uncooled operation from -5 to 70°C
- Output power (CW) of 20mW at 25°C, Iop 47mA (typical)
- Typical SMSR  $\geq$  35dB
- Designed for CW transmission



25°C

PHYSICAL & MECHANICAL SPECIFICATION



| Parameters                     | Symbol    | Typical          | Unit |
|--------------------------------|-----------|------------------|------|
| Chip Size                      | L x W x H | 250* x 200 x 100 | mm   |
| Emission Spot (from Chip Edge) | d         | 65               | mm   |
| Wire Bond Pad                  | x,y       | 100 x 100        | mm   |

\* L is longer, for higher power devices



## 1650 nm FP

The DL-FPL65050T-A & DL-FPL65110P are an InGaAsP based Fabry-Perot laser series which come in either a TO-56 package, with an aspherical lens or a TO pig-tail.

These devices have been optimized for telecommunication test & measurements applications.

DenseLight's FP chips are grown in our own wafer fabrication facility in Singapore.



### APPLICATIONS

**OTDR**  
**Biomedical Sensing**

### PRODUCT OFFERING

| Part No        | $\lambda$ nm | P <sub>o</sub> (mW) | Pkg  |
|----------------|--------------|---------------------|------|
| DL-FPL65110T-A | 1650         | 110*                | TO   |
| DL-FPL65050P   | 1650         | 50*                 | TO-P |

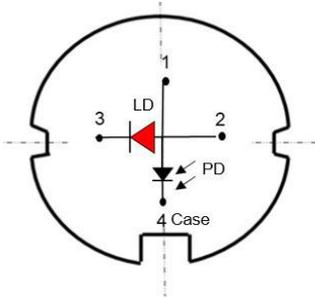
\* Pulsed: 10uS, 1% duty Cycle

DenseLight has capability to do other wavelengths. Please contact your local sales or write to [info@denselight.com](mailto:info@denselight.com) for information

### FEATURES & PERFORMANCE

- Uncooled 1650nm FP laser
- Operating temperature from 0C to 60C
- Optical output min. 50mW pulsed
- Slope efficiency typ. 0.09mW/A @ 25C

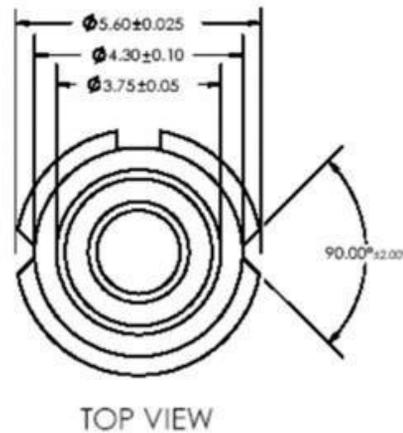
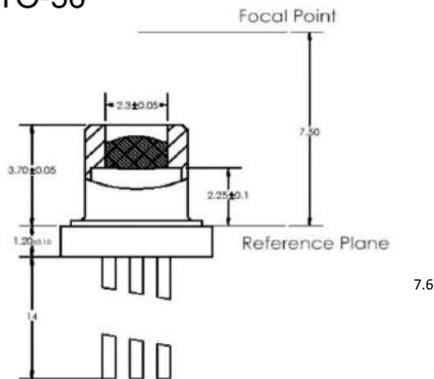
## PRODUCT OFFERINGS



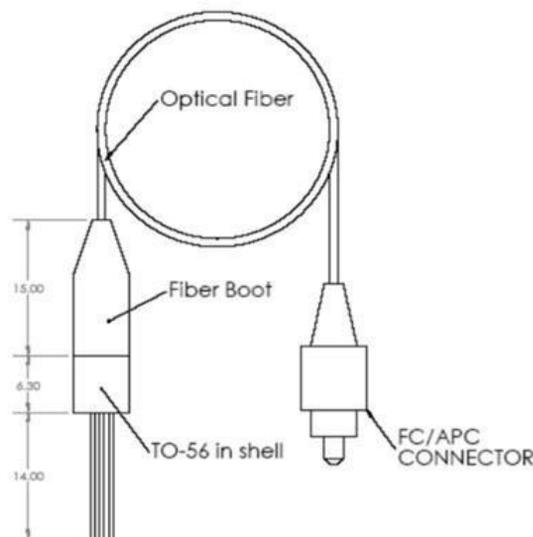
| Pin Assignment | Description      |
|----------------|------------------|
| 1              | PD Anode         |
| 2              | LD Anode         |
| 3              | LD Cathode       |
| 4              | PD Cathode, Case |

## PHYSICAL & MECHANICAL SPECIFICATION

### A. TO-56



### B. TO-Pig Tail



### ***About DenseLight***

DenseLight Semiconductors is a Singapore-based innovator, manufacturer and provider of photonic sensing and optical light source products to diverse industries such as communications, medical, instrumentation, defense and security.

DenseLight processes optoelectronic devices and photonic integrated circuits based on Indium Phosphide (InP) and Gallium Arsenide (GaAs) through its in-house wafer fabrication, assembly and test facilities.

DenseLight is recognised worldwide for its technological innovations in high performance semiconductor infrared superluminescent light sources and lasers, with a proven track record in deployed applications. It is a wholly owned subsidiary of POET Technologies, a US-based, Toronto-listed developer of opto-electronics and photonics devices.



**DenseLight Semiconductor Pte Ltd**  
6 Changi North Street 2  
Singapore 498831