

2.5Gbps OPTICAL TRANSPONDER FOR OC-48 SR/STM-16 I-16 WITH 4:1 MUX AND 1:4 DEMUX INTERFACE

OD-UB085

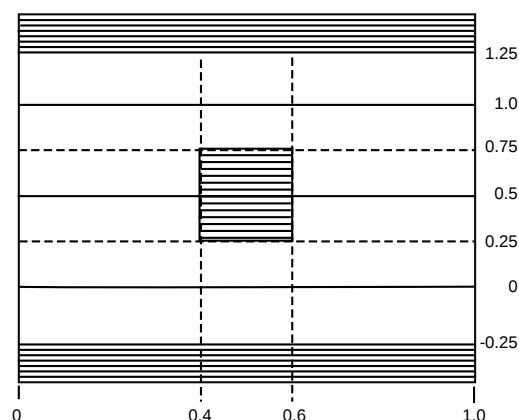
FEATURES

- **TRANSMITTER/MUX SECTION**
- The optical transmitter is driven by a 2.5 Gbps serial data generated from 4 parallel 622.08 Mbps data inputs by a parallel to serial converter (Mux) and a 2.5 GHz clock signal synthesized by an inside PLL from the 155.52 MHz reference Clock input (REFCLK) aligned to 622.08 MHz data input clock (C_IN).
- Uses a 1.3 μm FP type laser.
- Optical Characteristics satisfies OC-48 SR/STM-16 I-16 spec.
- PLL Lock Detect Alarm
- Laser Bias Current Monitor
- Laser Output Monitor
- Laser degradation
- **RECEIVER/DMUX SECTION**
- The optical receiver converts 2.5 Gbps optical signal into 2.5 Gbps electrical data and extracts 2.5 GHz clock from it using an inside PLL. Optical Characteristics satisfies OC-48 SR/STM-16 I-16 spec.
- A Serial to parallel converter (DMUX) converts serial
- Optical Alarm Output (LOS).

DESCRIPTION

OD-UB085, module can be used in section and photonics layers equipment of SONET/SDH protocols. This module performs parallel to serial conversion of 4 parallel 622.08 Mbps electrical signals into a single 2.5 Gbps electrical signal and then convert into a 2.5 Gbps optical signal; and vice versa a 2.5 Gbps optical signal into a 2.5 Gbps electrical signal and then performs serial to parallel conversion into 4 parallel 622.08 Mbps electrical signal. The parallel 622.08 Mbps input/output signals are differential LVDS signals interfaces.

OPTICAL OUTPUT WAVEFORM MASK



OPTICAL CHARACTERISTICS

PARAMETERS	UNITS	SPECIFICATIONS	
		MIN	MAX
Transmitter			
Output Power	dBm	-9	-3.5
Output Wavelength	nm	1267	1359
Spectral Maximum, -20 dB width	nm		4
Extinction Ratio	dB	9.2	
Wave-form		ITU-T G.957 MASK	
Laser Diode Class		IEC825-2 class 1	
Optical Output Logic		Positive Data "H" →LD On	
Receiver			
Input Wavelength	nm	1260	1580
Reflectance	dB	27	
Maximum Overload	dBm	-2.5	
Minimum Sensitivity	dBm	-19.5	
Jitter Specification		ITU-T G.958	
Input Frequency Capture Range	ppm	-100	+100

