APTICOM | AXX-772XX

XFP 10G CWDM 10dB 0-70°C Optical Transceivers

Features

- Management interface specifications per INF-8077i
- Supports 9.95-11.3Gbps bit rate
- Class 1 Laser Safety Certified
- CWDM DFB Transmitter
- PIN Receiver
- Up to 10dB Power Budget
- Operating Temperature 0 to 70°C
- Power dissipation ≤2.5W

Applications

- 10 Gigabit Ethernet
- 10G CWDM Networks

Description

The AXX-772xx series are high-performance transceivers for 9.95 to 11.3Gbps CWDM links (power budget ≤10dB) over dual single mode fiber. They are compliant with the XFP Multisource Agreement (MSA) and hot pluggable.

The transceiver module is RoHS-6 compliant per Directive 2011/65/EU.

CAUTION! The transceiver is a static-sensitive device. Always use an ESD wrist strap or similar individual grounding device when handling transceiver modules or coming into contact with modules.

Order Information

Part Number	Wavelength	Protocol	Tx Output Power	Rx Sensitivity [1]	Reach [2]	Temp.
AXX-772xx	ITU CWDM	10GBASE	-5 to 0dBm	≤-15dBm	≤10dB	0-70°C

1. Measured with 10.3125Gbps PRBS 2^31-1, BER≤10^-12 **2.** On standard single-mode fibre (SMF, G.652)

Channel Guide (ITU-T CWDM)

Part Number	Wavelength [nm]	Part Number	Wavelength [nm]
AXX-77256	1271	AXX-77265	1451
AXX-77257	1291	AXX-77266	1471
AXX-77258	1311	AXX-77267	1491
AXX-77259	1331	AXX-77268	1511
AXX-77260	1351	AXX-77269	1531
AXX-77261	1371	AXX-77270	1551
AXX-77262	1391	AXX-77271	1571
AXX-77263	1411	AXX-77272	1591
AXX-77264	1431	AXX-77273	1611

Absolute Maximum Ratings

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. Exposure to absolute maximum ratings for extended periods can adversely affect device reliability.

Exposure to absolute maximum ratings for extended periods can affect device reliability.

Parameter	Min	Typ	Max	Unit
Storage Temperature	-40		85	°C
Relative Humidity	5		95	%
Supply Voltage, VCC3	-0.5		4.0	V

Recommended Operating Conditions

Parameter	Min	Typ	Max	Unit
Operating Case Temperature	0		70	°C
Supply Voltage, VCC3	3.13	3.3	3.45	V
Data Rate, Optical Lane	9.95		11.3	Gbps

Transceiver Electrical Parameters

EOL, over the full temperature range, VCC3= 3.13 to 3.45V.

Parameter	Min	Typ	Max	Unit
Supply Current, ICC3			750	mA
Power Dissipation			2.5	W
Transmitter				
Input Differential Impedance		100		Ω
Differential Data Input Swing	180		820	mVpp
Tx_Disable/P_Down/RST	2.0		VCC3	V
Tx_Disable/P_Down/RST (normal operation)	GND		0.8	V
Receiver				
Output Differential Impedance		100		Ω
Differential Output Data Swing [2]	340		850	mVpp
Data Output Rise/Fall Time (20/80%)			38	ps
Rx_LOS/Mod_NR/Interrupt [1]	VCCHOST-0.5		VCCHOST	V
Rx_LOS/Mod_NR/Interrupt (normal operation) [1]	GND		GND+0.5	V

1. Open collector, to be pulled upp with 4.7kohm **2.** Internally AC-coupled, to be terminated with 100ohm differential load

Transmitter Optical Specification

EOL, over the full temperature range, VCC3= 3.13 to 3.45V.

