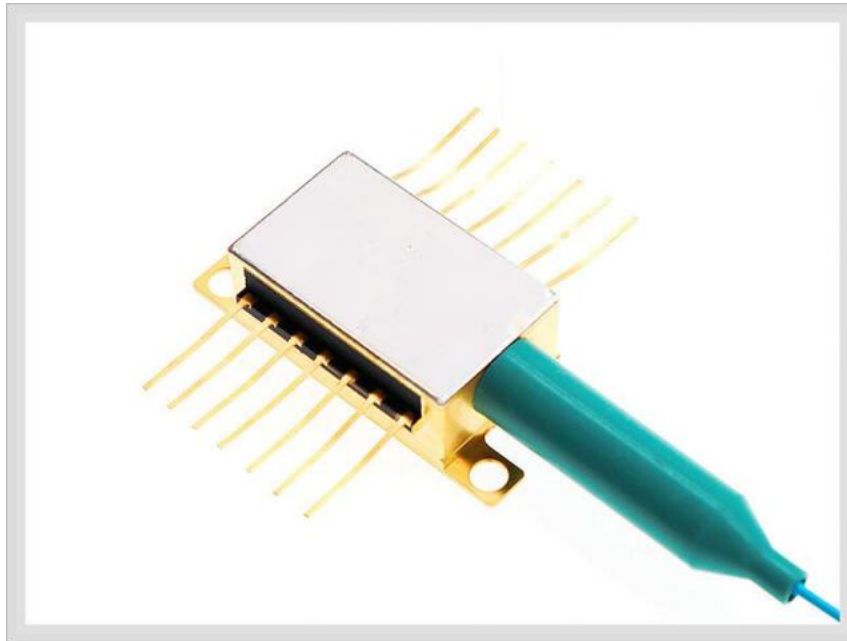


## 1910nm 3mW DFB Laser Diode



- **Product Description**

1910nm Distributed Feedback (DFB) laser diode module manufactured by idealphotonics is a cost-effective, high-coherence laser source. The DFB laser diode chip is packaged in an industry-standard 14-pin butterfly package with hermetic sealing, integrated with internal Thermoelectric Cooler (TEC) and Photodiode (PD).



## ● Product features

Narrow linewidth: < 2 MHz ; Excellent wavelength control and stability ;

Industry-standard 14-pin butterfly package ; Mode-hop-free tuning ;