ABSOLUTE MAXIMUM RATINGS¹

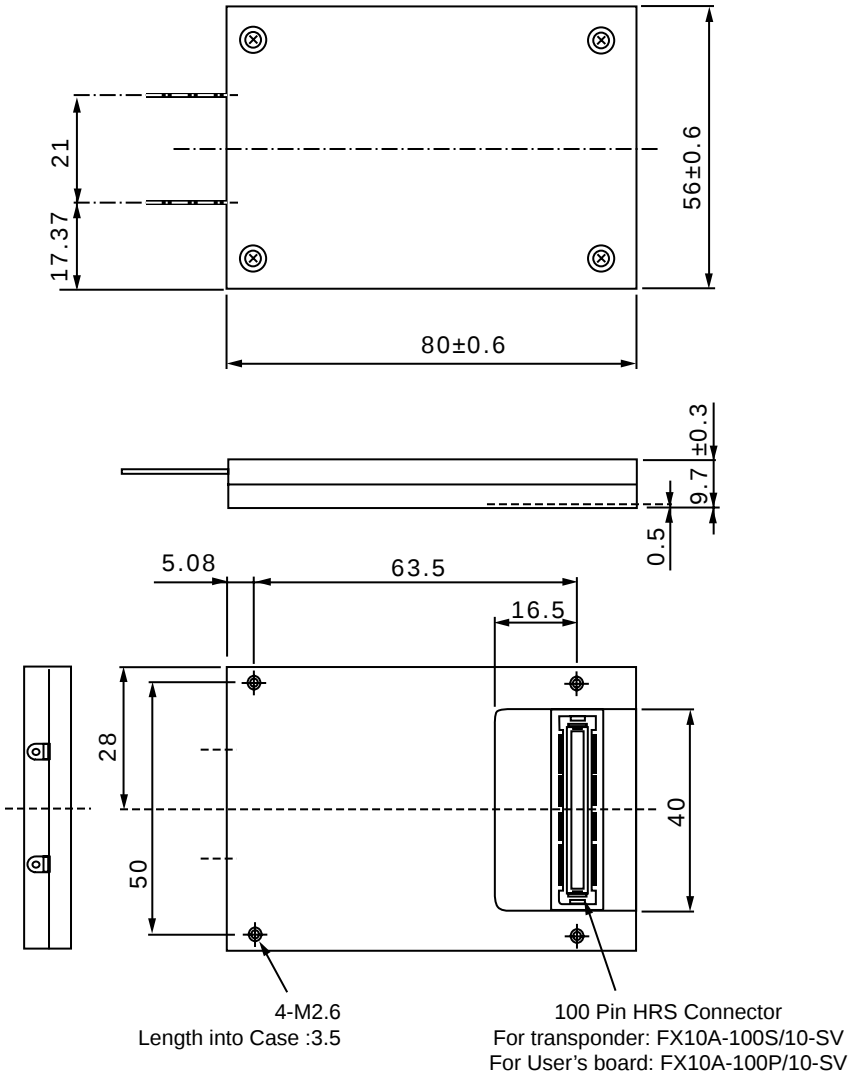
SYMBOLS	PARAMETERS	UNITS	RATINGS	
			MIN	MAX
V _{CC}	Power Supply	V	-0.3	3.63
P _{OPin}	Optical Input Power ²	dBm		0
T _{STG}	Storage Temperature	°C	-40	+85
HA	Storage Humidity	%PH	+10	+85

- Notes:
- 1. Operation in excess of any one of these parameters may result in permanent damage.
 - 2. Average power; optical receiver.

RECOMMENDED
OPERATING CONDITIONS

SYMBOLS	PARAMETERS	UNITS	SPECIFICATIONS	
			MIN	MAX
V _{CC}	Power Supply Voltage	V	3.13	3.465
T _{OP}	Operating Temp. Range	°C	0	75
	Power Consumption	W		3.5

OUTLINE DIMENSIONS (Units in mm)



