

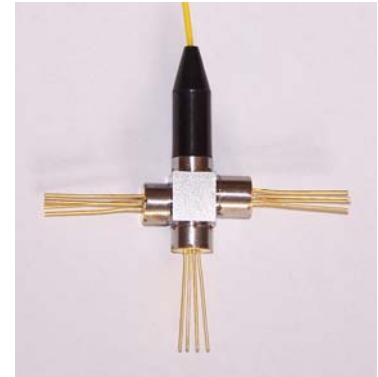
## 1310Tx/1490Tx/1550Tx Triplexer Laser Device

### 1、Expect:

Supply Three Laser wavelength for light source.

### 2、Features:

- Work 1310/1490/1550nm Laser diode with WDM filter;
- Temperature  $-20^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ ;
- 1310nmFP/1490nmDFB/1550nmFP
- SM pigtail and with FC/ST/SC/LC;



### 3、Applications:

- Instruments and Meters

### 4、Absolute Maximum Ratings

Parameters	Symbol	Ratings	Unit
Operating temperature		$-20\sim+85$	$^{\circ}\text{C}$
Storage temperature		$-40\sim+85$	$^{\circ}\text{C}$
Reverse voltage	CW	2.0	V
Forward Current (LD)	I <sub>fl</sub>	150	mA
Reverse voltage (monitor PD)	V <sub>rMP</sub>	15	V
Reverse Current (monito PD)	I <sub>rMP</sub>	2	mA
Supply voltage (IC)	V <sub>cc</sub>	4	V
Soldering temperature (<10s)	Stemp	260	$^{\circ}\text{C}$

### 5、Optical and electrical Characteristics

#### 5-1、1310nm FP laser (T<sub>c</sub>=+25 $^{\circ}\text{C}$ )

Parameters	Symbol	Test condition	Min	Type	Max	Unit
Center wavelength	$\lambda_p$	CW	1290	1310	1330	nm
Spectral width	$\Delta\lambda$	CW T <sub>c</sub> = $-40\sim+85^{\circ}\text{C}$ (RMS)		1.5	4	nm
Threshold current	I <sub>th</sub>	CW		6	15	mA
		CW T <sub>c</sub> = $85^{\circ}\text{C}$			45	mA
Operating Current	I <sub>op</sub>			25	50	mA
Forward voltage	V <sub>f</sub>	I <sub>f</sub> =I <sub>th</sub> +20mA		1.1	1.8	v
Output power	P <sub>o</sub>	I <sub>f</sub> =I <sub>th</sub> +20mA	-4	-1		dBm
		I <sub>f</sub> =I <sub>th</sub> +20mA T <sub>c</sub> = $-40\sim+85^{\circ}\text{C}$	-6			
PD dark current	I <sub>d</sub>	V <sub>r</sub> =10V		1	10	nA
Rise and Fall Time	t <sub>r</sub> / t <sub>f</sub>	10-90%&90-10%		0.15	0.3	ns
PD current	I <sub>m</sub>	I <sub>f</sub> =I <sub>th</sub> +20mA(1310nm)	120		1200	$\mu\text{A}$

#### 5-2、1490nm DFB laser (T<sub>c</sub>=+25 $^{\circ}\text{C}$ )

Parameters	Symbol	Test condition	Min	Type	Max	Unit
Center wavelength	$\lambda_p$	CW	1470	1490	1510	nm
Spectral width	$\Delta\lambda$	CW T <sub>c</sub> = $-40\sim+85^{\circ}\text{C}$ (RMS)			1	nm
Threshold current	I <sub>th</sub>	CW		8	15	mA
		CW T <sub>c</sub> = $85^{\circ}\text{C}$			50	mA
Operating Current	I <sub>op</sub>			28	50	mA
Forward voltage	V <sub>f</sub>	I <sub>f</sub> =I <sub>th</sub> +20mA		1.1	1.8	v

Output power	Po	If=Ith+20mA	-3	-1		dBm
		If=Ith+20mA Tc=-40~+85℃	-5			
PD dark current	Id	Vr=10V		1	10	nA
Rise and Fall Time	tr / tf	10-90%&90-10%		0.15	0.3	ns
PD current	Im	If=Ith+20mA(1490nm)	120		1200	μ A
SMSR	SMSR	Po=2.0mW	30	40		dB