Outstanding reliability; Customizable wavelength available on request

## ● Part Number

MP-DFB-1910-3-A81-14BF-SA

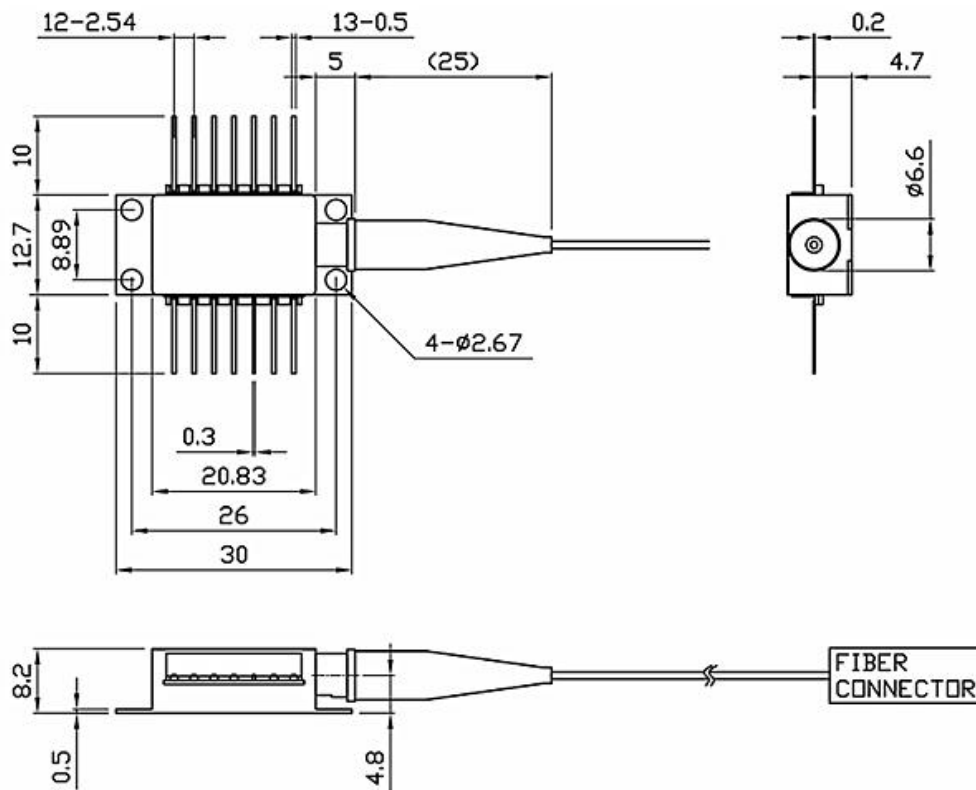
## ● Application area

Tunable Diode Laser Absorption Spectroscopy (TDLAS) | Gas Monitoring

## ● Core parameters

Central Wavelength	Output Power
1910nm	3mW

## ● Dimension Drawing



## ● General Parameters

Detailed parameters

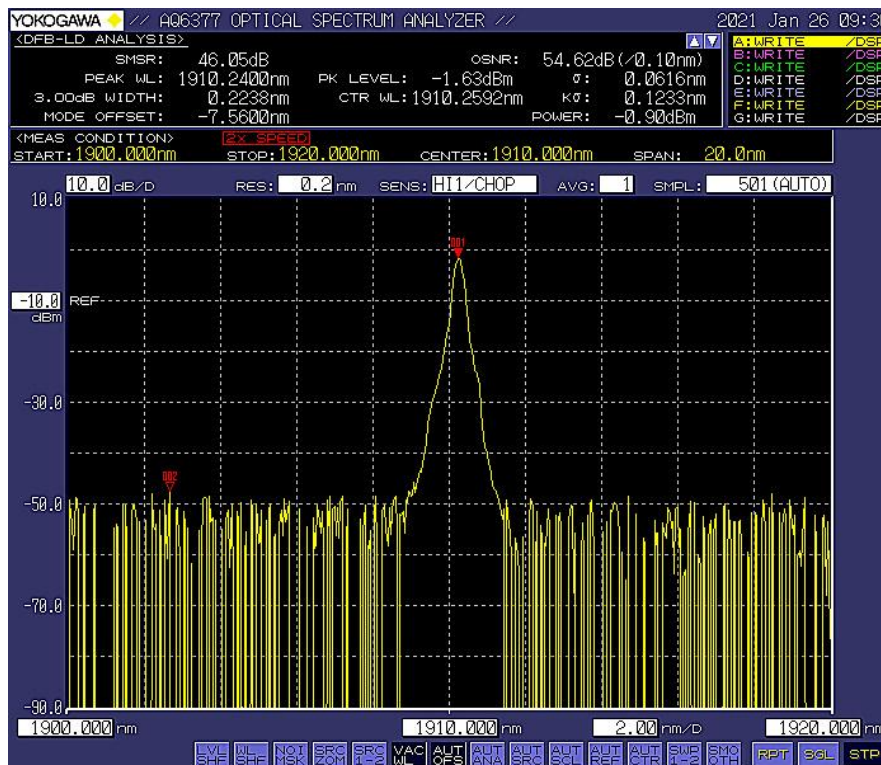
Electrical/Optical Properties (Substrate Temperature = 25°C, CW Bias unless otherwise noted)

Parameters	symbol	Minimum	Typical values	Maximum	unit
Center wavelength	$\lambda$	1909	1910	1911	nm
Side Mode Suppression Ratio	SMSR	30	40		dB
Threshold current	$I_{th}$		20	30	mA
Operating current	$I_{op}$		80	120	mA