Parameter	Min	Typ	Max	Unit
Launched Optical Power, Average [1]	-5		0	dBm
Centre Wavelength Range	1264.5		1617.5	nm
Centre Wavelength [2]	λ-6.5	λ	λ+6.5	nm
Spectral Width (-20dB)			1	nm
Extinction Ratio [3]	3.5			dB
Dispersion Penalty			2	dB

1. Coupled into 9/125um SMF **2.** λ according to ITU-T G.694.2 CWDM 20nm grid **3.** Measured with 10.3125Gbps PRBS 2^31-1

Receiver Optical Specification

EOL, over the full temperature range, VCC3= 3.15 to 3.45V.

Parameter	Min	Typ	Max	Unit
Operating Wavelength	1260		1620	nm
Receiver Sensitivity, Average Power [1]			-15	dBm
Receiver Overload	0.5			dBm

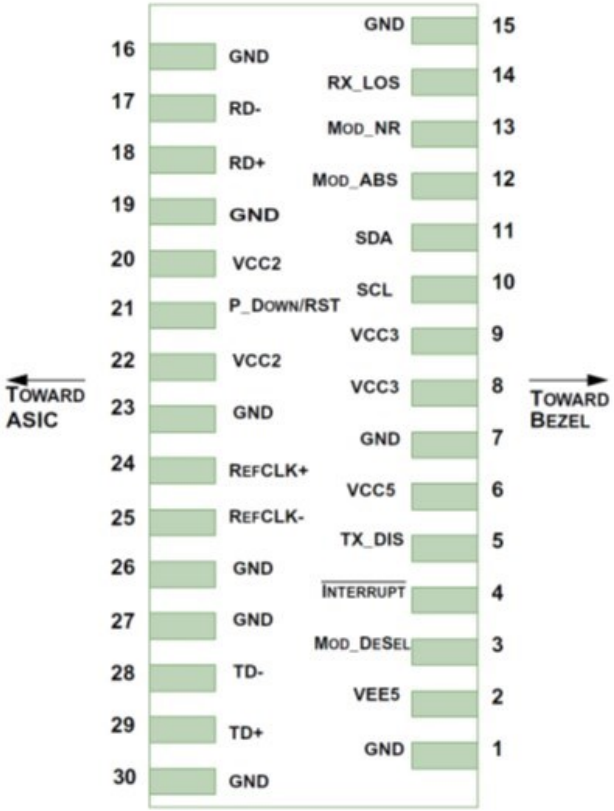
1. Measured with 10.3125Gbps PRBS 2^31-1, BER≤10^-12

Transceiver Pins

Pin #	Name	Description	Pin #	Name	Description
1	GND	Module Ground	16	GND	Module Ground
2	VEE5	Not Used	17	RD-	Rx Inverted Data Output
3	Mod_DeSel	Module De-select	18	RD+	Rx Non-Inverted Data Output
4	Interrupt	Interrupt	19	GND	Module Ground
5	TX_DIS	Transmitter Disable	20	VCC2	Not Used
6	VCC5	Not Used	21	P_Down/RST	Power Down/Reset
7	GND	Module Ground	22	VCC2	Not Used
8	VCC3	+3.3V Power Supply	23	GND	Module Ground
9	VCC3	+3.3V Power Supply	24	RefCLK+	Not Used
10	SCL	2-Wire Serial Interface Clock	25	RefCLK-	Not Used
11	SDA	2-Wire Serial Interface Data Line	26	GND	Module Ground
12	Mod_Abs	Module not Present	27	GND	Module Ground
13	Mod_NR	Module Not Ready	28	TD-	Tx Inverted Data Input
14	RX_LOS	Receiver Loss Of Signal Indicator	29	TD+	Tx Non-Inverted Data Input
15	GND	Module Ground	30	GND	Module Ground

Host Connector Definition

Connector as per INF-8077i.



Regulatory Compliance

The AXX-772xx series of transceivers are Class 1 Laser Products and certified per the following standards:

Item	Agency	Standard
Laser Eye Safety	TÜV	EN 60825-1:2014 EN 60825-2:2004+A1+A2
Electrical Safety	TÜV	EN 60950-1:2006+A11+A1+A12+A2

Revision Information

Revision	Date	Description
A	2023-05-18	Initial release

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