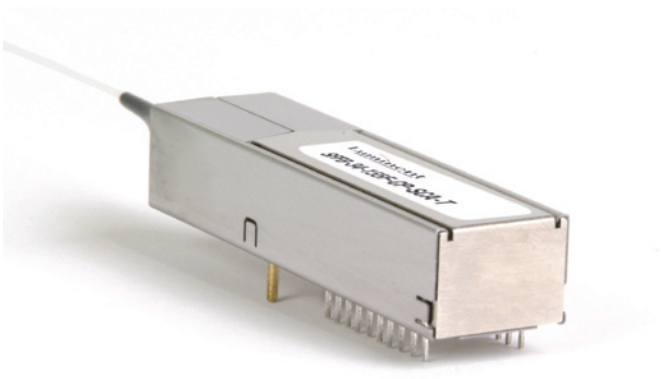
1310nm/1490nm Single Fiber SFFB Transceiver
Preliminary

SFFB-34-155F-BP



Features
- Burst transmit SFF PON transceiver
- 1310 nm FP Tx/1490 nm Rx
- Small Form Factor, pigtailed bi-directional
- 155 Mbps upstream Tx/622 Mbps downstreat Rx
- -40 to 85 °C temperature operation
- Single 3.3 V supply
- FSAN G.983.3 Class B Compliant

General Operating

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating Voltage	V_{cc}	3.135	3.3	3.465	V
Total Current	I_{CC}	-	-	300	mA
Operating Temerature(case)	T_{opr}	-40	-	85	°C
Storage Temperature	T_{stg}	-40	-	85	°C
Back Reflection at 1490 nm		-	-	-6	dB
Back Reflection at 1310 nm		-	-	-20	dB
1490 nm to 1310 nm crosstalk		-	-	-47	dB

Transmitter Specifications (Optical)

Parameter	Symbol	Min	Typical	Max	Unit
Optical Power	P_{op}	-4	-	2	dBm
Average launch power of off Tx	P_{off}	-	-	-30	dBm
Wavelength	λ	1260	1310	1360	nm
$\Delta\lambda_{20}$		-	-	3	nm
Side Mode Suppression Ratio		30	-		dB
Extinction Ratio	ER	10	-		dB
Transmit eye mask		Fig 6, G.983.3			
Data Rate (Burst)		-	155	-	Mbps
Optical Rise time[b]		-	-	500	ps
Optical Fall time[b]		-	-	500	ps
Tolerence to TX back reflection[a]		-24	-		dB

a) 1 dB degradation of receiver sensitivity
b) 20% to 80% values

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Transmitter Specifications (Electrical)

Parameter	Symbol	Min	Typical	Max	Unit
Input Differential Impedence	R_{in}	80	100	120	Ω
PECL Single Ended data input swing(LVPECL)[c]	$V_{in, p-p}$	300	-	1250	mV
Tx Burst Enable		-	12.86	-	ns
Tx Burst Disable		-	12.86	-	ns
PECL Single Ended input		300	-	1250	mV

c) dc coupled

Receiver Specifications (Optical)

Parameter	Symbol	Min	Typical	Max	Unit
Receiver Power Low[d]	$R_{sens,low}$	-	-	-28	dBm
Receiver Power High[d]	$R_{sens,high}$	-	-	-3	dBm
Damage Threshold for Receiver	$P_{in, damage}$	5	-	-	dBm
Wavelength[e]	λ	1480	1490	1500	nm
Data Rate		-	622	-	Mbps
Maximum Reflectance of Receiver	RX_r	-	-	-20	dB
LOS Assert	-	-28	-	-	dBm
LOS De-assert	-	-	-	-38	dBm
LOS Hysteresis	-	1	-	-	dB

d) at 10^{-10} BER, PRBS 2^{23}-1, 20 Km SMF, with tx operating and modulated
e) Operational over 1200-1625 nm range

Electrical Output

Parameter	Symbol	Min	Typical	Max	Unit
PECL Single ended data output swing(LVPECL)[f]	$V_{out,p-p}$	500	-	940	mV
Data output rise time[g]	t_r	-	-	500	ps
Data output fall time[g]	t_f	-	-	500	ps
Data output time delay		-	-	100	ns
Signal detect time delay		-	-	100	ns
Signal detect output HIGH (LVTTL)		2.4	-	V_{cc}	V
Signal detect output LOW(LVTTL)		0	-	0.8	V

f) ac coupled
g) 20% to 80% values

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Pinout Definitions

Pin	Function
1	RSSI
2	GND_Rx
3	GND_Rx
4	Ben+
5	Ben-
6	GND_Rx
7	Vcc_Rx
8	SD
9	RxD-
10	RxD+
11	Vcc_Tx
12	GND_Tx
13	Tx_Dis
14	TxD+
15	TxD-
16	GND_Tx
17	SCL
18	SDA
19	FAIL-
20	GND_Tx