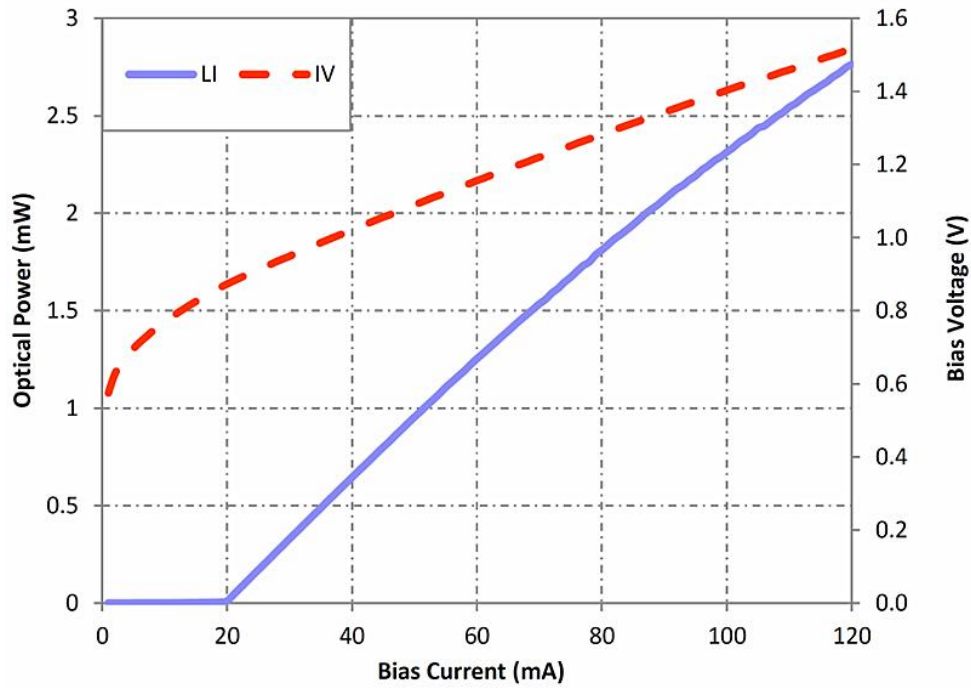


Fiber output power	Pf	2	3	5	mW
Quantum Efficiency	$\eta$	0.08	0.12		mW/mA
Current Tuning Coefficient	$\Delta\lambda/\Delta I$		0.015		nm/mA
Temperature Tuning Coefficient	$\Delta\lambda/\Delta T$		0.12		nm/K
Forward Voltage	Vf		1.3	2	V
Thermistor resistance value	RT	9.5	10	10.5	K $\Omega$
Thermistor temperature coefficient			-4.4		%/ $^{\circ}$ C
connectors	FC/APC				

