

# High power 850nm Superluminescence Light Emitting Diodes for FOG



## Products Guide

FOG Components

IMU Systems

FOG Devices

RLG Devices

FOG Instruments

**FOGPhotonics,inc**

one Idealphotonics company

## Features

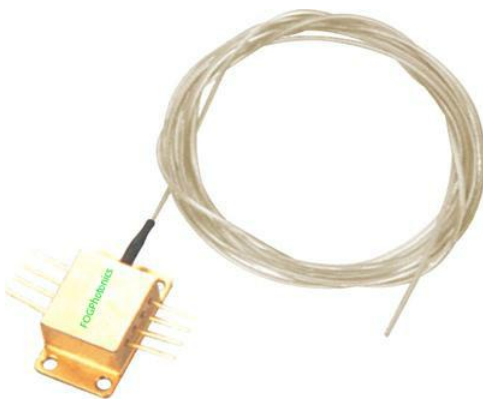
- High Power
- Low Cost
- Compact package
- SM, PM or RC fiber
- Two different packages for choices
- Good temperature wavelength stability
- OEM Service

## Application

- Fiber optic research
- FOCT
- OCT Application
- Fiber sensor
- SLD Light source
- Gyro compassing

**2016 NEW VERSION**

## Description



The device is PN junction electroluminescence device by forward bias. Electron of invert distribution in active region from conduction band and transit to valence band at forward current is injected, and release out photon after with hole compound. When light is transmitted in given cavity and light gain is obtained, thereby amplified spontaneous radiation light is achieved.

## Specifications and characteristics (TA=25°C)

Parameters	Symbol	Testing condition	MIN	TYP	MAX	UNIT
Peak wavelength	$\lambda$	IF=100mA	830	850	870	nm
Spectral half width (FWHM)	$\Delta \lambda$	IF=100mA	20	25	/	nm
Output light power	P	IF=100mA	500	800	2000	$\mu$ W
NTC	Rt		9	10	11	k $\Omega$

The device characteristics as follow:

