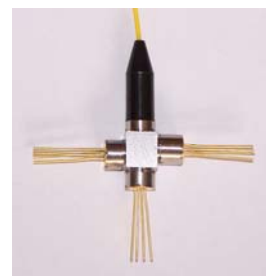


1310Tx/1490Rx/1550Rx Optical Triplexer**1. Preliminary data:**

The production is an optical triplexer component designed for full-duplex digital communication over a single fiber with an additional analog video receiver.

2. Features:

- Integrated WDM filters for Tx/Rx1/Rx2 operation at 1310/1490/1550nm
- 1310nm FP laser diode transmitter suitable for data rates up to 1.25Gbit/s
- 1490nm Pin-Tia digital receiver with integrated 1.25Gbit/s, 3.3V TIA
- 1550nm Pin analog video receiver
- Single-mode fiber pigtail with different connector options
- The high reliability
- RoHs Compliant

**3. Applications:**

- Access Networks, FTTH, Point-to-Point (P2P), and Passive Optical Networks (PON)

4. Absolute Maximum Ratings

Parameters	Symbol	Value	Unit
Operating Temperature	Top	-40~+85	°C
Storage Temperature	Tstg	-40~+95	°C
Reverse Voltage (LD)	VrL	2.0	V
Forward current(LD)	Ifl	150	mA
Reverse Voltage(monitored PD)	VrMP	15	V
Reverse current(monitored PD)	IrMP	2	mA
Supply voltage(IC)	Vcc	4	V
Reverse current(Digital PD)	IrDP	2	mA
Reverse Voltage(Analog PD)	VrAP	27	V
Reverse current(Analog PD)	IrAP	4	mA
Soldering temperature(<10s)	Stemp	260	°C

5. Electrical and optical characteristics**5-1. Transmitter characteristics (Tc=+25°C)**

Parameters	Symbol	Condition	MIN	TYP	MAX	Unit
Center Wavelength	λ_p	CW	1280	1310	1340	nm
Spectral width	$\Delta \lambda$	CW Tc=-40~+85°C (RMS)		1.5	5	
Threshold current	Ith	CW		6	15	mA
		CW Tc=85°C			45	
Operating Voltage	Vf	If=Ith+20mA		1.1	1.8	v
Output Power	Pf	CW If=Ith+20mA	1	3	5	dBm
		If=Ith+20mA Tc=-40~+85°C	-2		7	
Monitor Dark Current	Id	Vr=5V		1	10	nA
Rise and Fall Time	tr / tf	10-90%&90-10%		0.15	0.3	ns
Monitor Current	Im	CW VrP=5V	120		1200	μA
Monitor Capacitance	C	Vr=5V f=1MHz			10	pF
Track Error	ΔPf	Im hold@pf=2mW(25°C) CW, Tc=40~+85°C	-1.5		1.5	dB

5-2. Digital Receiver Characteristics(Tc=+25°C Vcc=3.3V,Mon.=3.3V)

Parameters	Symbol	Condition	MIN	TYP	MAX	Unit
Receiver Wavelength	λ_p		1480	1490	1500	nm
Sensitivity	Smin	$\lambda = 1490\text{nm}, 1.25\text{Gbps}$			-25	dBm

1310Tx/1490Rx/1550Rx Optical triplexer

Wuhan Sinxon Optic communication tech Co.,Ltd

Overload	Smax	$\lambda = 1490\text{nm}, 1.25\text{Gbps}$	-3			dBm
Supply Voltage	Vcc		3	3.3	3.6	V
Supply Current	Icc			28	60	mA
Rise & Fall Time	Tr/tf	Tr=20-80% Tf=80%~20%		250	400	Ps
Small-signal Bandwidth	BW		750		1100	MHz

