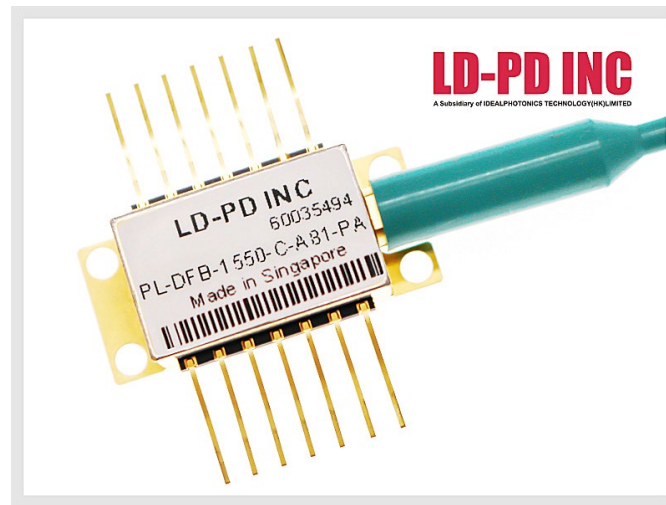


## 1550nm DFB Laser Diode, PM/SM Output, up to 30mW



### Description:

The PD-LD'S PL-DFB-1550-C-A81-PA-14-BF is a Distributed FeedBack Laser designed for Continuous Wave (C.W) operation. It is mostly utilized in combination with an external optical modulator, such as a Mach-Zehnder Interferometer (MZI) modulator. The MQW DFB laser features up to 30 mW of output optical power, high side mode suppression ratio, low RIN noise, and a narrow linewidth. The PL- DFB-C-A81-W1550-PA is housed in an industry standard 14-pin butterfly package, with a built-in thermoelectric cooler, thermistor, a back-facet monitor photodiode for conventional power monitoring, and an optional second photodiode for wavelength reference monitoring. Available in a wide variety of C-band wavelengths, the PL- DFB-C-A81-W1550-PA can be temperature tuned to ITU frequencies to allow for Dense Wavelength Division Multiplexing (DWDM) applications.

### Features:

- Polarization maintaining (PM) output
- Up to 30 mW output power
- Low RIN noise, -145 dB/Hz maximum
- Narrow linewidth, 2 MHz typ.
- Any Wavelengths to select: from 1210 nm - 2300nm
- Built-in TEC, Thermistor & Monitor PD

### Optional:

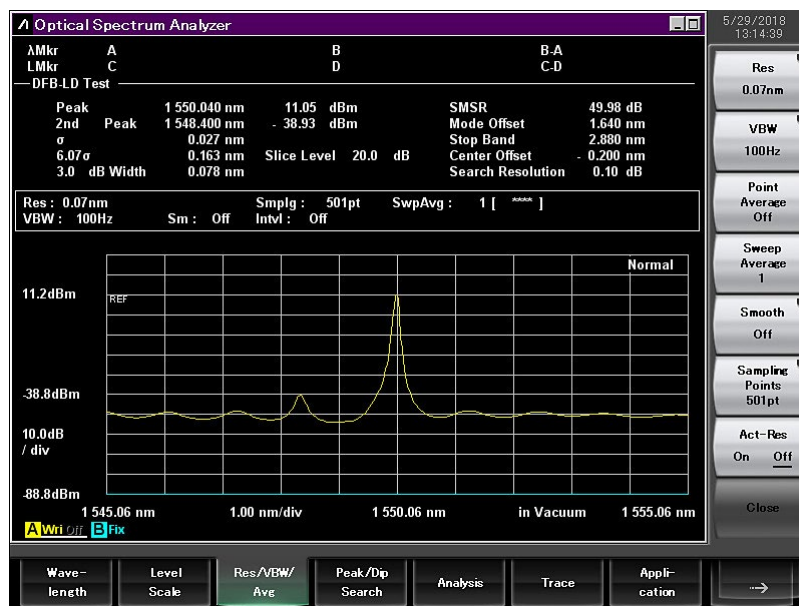
- Dense Wavelength Division Multiplex (DWDM)
- RF over Fiber (RFoF)
- Hybrid Fiber-Coaxial (HFC)
- General laboratory and research use

