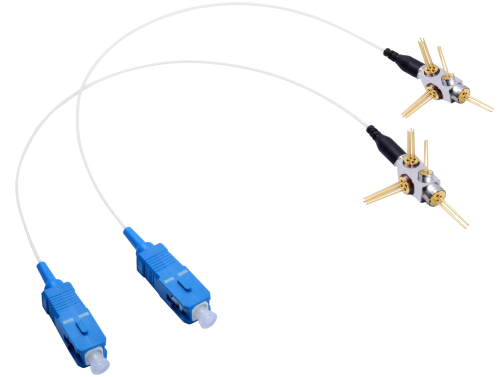


## BS-CBU-I-B

### Pigtail-Quadplexer-1270T/1310T/1490R/1577R

#### Description

- LD: 1270nm 10G DFB 4pin
- LD: 1310nm 2.5G DFB 4pin
- APD-TIA: 1490nm 2.5G 5pin continuous mode
- APD-TIA: 1577nm 10G 5pin continuous mode
- G652 SMF Pigtail with SC/APC connector



#### Absolute Maximum Ratings

Parameters	Symbol	Min.	Max.	Unit
<b>10Gbps 1270nm DFB Transmitter</b>				
LD Reverse Voltage	Vrl	-	2	V
LD Forward Current	If	-	120	mA
MPD Reverse Voltage	Vmon	-	20	V
MPD Forward Current	Imon	-	2	mA
<b>1.25Gbps 1310nm DFB Transmitter</b>				
LD Reverse Voltage	Vrl	-	2	V
LD Forward Current	If	-	150	mA
MPD Reverse Voltage	Vmon	-	20	V
MPD Forward Current	Imon	-	2	mA
<b>2.5Gbps 1490nm APD Receiver</b>				
Power Supply (Vcc-GND)	Vcc	-0.5	4.5	V
Reverse Current	IR	-	2	mA
<b>10Gbps 1577nm APD Receiver</b>				
Power Supply (Vcc-GND)	Vcc	-0.5	4.5	V
Reverse Current	IR	-	2	mA

OSA including Tx and Rx				
Soldering Temperature	Tsld	-	260, <10s	°C
Operation Temperature	Tcase	-40	85	°C
Storage Temperature	Tstg	-40	85	°C
Storage Relative Humidity	Hstg	-	85	%

**Transmitter Optical and Electrical Specifications**

Unless otherwise specified, the specifications below are defined at TC=25±3°C.

Parameters	Symbol	Min.	Typ.	Max.	Unit	Condition	Inspection
Threshold Current	Ith	-	9	15	mA	-	100%
Output Power	Pf	2.5	-	-	mW	If=Ith+20mA	100%
Slope Efficiency	SE	0.125	-	-	W/A	CW, If=Ith+20mA,	-
Operating Voltage	Vf	-	-	2.0	V	CW, If=Ith+20mA	100%
Center Wavelength	λc	1260	1270	1280	nm	CW, If=Ith+20mA,	-
Side Mode Suppression Ration	SMSR	35	-	-	dB	CW, If=Ith+20mA,	-
Monitor Current	Imon	0.05	-	1.0	mA	CW, If=Ith+20mA,	100%
Monitor Dark Current	Id	-	-	100	nA	Vr=5V	-
Tracking Error	TE	-1.5	-	1.5	dB	If=Ith+20mA -40°C/+25°C, +25°C/+85°C	-

**Transmitter Optical and Electrical Specifications**

Unless specified else, the specifications below are defined at TC=25±3°C.

Parameters	Symbol	Min.	Typ.	Max.	Unit	Condition	Inspection
Threshold Current	Ith	---		15	mA	-	100%
Output Power	Pf	1.6	-	-	mW	If=Ith+20mA	100%

Slope Efficiency	SE	0.08	-	-	W/A	CW, If=Ith+20mA,	-
LD Forward Voltage	Vf	-	-	2	V	CW, If=Ith+20mA	100%
Center Wavelength	$\lambda_c$	1290	1310	1330	nm	CW, If=Ith+20mA,	-
Side Mode Suppression Ration	SMSR	30	-	-	dB	CW, If=Ith+20mA,	-
Monitor Current	I <sub>mon</sub>	0.05	-	1.2	mA	CW, If=Ith+20mA,	100%
Monitor Dark Current	I <sub>d</sub>	-	-	100	nA	V <sub>r</sub> =5V, I <sub>f</sub> =0mA	-
Tracking Error	TE	-1.5	-	1.5	dB	I <sub>f</sub> =Ith+20mA -40°C/+25°C, +25°C/+85°C	-

### Receiver Optical and Electrical Specifications

Unless specified else, the specifications below are defined at TC=25±3°C.

