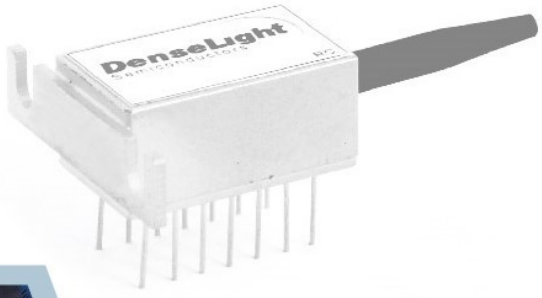
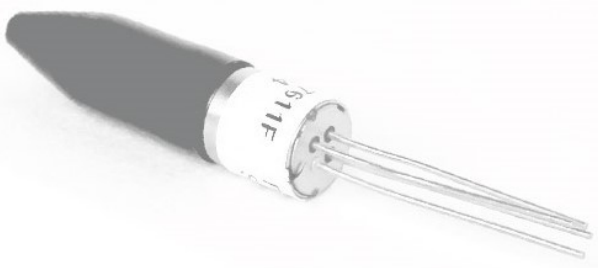
DenseLight

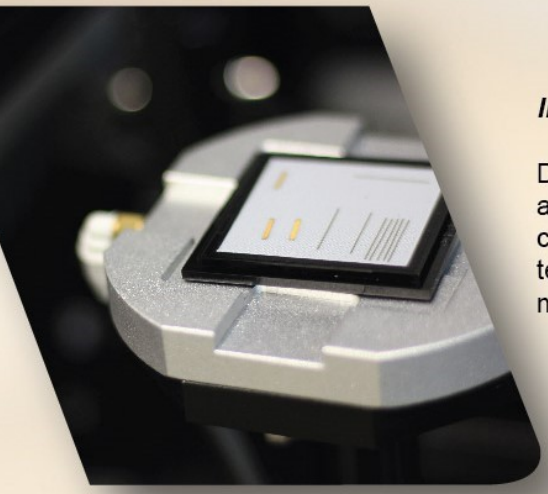
a POET Company

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 9001:2008 certification in January 2016.

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1650 nm FP

The DL-FPL65050T-A & DL-FPL65050P 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	λ nm	Po (mW)	Pkg
DL-FPL65050T-A	1650	50*	TO
DL-FPL65050P	1650	50*	TO-P

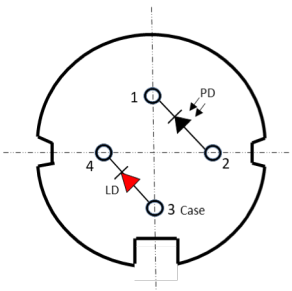
* Pulsed: 10uS, 1% duty Cycle

DenseLight has capability to do other wavelengths. Please contact your local sales or write to info@denselight.com for information