**Laser Specifications:**

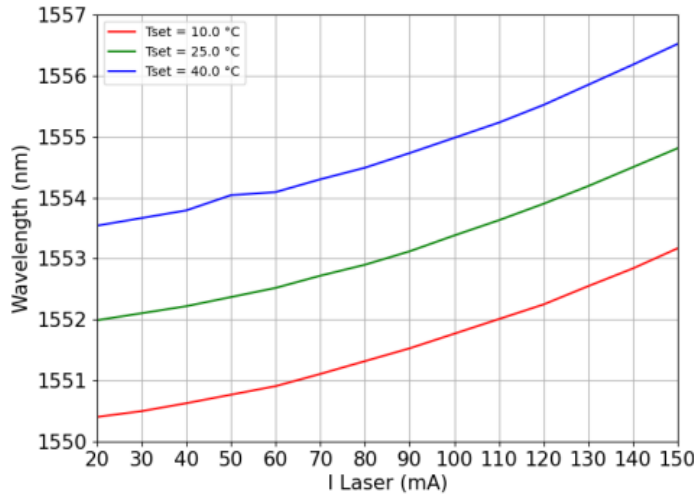
Tsub=25°C, CW bias unless stated otherwise

Parameter	Symbol	Min	Typ	Max	Unit
Centre Wavelength	$\lambda$	1530	1550	1610	nm
Side Mode Suppression Ratio	SMSR	30	40		dB
Threshold Current	I <sub>th</sub>		20	30	mA
Operating Current	I <sub>op</sub>		80	120	mA
Chip output Power	P <sub>f</sub>	10	20	35	mW
Quantum Efficiency	$\eta$	0.15	0.25		mW/mA
Current Tuning Coefficient	$\Delta\lambda/\Delta I$		0.015		nm/mA
Temperature Tuning Coefficient	$\Delta\lambda/\Delta T$		0.12		nm/K
Forward Voltage	V <sub>f</sub>		1.3	2	V
Thermistor Resistance	RT	9.5	10	10.5	K $\Omega$
Thermistor Temp. Coefficient			-4.4		%/°C
Line width	LW	1	3	10	MHZ
Relative Intensity Noise	RIN	-135	-140	-145	dB/HZ
Optical Isolation	ISO	30	35	40	dB
Fiber Type	PM1550 or SMF-28E				
Connector	FC/APC				

