

Features

- Hot-pluggable SFP+ footprint
- Supports 9.8 to 11.3 Gb/s
- Link length up to 80km on G.652D SMF
- Operating case temperature range: -40°C to +85°C
- Cooled EML transmitter and APD receiver
- Maximum power dissipation <2 W (Typical 1.4 W)
- Single 3.3 V power supply
- Duplex LC connector
- Built-in digital diagnostic interface
- RoHS compliant (lead free)

Applications

- CPRI standard
- 10G Ethernet
- SDH (STM64)/SONET (OC-192)/OTN
- 10G Fiber Channel

Description

The XenOpt SFP+ ZR TDM Transceiver is a “Limiting module”, designed for CPRI, 10GBASE-ZR, SDH/SONET, OTN and 10G Fiber Channel applications, link length up to 80 km on G.652D SMF.

They are compliant with SFF-8431 Rev 4.1, SFF-8432 and SFF-8472 Rev 10.3.

The transmitter section incorporates a cooled EML laser, and the receiver section consists of an APD photodiode integrated with TIA.

Digital diagnostics functions are available via a 2-wire serial interface, as specified in SFF-8472, which allows real-time access to device operating parameters such as case temperature, laser bias current, transmitted optical power, received optical power and module supply voltage.

Block Diagram

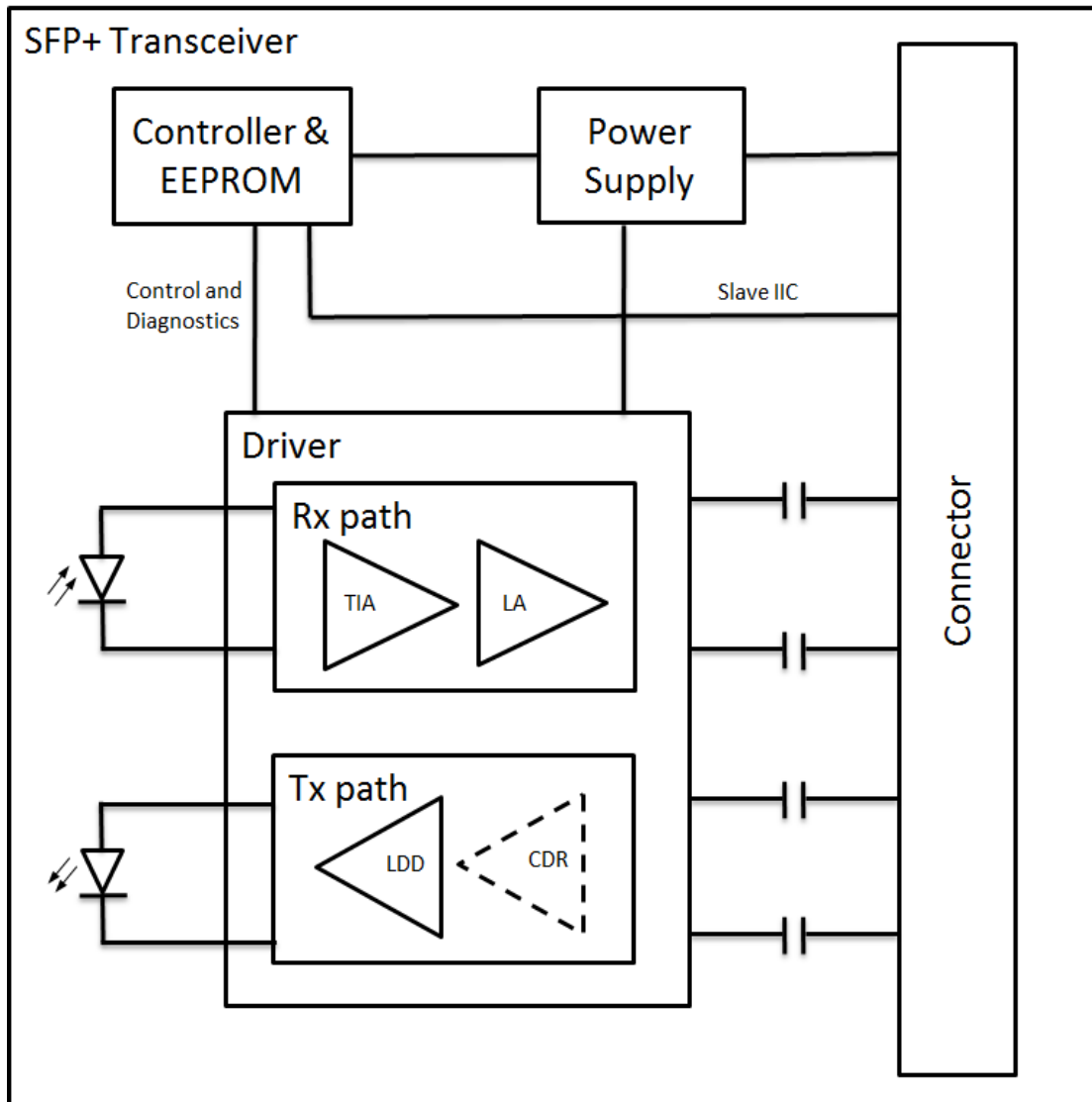


Figure 1. Module Block Diagram

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage	Vcc	-0.5	+3.8	V
Storage Temperature	Tst	-40	+85	°C
Relative Humidity	Rh	0	85	%
Max Link Length	Lmax		80	km

Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Supply Voltage	Vcc	3.13	3.3	3.47	V
Supply current	Icc	-	420	606	mA
Operating Case temperature	Tca	-40	-	+85	°C
Module Power Dissipation	Pm	-	1.4	2	W

Transmitter Specifications – Optical

Parameter	Symbol	Min	Typical	Max	Unit
Optical Wavelength	λ_c	1530		1565	nm
Average Optical Power	Po	0	-	+4	dBm
Side Mode Suppression Ratio	SMSR	30	-	-	dB
Optical Transmit Power	Poff	-	-	-30	dBm
Extinction Ratio	ER	8.2	-	-	dB
Relative Intensity Noise	RIN	-	-	-128	dB/Hz
Optical Return Loss Tolerance	Orl	-	-	21	dB

Receiver Specifications – Optical

Parameter	Symbol	Min	Typical	Max	Unit	Note
Optical Wavelength	λ_c	1260	-	1620	nm	
Average receive power	Pavg	-24	-	-5	dBm	
Sensitivity (0 km, 9.8~10.7 Gbps)	Rsen1	-	-	-24	dBm	2