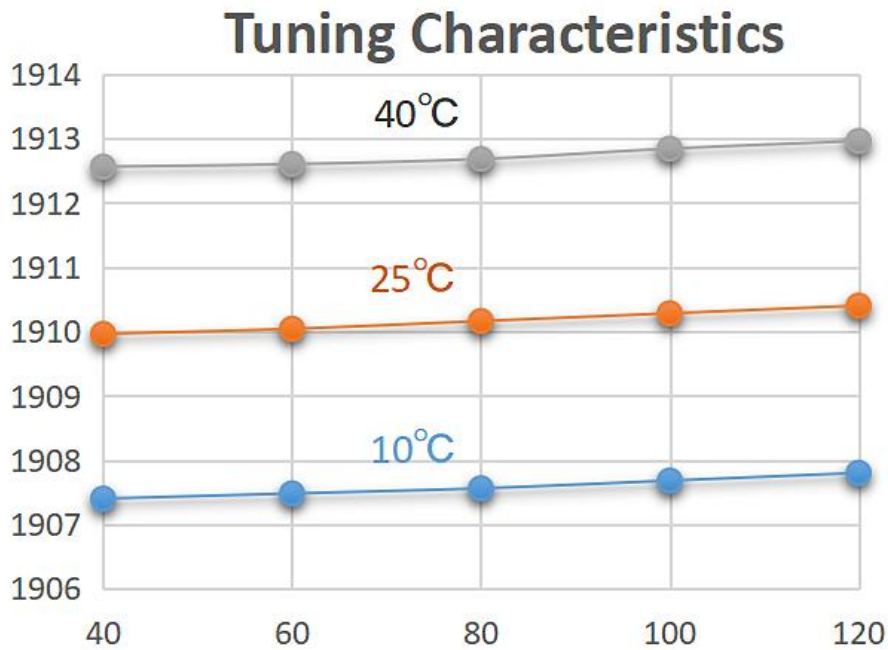
## Spectrum



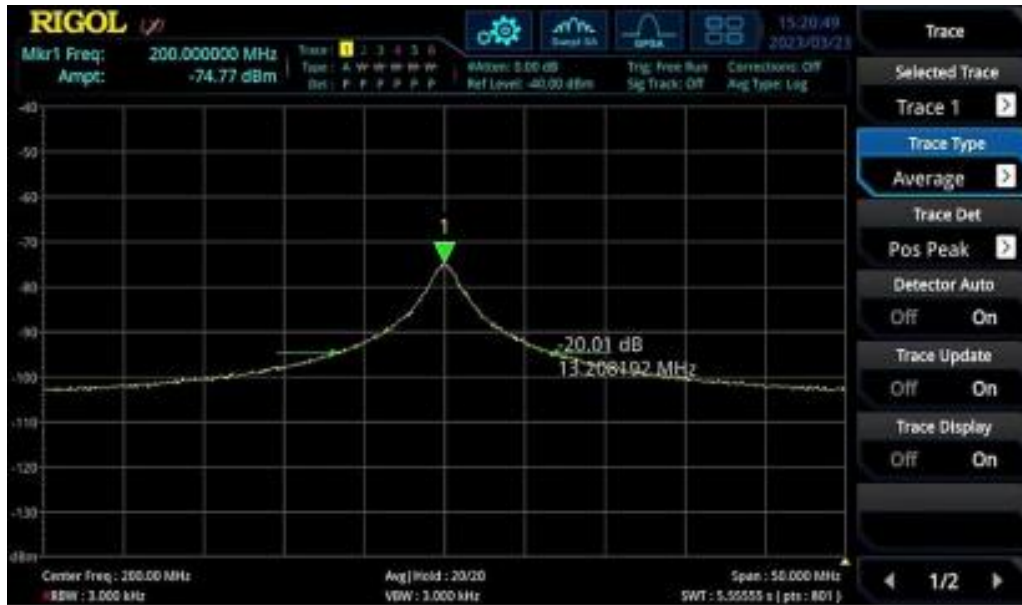
## Optical Power - Current Curve



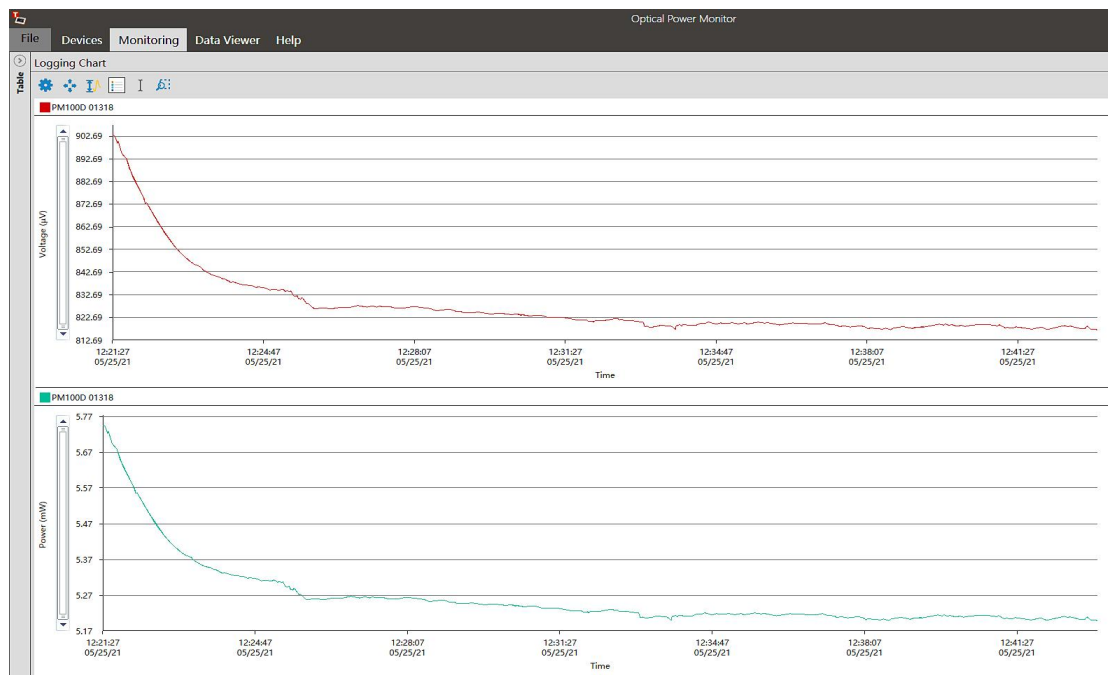
## Tuning Characteristics



## Linewidth Test Results

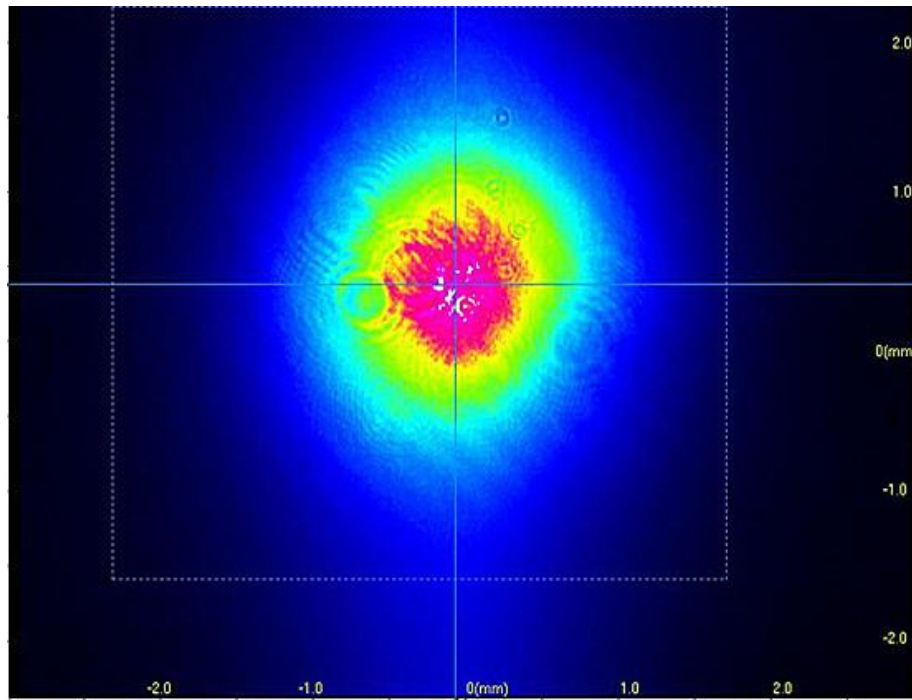


## Power Stability

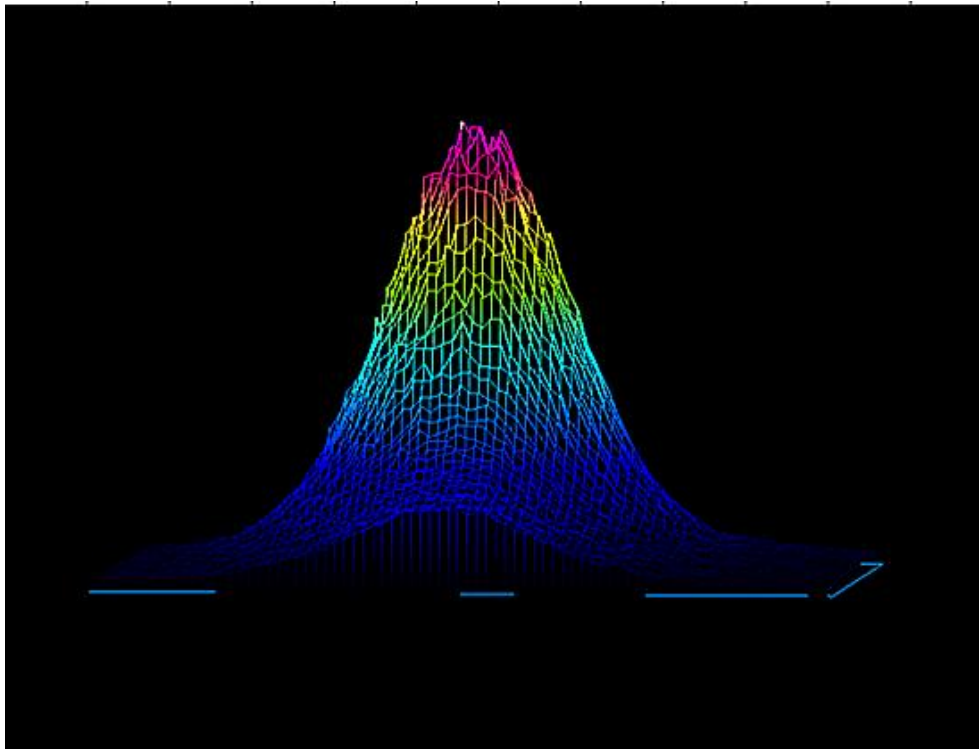




## Beam Quality

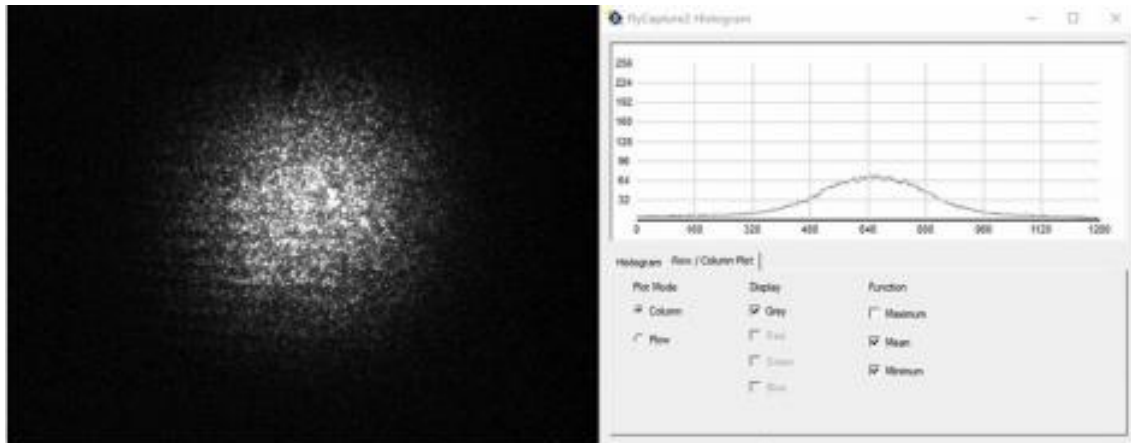


2D