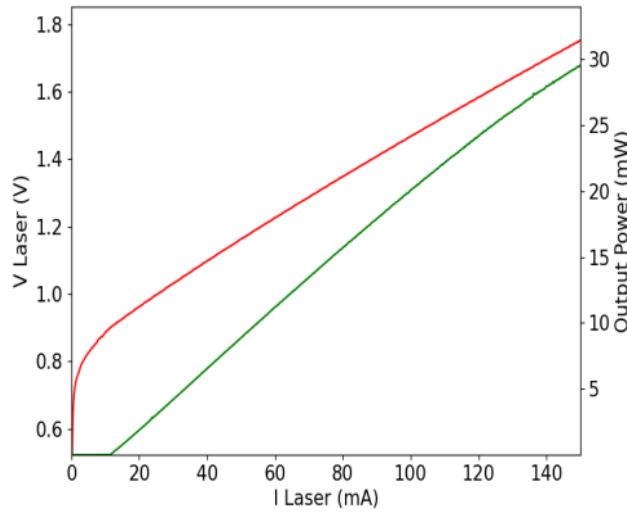
**Spectrum:**



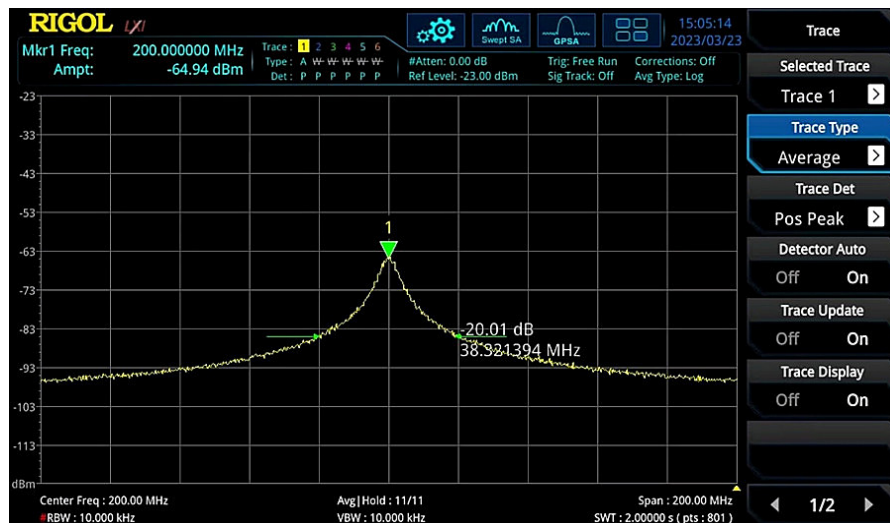
**Tuning Characteristics:**



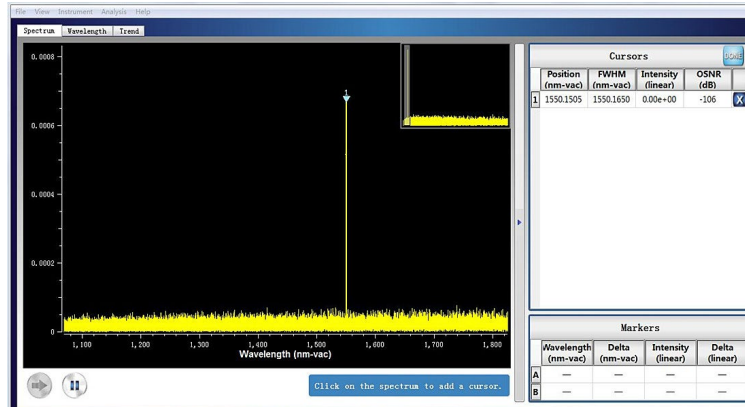
**L-I Curve:**



**DFB Linewidth Testing Result**

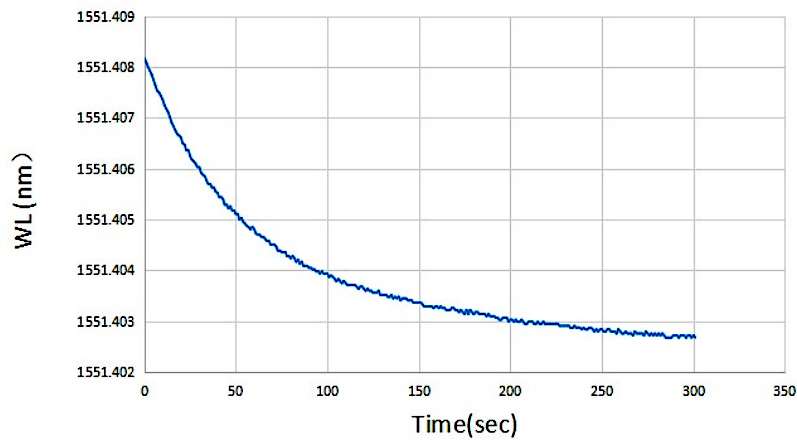


**Central Wavelength:**

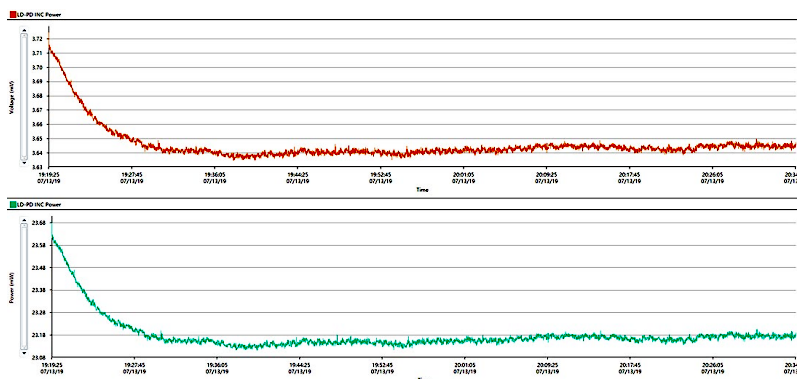


**Wavelength Stability:**

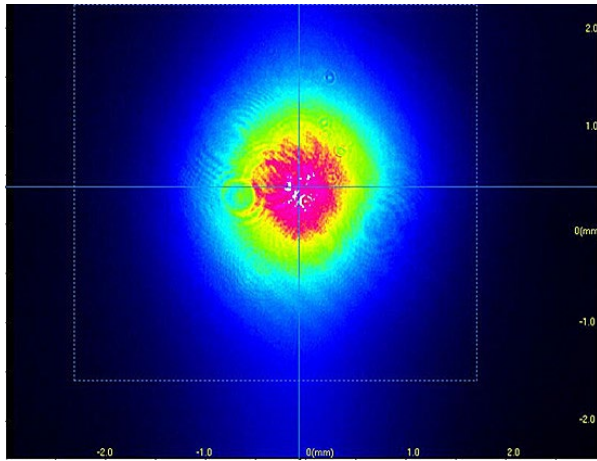
5mins Wavelength stability Test



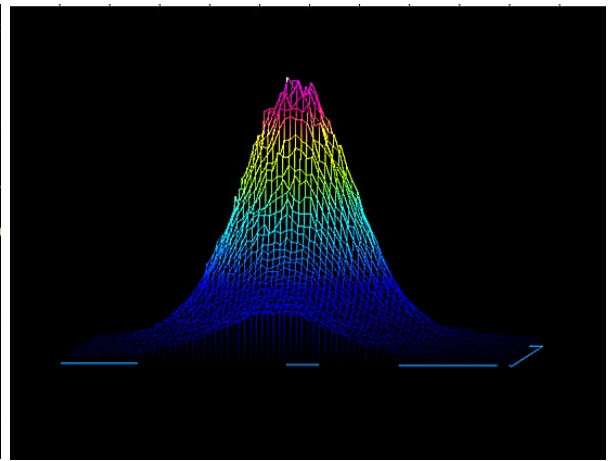
**Power Stability:**



**Beam Quality:**



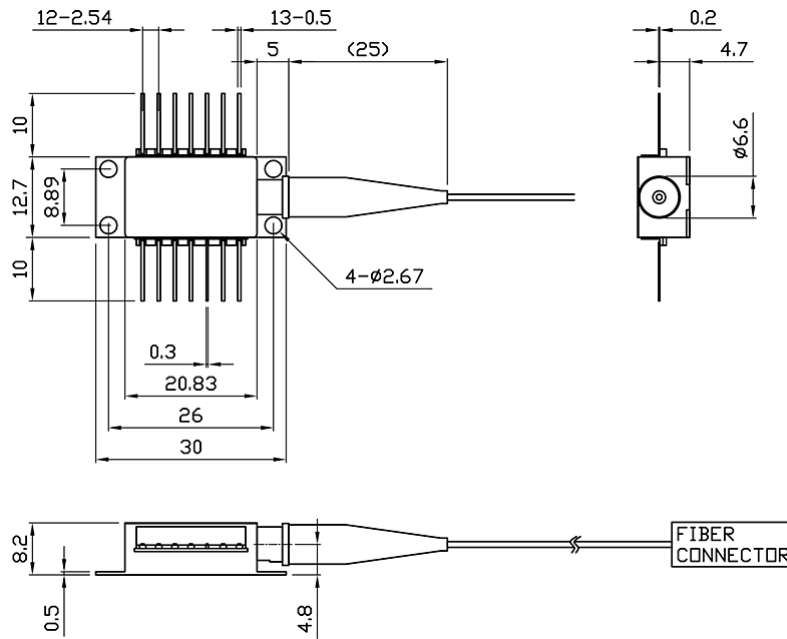
2D



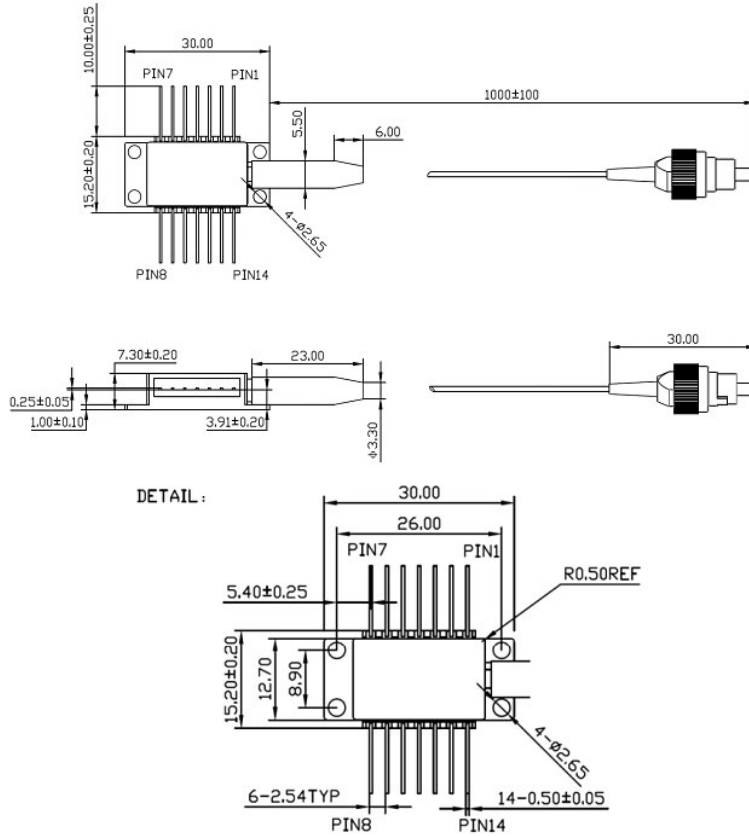
3D

**Package Size:**

TYPE A

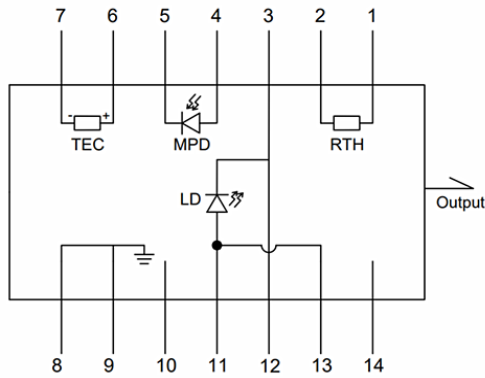


**TYPE B**



**Schematic Diagram (Top View):**

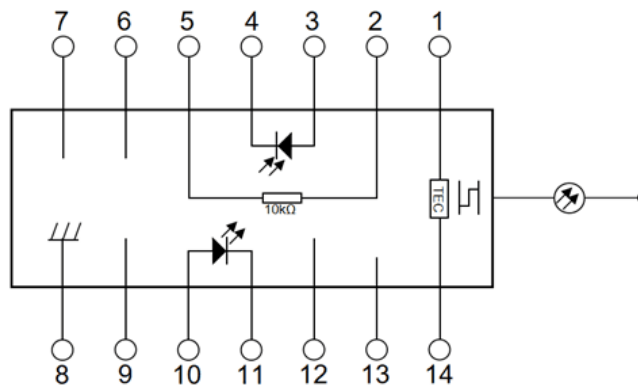