PIN ASSIGNMENTS

1.	VCC	VCC(E0)	51.	D_IN-0	600M DATA IN-0
2.	BIASMON	LD BIAS MONITOR	52.	GND	GROUND
3.	VCC	VCC(E0)	53.	D_IN+0	600M DATA IN+0
4.	OUTALM	OPT OUT ALARM	54.	GND	GROUND
5.	GND	GROUND	55.	GND	GROUND
6.	BIASALM	LD BIAS ALARM	56.	GND	GROUND
7.	TXCLKP	TRANSMIT CLOCK OUT+	57.	C_IN-	600M CLOCK IN-
8.	SD	SHUT DOWN	58.	PHERR-	PHASE ERROR OUT-
9.	TXCLKN	TRANSMIT CLOCK OUT-	59.	C_IN+	600M CLOCK IN+
10.	GND	GROUND	60.	PHERR+	PHASE ERROR OUT+
11.	VCC	VCC(ANALOG)	61.	GND	GROUND
12.	KILRXCLK	KILL RX CLOCK	62.	GND	GROUND
13.	VCC	VCC(DIGITAL)	63.	GND	GROUND
14.	SQUELCH	CLOCK SQUELCH	64.	GND	GROUND
15.	VCC	VCC(DIGITAL)	65.	GND	GROUND
16.	DLEB	SP/PS LOOPBACK	66.	GND	GROUND
17.	VCC	VCC(DIGITAL)	67.	C_OUTM-	600M CLOCK OUT-(MUX)
18.	RSTB	MASTER RESET	68.	GND	GROUND
19.	VCC	VCC(DIGITAL)	69.	C_OUTM+	600M CLOCK OUT+(MUX)
20.	LLEB	LINE LOOPBACK	70.	GND	GROUND
21.	VCC	VCC(DIGITAL)	71.	GND	GROUND
22.	TXCLKSEL	TRANSMIT CLOCK SEL	72.	C_OUT-	600M CLOCK OUT-
23.	VCC	VCC(DIGITAL)	73.	GND	GROUND
24.	BYPASS	BYPASS CLOCK SEL	74.	C_OUT+	600M CLOCK OUT+
25.	GND	GROUND	75.	GND	GROUND
26.	RLTIME	REF LOOP TIME CLK SEL	76.	GND	GROUND
27.	REFECLK+	REFERENCE CLOCK IN+	77.	GND	GROUND
28.	SLPTIME	SERIAL LOOP TIME CLK SEL	78.	D_OUT-3	600M DATA OUT-3
29.	REFCLK-	REFERENCE CLOCK IN-	79.	GND	GROUND
30.	LOCKDET	LOCK DETECT	80.	D_OUT+3	600M DATA OUT+3
31.	GND	GROUND	81.	GND	GROUND
32.	BPSCCLKP	BYPASS CLOCK IN+	82.	GND	GROUND
33.	GND	GROUND	83.	GND	GROUND
34.	BPSCCLKN	BYPASS CLOCK IN-	84.	D_OUT-2	600M DATA OUT-2
35.	D_IN-3	600M DATA IN-3	85.	GND	GROUND
36.	GND	GROUND	86.	D_OUT+2	600M DATA OUT+2
37.	D_IN+3	600M DATA IN+3	87.	D_OUT-1	600M DATA OUT-1
38.	GND	GROUND	88.	GND	GROUND
39.	GND	GROUND	89.	D_OUT+1	600M DATA OUT+1
40.	GND	GROUND	90.	GND	GROUND
41.	D_IN-2	600M DATA IN-2	91.	D_OUT-0	600M DATA OUT-0
42.	PHINT+	PHASE INITIALIZATION+	92.	NC	OPEN
43.	D_IN+2	600M DATA IN+2	93.	D_OUT+0	600M DATA OUT+0
44.	PHINT-	PHASE INITIALIZATION-	94.	NC	OPEN
45.	GND	GROUND	95.	GND	GROUND
46.	GND	GROUND	96.	VCC	VCC(OE)
47.	D_IN-1	600M DATA IN-1	97.	LOS	LOSS OF SIGNAL
48.	GND	GROUND	98.	VCC	VCC(OE)
49.	D_IN+1	600M DATA IN+1	99.	PMON	OPT POWER MONITOR
50.	GND	GROUND	100.	VCC	VCC(OE)

PRODUCT NUMBER

OD-UB085-

Group No.: SA01: SC Connector
(Case Temp.→ 0 - 75°C)

FA01: FC Connector
(Case Temp.→ 0 - 75°C)

Pigtail cord length: 72 cm±2 cm