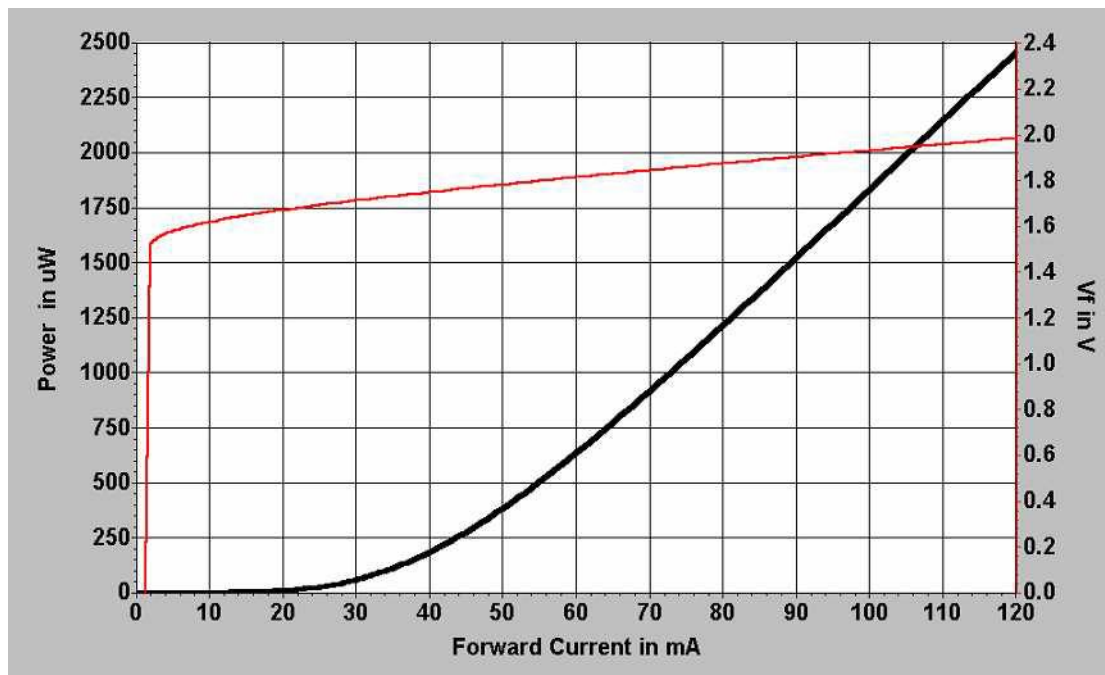


Fig.1 The device typical I-V, I-P characteristic

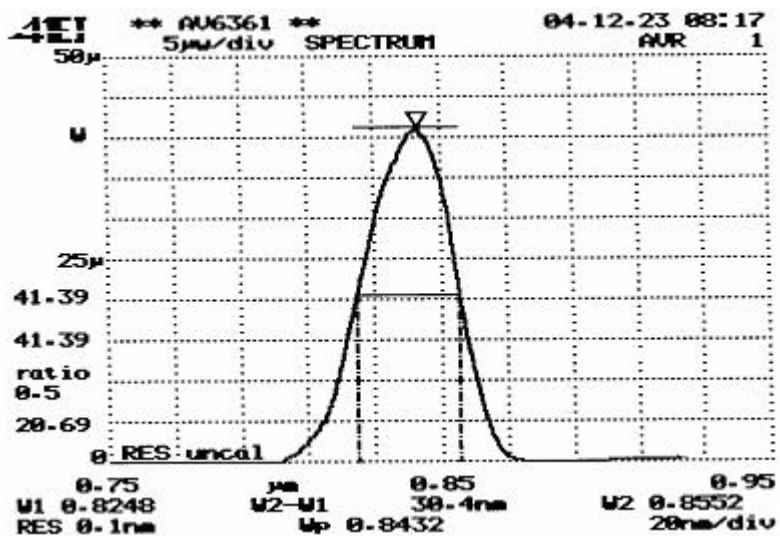


Fig. 2 SLD Module's typical spectral curve

Modules outline dimensions, base pin arrange

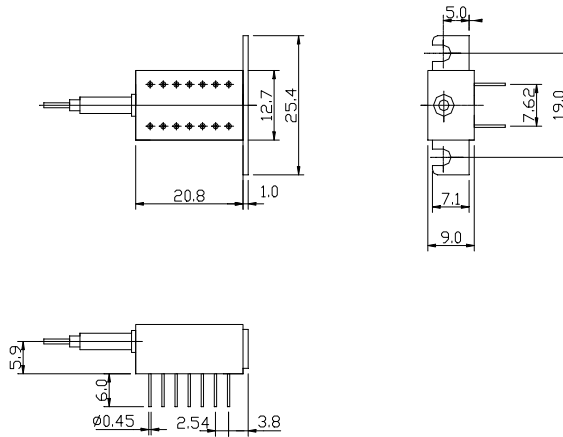


Fig.2 14pin Dual In Line (DIP) modules Outline dimensions diagram

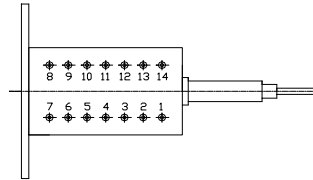


Table 1 14 pins Dual In Line (DIP) Modules base pin arrange diagram and name.

Name	Base pin	Name
Cooler ( + )	8	
Empty	9	SLD ( - )
Empty	10	Package, SLD ( + )
Empty	11	Thermistor
Package	12	Thermistor
Empty	13	Empty
	14	Cooler ( - )