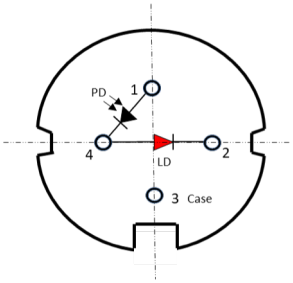
FEATURES & PERFORMANCE

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

PRODUCT OFFERINGS



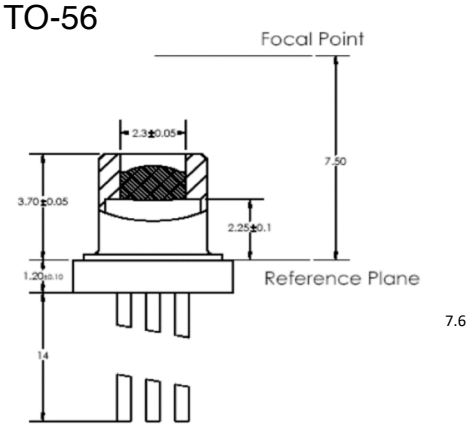
Type A

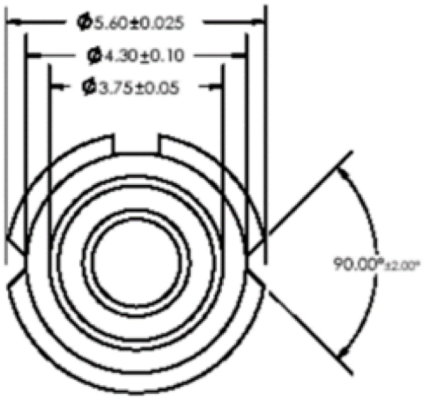


Type B

PHYSICAL & MECHANICAL SPECIFICATION

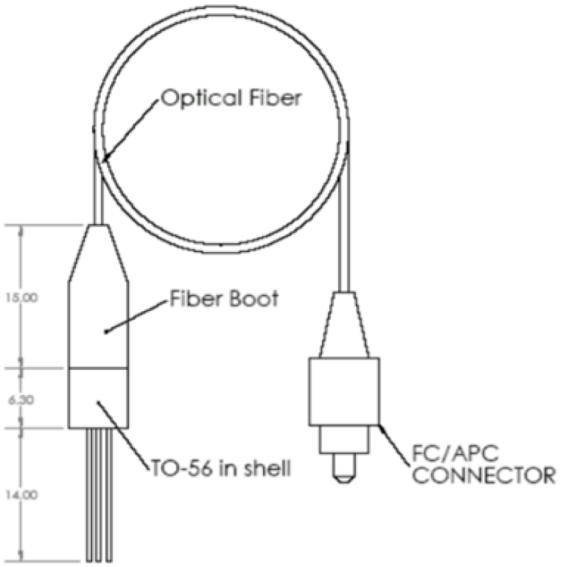
A. TO-56





TOP VIEW

B. TO-Pig Tail



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Distributed Feedback Laser (DFB)

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	λ nm	Po (mW)	Pkg
DL-DFB31020D	1310	20	Chip

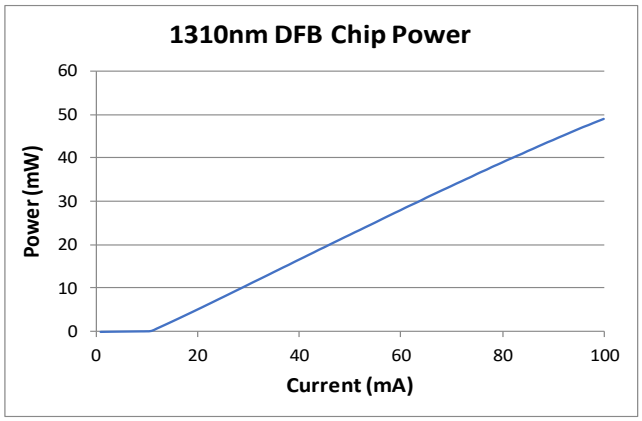
DenseLight has capability to do other wavelengths. Please contact your local sales or write to info@denselight.com for information

FEATURES & PERFORMANCE

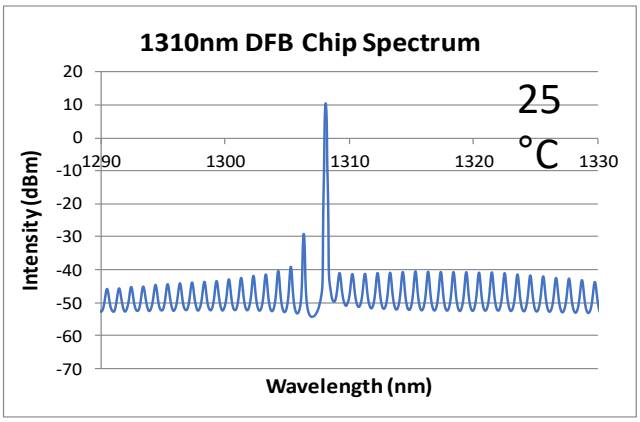
- Uncooled operation from -5 to 70°C
- Output power (CW) of 20mW at 25°C, Iop 47mA (typical)
- Typical SMSR ≥ 35dB
- Designed for CW transmission

Product Performance

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Threshold current	I_{th}	T_{op} = 25°C	-	11	15	mA
		T_{op} = 70°C	-	22	28	
Operating current	I_{op}	T_{op} = 25°C, 20mW	-	47	55	mA
		T_{op} = 70°C, 20mW	-	66	78	
Forward voltage	V_{op}	CW, 20mW	-	1.5	2.0	V
Slope efficiency		T_{op} = 25°C, 20mW	0.50	0.55	-	W/A
		T_{op} = 70°C, 20mW	0.40	0.45	-	
Center wavelength	λ_c	T_{op} = 25°C, 20mW	1290	1310	1330	nm
Side Mode Suppression Ratio	SMSR	T_{op} = 25°C, 20mW	35	40	-	dB
Temperature dependence of center wavelength	$\Delta\lambda/\Delta T$	CW	-	0.1	-	nm/°C
Beam divergence angle (parallel)	θ_H	T_{op} = 25°C, 20mW, FWHM	-	25	-	degree
Beam divergence angle (perpendicular)	θ_V	T_{op} = 25°C, 20mW, FWHM	-	35	-	degree