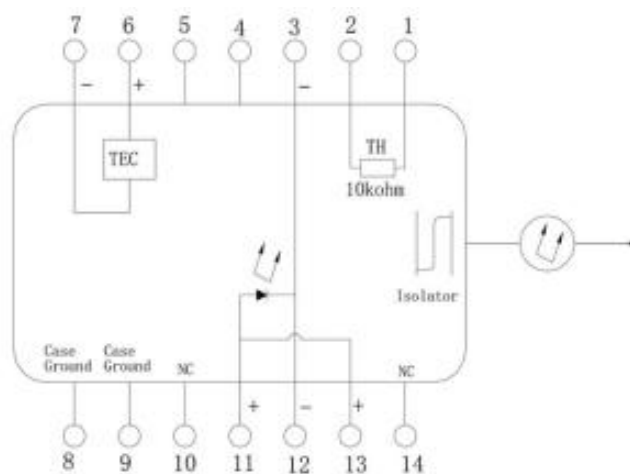


3D

## Camera Analysis



## Pin Definition



PIN#	Definition	PIN#	Definition
1	Thermistor	8	Case Ground
2	Thermistor	9	Case Ground
3	Laser Cathode (-)	10	N/C



4	N/C	11	Laser Anode (+)
5	N/C	12	Laser Cathode (-)
6	TEC (+)	13	Laser Anode (+)
7	TEC (-)	14	N/C

## Absolute maximum rating

project	unit	Minimum	Typical values	Maximum
Shell 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
Semiconductor Refrigerator (TEC) Current	A	-	-	1.2
Laser diode (LD) reverse voltage	V	-	-	2.0
Photodiode (PD) reverse voltage	V	-	-	20



## Order information

MP-DFB-□□□□-☆-A8▽-XX □□□□:

Wavelength

1512:1512nm

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1653.7: 1653.7nm

1910: 1910nm

☆ : Output Power

A: 2mW

B: 5mW

▽: 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