**Note: 1) When have detector in modules, 7 is detector (-), 8 is detector (+);**

**2) When SLD (+) is suspended, 10 cut off to Package.**

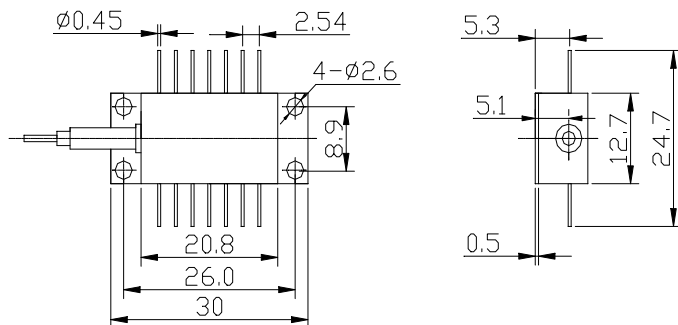
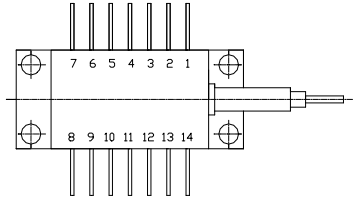


Fig.3 14 pins butterfly modules Outline dimensions diagram.



Base pin	Name	Base pin	Name
1	Cooler( + )	8	
2	Empty	9	SLD (-)
3	Empty	10	Package, SLD (+)
4	Empty	11	Thermistor
5	Package	12	Thermistor
6	Empty	13	Empty
7		14	Cooler (-)

Note: 1) When have detector in modules, 7 is detector (-), 8 is detector (+);

2) When SLD (+) is suspended, 10 cut off to Package.

Table 2 14 pins butterfly modules base pin arrange diagram and name.

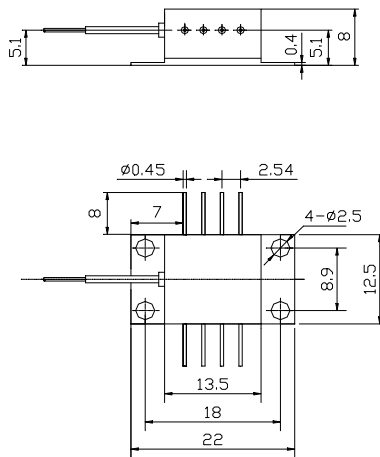
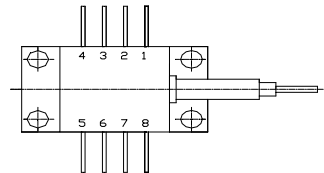


Fig.4 8 pins butterfly modules Outline dimensions diagram.



Base pin	Name	Base pin	Name
1	Cooler( + )	5	SLD (-)
2	Thermistor 1	6	Thermistor 2
3	Thermistor 1	7	Thermistor 2
4	SLD (+)	8	Cooler (-)

Table 3 8 pins butterfly modules base pin arrange diagram and name.

### Maximum nominal value of modules

Tstg(°C)	TA(°C)	SLD die		Semiconductor cooler	Polarization maintaining Pigtail fiber	
		Reverse voltage	Forward current		Bend radial	Axial pulling force
-40~75	-45~70	5V	150mA	1A	40mm	2.5N

#### Use method

The Modules can normally operating after correctly connecting according to corresponding base pin arrange. Optical output is achieved at injecting bias current to SLD. Thermistor reflect temperature change in the modules, resistor value of thermistor can assure to 10 kΩ by adjusting input current of cooler, operating temperature of SLD die can automatically adjusted by temperature control circuit, to ensure the modules reliable operation.

#### Warning contents

When SLD is used, not add more maximum nominal value of the modules, to avoiding damage or breakage module. Avoid electrostatic percussive in transport、 storage and use. When is soldering, soldering temperature less than 245°C, soldering time less than 5s, and the iron must cut off power source.

#### Ordering information:

Model	Wavelength (nm)	Package type	Fiber Type	Power(mW)	Pigtial length(m)	Fiber Connector
IDP	85:850	14D:14DIP	1:SM	01:0.1	05:0.5	FA:FC/APC
	13:1310	14B :14 Butterfly	2:MM	05:0.5	08:0.8	FP:FC/PC
	15:1550	8D :8DIP	3:PM	10:1.0	10:1.0	SA:SC/APC
		8B:8Butterfly		20:2.0	15:1.5	N:None

Eg:IDP-85-8B-3-10-0.8-N Means the SLD Laser diode operation wavelength at 850nm, with 8pin Butterfly package, with PM fiber coupled output, output power at 1mw, the PM pigtail length at 0.8m with NO connector.

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