**TYPE A**



**TYPE A Pin Connection**

PIN#	Function	PIN#	Function
1	Thermistor	8	Case Ground
2	Thermistor	9	Case Ground
3	LD(-)	10	NC
4	Detector (+)	11	LD(+)
5	Detector (-)	12	LD (-), RF
6	TEC (+)	13	LD(+)
7	TEC (-)	14	NC

TYPE B



TYPE B Pin Connection

PIN#	Function	PIN#	Function
1	TEC(+)	8	Case Ground
2	Thermistor	9	NC
3	Detector(+)	10	Laser Anode (+)
4	Detector(-)	11	Laser Anode (-)
5	Thermistor	12	NC
6	NC	13	NC
7	NC	14	TEC(-)

**Absolute Maximum Ratings:**

Item	Unit	Min	Typ	Max
Case Temperature	°C	-5	25	70
Chip Temperature	°C	+10	25	40
Operating Current	mA	0	100	150
Forward Voltage	V	0.8	1.2	1.8
TEC Current	A	-	-	1.2
Reverse Voltage (LD)	V	-	-	2.0
Reverse Voltage (PD)	V	-	-	20

**Ordering Info:**

PL-DFB-□□□□-☆-▽-XX-14-BF

□□□□: Wavelength

1512:1512nm

\*\*\*\*\*

1653.7: 1653.7nm

☆ : Output Power

A: 10mW

B: 20mw

C: 30mw

▽ : Wavelength Tolerance

1: ±1nm

2: ±2nm

XX: Fiber and Connector Type

SA=SMF-28E+ FC/APC

SP=SMF-28E+ FC/PC

PP=PM Fiber+ FC/PC

PA=PM Fiber+ FC/APC



We have the list DFB chips below in store around the clock. Actually we can provide you 700nm-2400nm DFB laser. But the lead time decided by the chips whether we have in store. If you can find the chips in the list. Usually we will get it packaged and tested in 1-2 weeks in Singapore facility. Other wavelength for Customize customer should contact our sales-staff. They will give you price and lead time information.