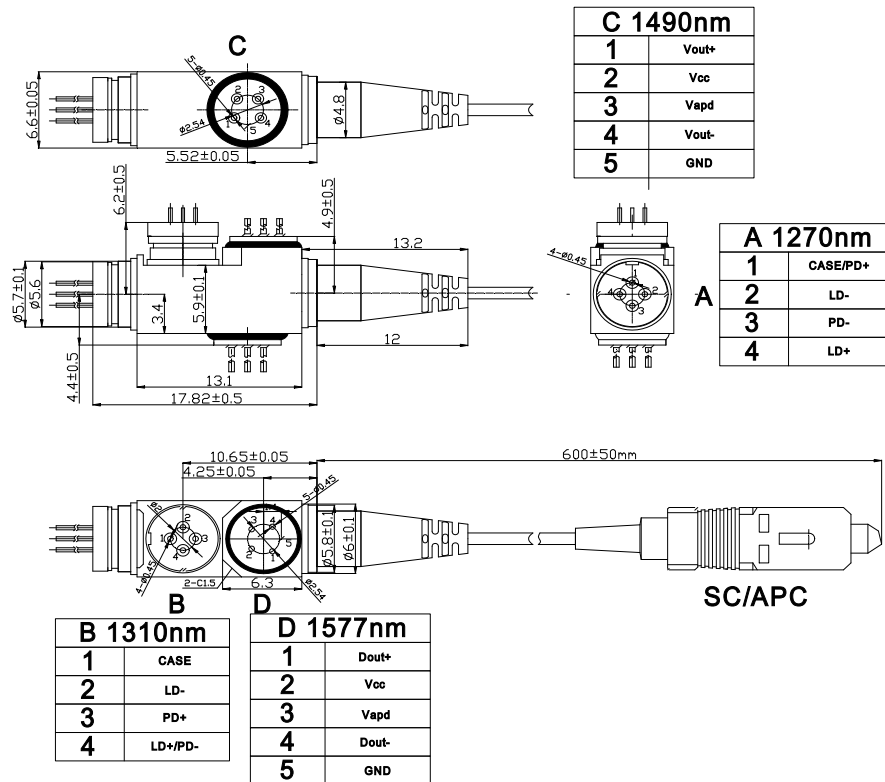
Parameters	Symbol	Min.	Typ.	Max.	Unit	Condition	Inspection
Supply Current	I <sub>cc</sub>	-	30	35	mA	V <sub>cc</sub> =3.3V, no loads	-
Supply Voltage	V <sub>cc</sub>	3.0	3.3	3.6	V	-	-
Operating Wavelength	$\lambda_c$	1480	1490	1500	nm	-	-
Optical Isolation	I <sub>so</sub>	35	-	-	dB	$\lambda = 1310\text{nm}$	-
Breakdown Voltage1	V <sub>br1</sub>	33	42	55	V	I <sub>d</sub> =10uA	100%
Sensitivity	Sen	-	-	-29	dBm	2.5Gb/s, $\lambda = 1490\text{nm}$ ER>9, PRBS=2 <sup>23</sup> -1 V <sub>apd</sub> =V <sub>br</sub> -3V	100%

Receiver Optical and Electrical Specifications

Unless specified else, the specifications below are defined at TC=25±3°C.

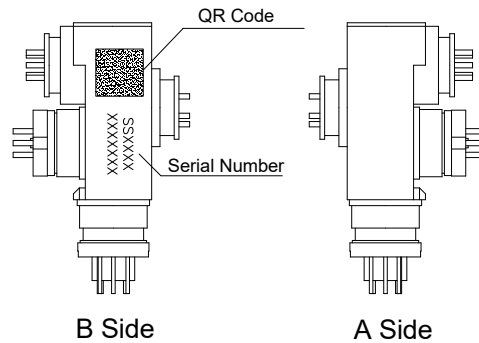
Parameters	Symbol	Min.	Typ.	Max.	Unit	Condition	Inspection
Supply Current	Icc	-	29	-	mA	Vcc=3.3V, no loads	-
Supply Voltage	Vcc	3.0	3.3	3.6	V	-	-
Operating Wavelength	λc	1575	1577	1580	nm	-	-
Breakdown Voltage2	Vbr2	28	---	43	V	Id=10uA	100%
Optical Isolation	ISO	30	-	-	dB	λ= 1310/1490nm	-
Operating Current	Iop	-	9	-	μA	λ=1577nm, Pin=-30dBm Vapd=Vbr-2V	100%
Sensitivity	Sen	-	-	-28	dBm	λ=1577nm, Vop=Vbr-3V 9.95Gb/s, PRBS=2 <sup>31</sup> -1, BER=10 <sup>-3</sup> , ER≥8.2dB	100%

**Mechanical Layout and PIN Assignment**



## Marking Requirements

According to the Sunstar's *Marking Requirements of Optical Active Devices ASSY*.



## The Inspection Requirements of End Face

According to the Standard *IPC8497-1*.

## Appearance and Packaging

According to the Sunstar's *Specifications of Optical Active Devices Packaging Standard and Management*.

## For More Information

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