

1310Tx/1490Tx/1550Tx Triplexer Laser

1、Expect:

Supply Three Laser wavelength for light source.

2、Features:

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

3、Applications:

- Instruments and Meters



4、Absolute Maximum Ratings

Parameters	Symbol	Ratings	Unit
Operating temperature		$-20\sim+70$	$^{\circ}\text{C}$
Storage temperature		$-40\sim+85$	$^{\circ}\text{C}$
Reverse voltage	CW	2.0	V
Forward Current (LD)	I _f	150	mA
Reverse voltage (monitor PD)	V _{rMP}	15	V
Reverse Current (monito PD)	I _{rMP}	2	mA
Supply voltage (IC)	V _{cc}	4	V
Soldering temperature (<10s)	Stemp	260	$^{\circ}\text{C}$

5、Optical and electrical Characteristics

5-1、1310nm FP laser (T_c=+25 $^{\circ}\text{C}$)

Parameters	Symbol	Test condition	Min	Type	Max	Unit
Center wavelength	λ_p	CW	1290	1310	1330	nm
Spectral width	$\Delta\lambda$	CW T _c = $-20\sim+85^{\circ}\text{C}$ (RMS)			1	nm
Threshold current	I _{th}	CW		9	15	mA
		CW T _c = 85°C			45	mA
Operating Current	I _{op}			25	50	mA
Forward voltage	V _f	I _f =I _{th} +20mA		1.1	1.8	v
Output power	P _o	I _f =I _{th} +20mA	0	1		dBm
		I _f =I _{th} +20mA T _c = $-20\sim+85^{\circ}\text{C}$	-3			
PD dark current	I _d	V _r =10V		1	10	nA
Rise and Fall Time	t _r / t _f	10-90%&90-10%		0.15	0.3	ns
PD current	I _m	I _f =I _{th} +20mA(1310nm)	120		1200	μA
SMSR	SMSR	P _o =2.0mW	30	40		dB
Isolation	Iso		30			dB

5-2、1490nm DFB laser (T_c=+25 $^{\circ}\text{C}$)

Parameters	Symbol	Test condition	Min	Type	Max	Unit
Center wavelength	λ_p	CW	1470	1490	1510	nm
Spectral width	$\Delta\lambda$	CW T _c = $-20\sim+85^{\circ}\text{C}$ (RMS)			1	nm
Threshold current	I _{th}	CW		8	15	mA
		CW T _c = 85°C			50	mA

Operating Current	I_{op}			28	50	mA
Forward voltage	V_f	$I_f=I_{th}+20mA$		1.1	1.8	v
Output power	P_o	$I_f=I_{th}+20mA$	0	1		dBm
		$I_f=I_{th}+20mA$ $T_c=-20\sim+85^{\circ}C$	-3			
PD dark current	I_d	$V_r=10V$		1	10	nA
Rise and Fall Time	t_r / t_f	10-90%&90-10%		0.15	0.3	ns
PD current	I_m	$I_f=I_{th}+20mA(1490nm)$	120		1200	μA
SMSR	SMSR	$P_o=2.0mW$	30	40		dB
Isolation	Iso		30			dB

5-3、1550nm FP laser ($T_c=+25^{\circ}C$)

Parameters	Symbol	Test condition	Min	Type	Max	Unit
Center wavelength	λ_p	CW	1540	1550	1580	nm
Spectral width	$\Delta \lambda$	CW $T_c=-20\sim+85^{\circ}C$ (RMS)			1	nm
Threshold current	I_{th}	CW		9	15	mA
		CW $T_c=85^{\circ}C$			45	mA
Operating Current	I_{op}			29	50	mA
Forward voltage	V_f	$I_f=I_{th}+20mA$		1.1	1.8	v
Output power	P_o	$I_f=I_{th}+20mA$	0	1		dBm
		$I_f=I_{th}+20mA$ $T_c=-20\sim+85^{\circ}C$	-3			
PD dark current	I_d	$V_r=10V$		1	10	nA
Rise and Fall Time	t_r / t_f	10-90%&90-10%		0.15	0.3	ns
PD current	I_m	$I_f=I_{th}+20mA(1550nm)$	120		1200	μA
SMSR	SMSR	$P_o=2.0mW$	30	40		dB
Isolation	Iso		30			dB

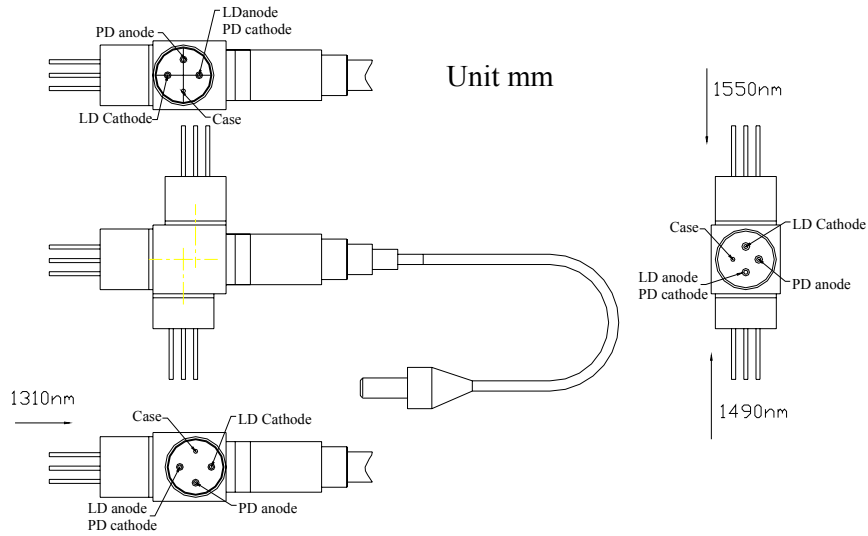
5-4、Device Optical and electrical Characteristics

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:

Triplexer 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		