DFB chips	Specification	DFB chips	Specification
Laser chips-DFB	295L862,1610.056nm	Laser chips-DFB	295L22,1559.794nm
Laser chips-DFB	295L863,1609.192nm	Laser chips-DFB	295L23,1558.983nm
Laser chips-DFB	295L864,1608.329nm	Laser chips-DFB	295L24,1558.173nm
Laser chips-DFB	295L865,1607.467nm	Laser chips-DFB	295L25,1557.363nm
Laser chips-DFB	295L866,1606.605nm	Laser chips-DFB	295L26,1556.555nm
Laser chips-DFB	295L867,1605.745nm	Laser chips-DFB	295L27,1555.747nm
Laser chips-DFB	295L868,1604.885nm	Laser chips-DFB	295L28,1554.940nm
Laser chips-DFB	295L869,1604.026nm	Laser chips-DFB	295L29,1554.134nm
Laser chips-DFB	295L870,1603.168nm	Laser chips-DFB	295L30,1553.329nm
Laser chips-DFB	295L871,1602.312nm	Laser chips-DFB	295L31,1552.524nm
Laser chips-DFB	295L872,1601.456nm	Laser chips-DFB	295L33,1550.918nm
Laser chips-DFB	295L873,1600.601nm	Laser chips-DFB	295L35,1549.315nm
Laser chips-DFB	295L874,1599.747nm	Laser chips-DFB	295L36,1548.515nm
Laser chips-DFB	295L875,1598.893nm	Laser chips-DFB	295L37,1547.715nm
Laser chips-DFB	295L876,1598.041nm	Laser chips-DFB	295L38,1546.917nm
Laser chips-DFB	295L877,1597.190nm	Laser chips-DFB	295L39,1546.119nm
Laser chips-DFB	295L878,1596.339nm	Laser chips-DFB	295L40,1545.322nm
Laser chips-DFB	295L879,1595.490nm	Laser chips-DFB	295L41,1544.526nm
Laser chips-DFB	295L880,1594.641nm	Laser chips-DFB	295L42,1543.730nm
Laser chips-DFB	295L881,1593.793nm	Laser chips-DFB	295L43,1542.936nm
Laser chips-DFB	295L882,1592.946nm	Laser chips-DFB	295L44,1542.142nm
Laser chips-DFB	295L883,1592.100nm	Laser chips-DFB	295L45,1541.349nm
Laser chips-DFB	295L884,1591.255nm	Laser chips-DFB	295L46,1540.557nm
Laser chips-DFB	295L885,1590.411nm	Laser chips-DFB	295L47,1539.766nm
Laser chips-DFB	295L886,1589.568nm	Laser chips-DFB	295L48,1538.976nm
Laser chips-DFB	295L887,1588.726nm	Laser chips-DFB	295L49,1538.186nm
Laser chips-DFB	295L888,1587.884nm	Laser chips-DFB	295L50,1537.397nm
Laser chips-DFB	295L889,1587.043nm	Laser chips-DFB	295L51,1536.609nm
Laser chips-DFB	295L890,1586.204nm	Laser chips-DFB	295L52,1535.822nm
Laser chips-DFB	295L891,1585.365nm	Laser chips-DFB	295L53,1535.036nm
Laser chips-DFB	295L892,1584.527nm	Laser chips-DFB	295L54,1534.250nm
Laser chips-DFB	295L893,1583.690nm	Laser chips-DFB	295L51,1536.609nm
Laser chips-DFB	295L894,1582.854nm	Laser chips-DFB	295L52,1535.822nm
Laser chips-DFB	295L895,1582.019nm	Laser chips-DFB	295L53,1535.036nm
Laser chips-DFB	295L896,1581.184nm	Laser chips-DFB	295L54,1534.250nm

DFB chips	Specification	DFB chips	Specification
Laser chips-DFB	295L897,1580.351nm	Laser chips-DFB	295L55,1533.465nm
Laser chips-DFB	295L898,1579.518nm	Laser chips-DFB	295L56,1532.681nm
Laser chips-DFB	295L899,1578.686nm	Laser chips-DFB	295L57,1531.898nm
Laser chips-DFB	295L900,1577.855nm	Laser chips-DFB	295L58,1531.116nm
Laser chips-DFB	295L901,1577.025nm	Laser chips-DFB	295L59,1530.334nm