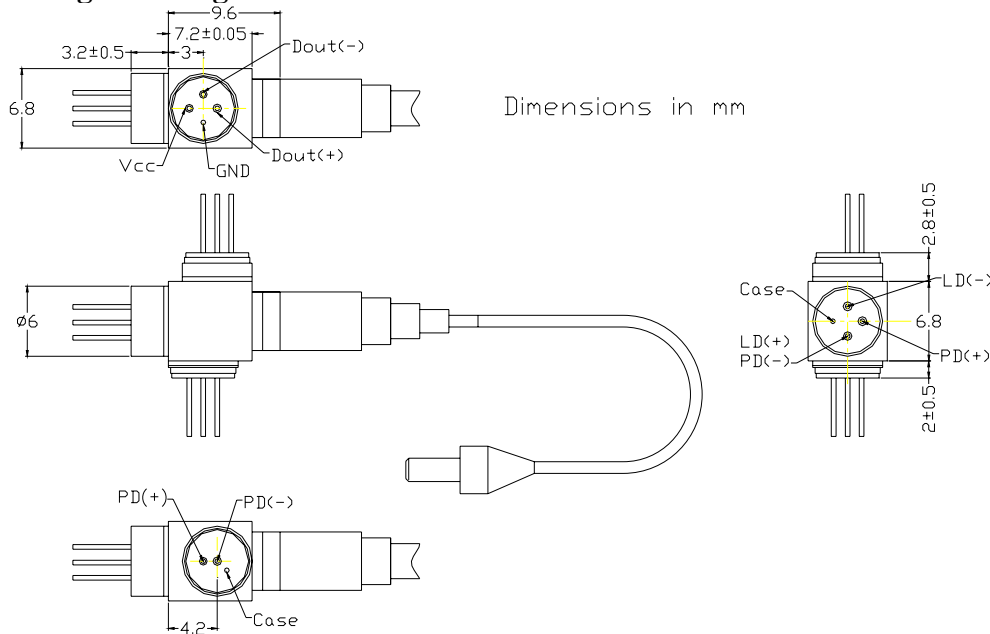
5-3. Analog Receiver Characteristics(Tc=+25°C)

Parameters	Symbol	Condition	MIN	TYP	MAX	Unit
Wavelength	λ_p		1545	1550	1560	nm
Responsivity	η		0.75			A/W
Dark Current	Ird	Vpd=15V			1	nA
Capacitance	Cpd			0.4	0.8	pF
Saturation Power	Psat		+3			dBm
Second order inter-modulation distortion	IMD2	$\lambda = 1550, V_{pd}=15V$			-68	dBc

5-4. Triplexer Optical capability

Parameters	MIN	TYP	MAX	Unit
Isolation, 1550 Video to 1490 Rx			-30	dB
Isolation, 1550 Video to 1310 Tx			-30	dB
Isolation, 1490 Data to 1550 Rx			-30	dB
Isolation, 1490 Data to 1310 Tx			-30	dB
Crosstalk, 1310 Tx to 1550 Rx			-47	dB
Crosstalk, 1310 Tx to 1490 Rx			-47	dB
Optical return loss $\lambda = 1480 \dots 1500 \text{ nm}$			-20	dB
Optical return loss $\lambda = 1550 \dots 1560 \text{ nm}$			-20	dB

6. Package drawing



Ordering information:

Triplexer Device for PON

TDP-ABCDEFGHEI

A	B(LD)	C(Power)	D(Data)	E-R1490	F(sensitivity)	G(Rate)	H(V)	H-R1550	I (Pack)
F-FP	3-1310nm	4\0~-3dBm	1\ 1.25Gb/S	4-PinTia	1\<-36dBm	3\ 622Mb/s	3-3.3v	1\ 1GHz	1-SC/APC
D-DF B		5\+3~0dB m	2\ 2.5Gb/s	5-5Pintia	2\<-32dBm	4\1.25Gb/s	5-5v	2\ 2GHz	2-FC/APC
			3\ 10Gb/s	6-APD	3\<-27dBm	5\2.5Gb/s			3-LC/APC
			0\other		4\<-22dBm	6\10Gb/s			
					5\<-20dBm				