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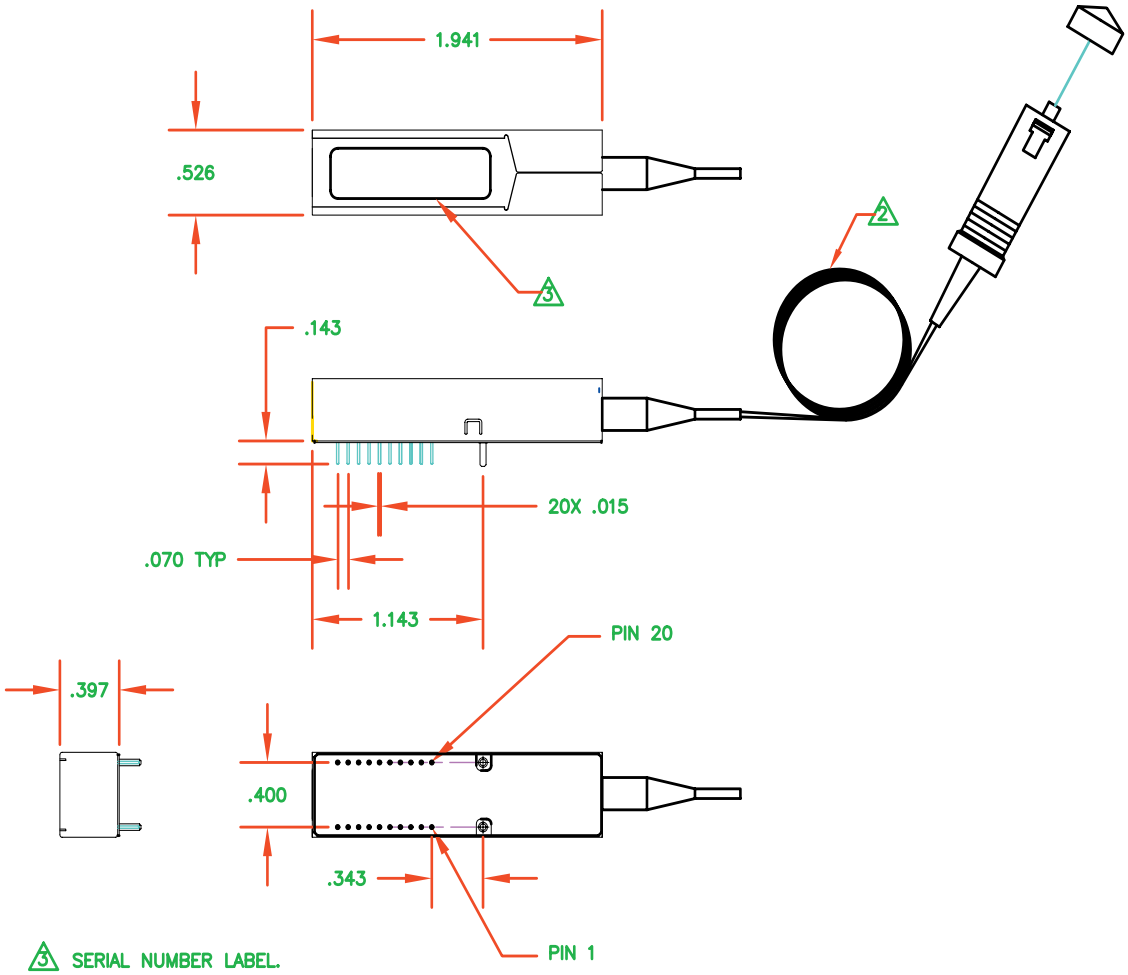
Outline Drawing



3 SERIAL NUMBER LABEL.

2 1.0 METER 900uM BUFFERED FIBER TERMINATED WITH SC CONNECTOR OR UNLESS OTHERWISE SPECIFIED.

1. CUSTOMER MAKES ALL EXTERNAL CONNECTIONS TO FIBER COMPONENTS AND WIRING.

NOTES: UNLESS OTHERWISE SPECIFIED

Ordering information

SFFB - Wavelengths - Data Rate Tx (Mbps) Data Rate Rx (Mbps) - Interface (Standard or Luminent Specified) Adapter -- Connector type - Digital Diagnostics - Temperature Range - Customer Specific

(Separator)

- TR
T= Transmit wavelength
R = Receive wavelength
3=1310
4=1490
5=1550

- 155
622
1250
2488

- Blank = symmetric
F= Four times Tx data rate
T= Twice Tx data rate
H= Half time Tx data rate
Q= Quarter Tx data rate

- SR1
IR1
IR2
LR1
LR2
LR3
LR (for CWDM)
LX
XD
ZX
A = Class A
B = Class B
C = Class C

- Blank= Receptacle
P = Pigtailed

- Blank = no connector or receptacle
SCX
LCX
FCX
STX
X = blank = no connector
X = A (angled)
X= U (Ultra)

- Blank= no diagnostic
D1 = external calibration
D2 = internal calibration

- Blank = commercial
T = industrial Temp (-40 to 85°C)
R = reduced industrial Temp (-20 to 85)

- Blank = standard procedure
shiping instruction etc.

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Warnings:

Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.
Laser Safety: Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

Legal Notes:

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