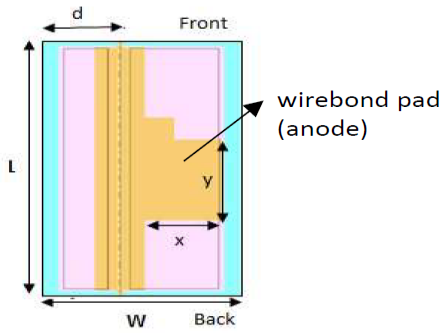


25°C



25°C

PHYSICAL & MECHANICAL SPECIFICATION



Parameters	Symbol	Typical	Unit
Chip size	L x W x H	250 x 200 x 100	μm
Emission spot from chip edge	d	65	μm
Wirebond pad	x y	100 x 100	μm

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16xx nm DFB

The DL-DFB6XX03T-A is an InGaAsP based distributed feedback laser series in a TO-56 package, with an aspherical lens.

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

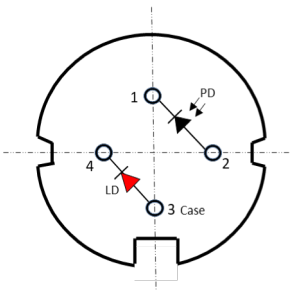
Part No	λ nm	Po (mW)
DL-DFB65003T-A	1650	3
DL-DFB62503T-A	1625	3
DL-DFB61003T-A	1610	3

DenseLight has capability to do other wavelengths. Please contact your local sales or write to info@denselight.com for information

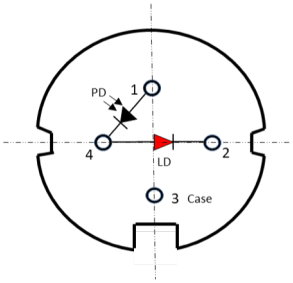
FEATURES & PERFORMANCE

- Uncooled 1650nm DFB laser
- Operating temperature from -5C to 70C
- Optical output min. 3mW

PRODUCT OFFERINGS

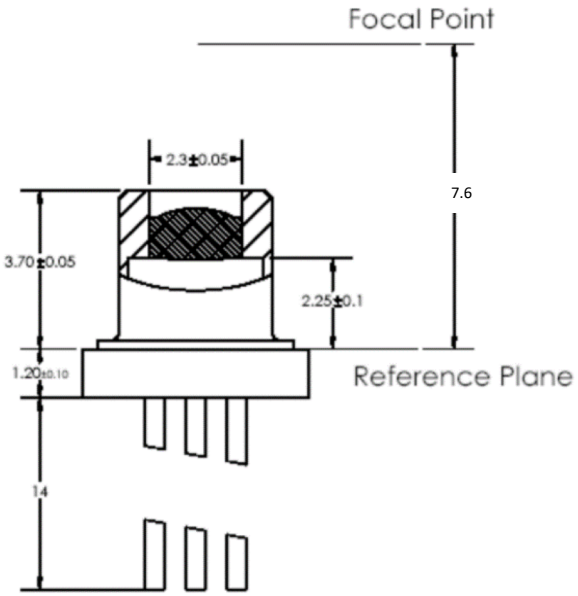


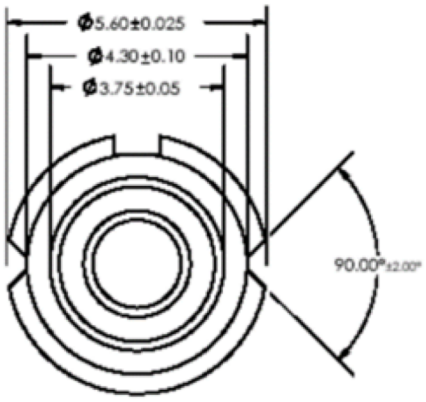
Type A



Type B

PHYSICAL & MECHANICAL SPECIFICATION





TOP VIEW

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