Sensitivity (80 km, 9.8~10.7 Gbps)	Rsen2	-	-	-22	dBm	2
Sensitivity (0 km, 11.1~11.3 Gbps)	Rsen3	-	-	-27	dBm	3
Sensitivity (80 km, 11.1~11.3 Gbps)	Rsen4	-	-	-24	dBm	3
Maximum Input Power	RX-overload	-5	-		dBm	
Loss of Signal Asserted	LOS _A	-34	-	-	dBm	
LOS De-Asserted	LOS _D	-	-	-24	dBm	
LOS Hysteresis	LOS _H	0.5	-		dB	

Notes

[1] Measured with conformance test signal for BER = 10^{-12} . The stressed sensitivity values in the table are for system level BER measurements which include the effects of CDR circuits. It is recommended that at least 0.4 dB additional margin be allocated if component level measurements are made without the effects of CDR circuits.

[2] Measured with worst ER=8.2 dB; $2^{31} - 1$ PRBS. BER < $1E^{-12}$

[3] PRBS $2^{31} - 1$ and BER < $1E^{-4}$

Transmitter Specifications – Electrical

Parameter	Symbol	Min	Typical	Max	Unit
Bit Rate	BR	9.8		11.3168	Gbps
Input differential impedance	Rin	-	100	-	Ω
Differential data Input	VtxDIFF	120	-	850	mV
Transmit Disable Voltage	VD	2.0	-	Vcc3+0.3	V
Transmit Enable Voltage	Ven	0	-	+0.8	V
Transmit Disable Assert Time	Vn	-	-	100	us

Receiver Specifications – Electrical

Parameter	Symbol	Min	Typical	Max	Unit
Bit Rate	BR	9.8		11.3168	Gbps
Differential Output Swing	Vout P-P	350	-	850	mV
Output differential impedance	Rout	-	100	-	Ω
Rise/Fall Time	Tr/Tf	24	-	-	ps
Loss of Signal –Asserted	VOH	2	-	Vcc3+0.3-	V
Loss of Signal –Negated	VOL	0	-	+0.4	V

Ordering information

Part number	Product Description
XTS55A-80LM	10 Gbps SM, 1550 nm SFP+ ZR, 80 km, LC, -40°C ~ +85°C

Notes:

¹ For accurate order specification please contact Xenopt reseller before placing an order. The content of this document is subject to change without notice. Xenopt does not guarantee errorless or outdated information.

Please specify any compatibility requirements at time of ordering. Standard MSA compatible pluggable components may not work or some function of these components may not be available in devices that require customized compatible devices. Pluggable components compatible with one type of communications equipment may not work in other type of communications equipment.

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