## 5-3、1550nm FP laser (Tc=+25℃)

Parameters	Symbol	Test condition	Min	Type	Max	Unit
Center wavelength	$\lambda_p$	CW	1540	1550	1580	nm
Spectral width	$\Delta \lambda$	CW Tc=-40~+85℃(RMS)		1.5	4	nm
Threshold current	Ith	CW		9	15	mA
		CW Tc=85℃			45	mA
Operating Current	Iop			29	50	mA
Forward voltage	Vf	If=Ith+20mA		1.1	1.8	v
Output power	Po	If=Ith+20mA	-3	-1		dBm
		If=Ith+20mA Tc=-40~+85℃	-6			
PD dark current	Id	Vr=10V		1	10	nA
Rise and Fall Time	tr / tf	10-90%&90-10%		0.15	0.3	ns
PD current	Im	If=Ith+20mA(1550nm)	120		1200	μ A

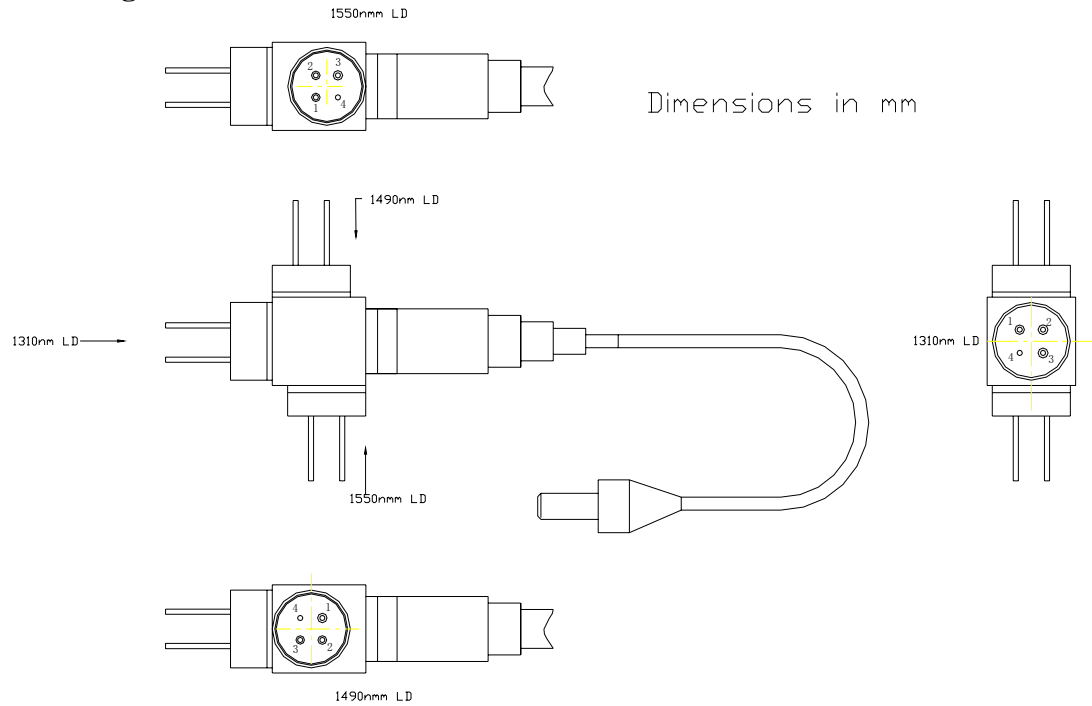
## 5-4、Device Optical and electrical Characteristics

Parameters	Min	Type	Max	Unit
Iso, 1550 Video to 1490 Rx			-30	dB
Iso, 1550 Video to 1310 Tx			-30	dB
Iso, 1490 Data to 1550 Rx			-30	dB
Iso, 1490 Data to 1310 Tx			-30	dB
Crosstalk, 1310 Tx to 1550 Rx			-47	dB
Crosstalk, 1310 Tx to 1490 Rx			-47	dB
RL $\lambda=1480\dots1500$ nm			-20	dB
RL $\lambda=1550\dots1560$ nm			-20	dB

## 6、PINOUT

Number	A Type	C Type
1	LD Cathode	LD Cathode
2	PD Cathode	PD Anode
3	PD Anode	LD anode/PD Cathode
4	LD Anode & Case	Case

7、Drawing



8、 Order information:

Treplexer Device Laser  
TDL-ABCDEF

A(LD Type)	B(Power)	C(Isolation)	D ( Pack)	E(P type)	F-mode
1-1310nmFP/1490nmDFB/1550nmFP	1\>-5dBm	1-Without Iso	1-FC/PC	A	1-BD
2-1310nmDFB/1490nmDFB/1550nmDFB	2\0~1.5dBm	2-With I	2-SC/PC	C	2-WDM
	3\1.5~3dBm		3-ST/PC		
	4\>3dBm		4-LC/PC		
			5-FC/APC		
			6-SC/APC		
			7-LC/APC		