

Product Brief

12G Video CWDM SFP Transmitter and Receiver

Product Description

The 12G Video CWDM SFP Transmitter and Receiver modules are compact optical modules designed for professional SDI video transport over single-mode fiber. The transmitter lineup supports CWDM wavelength options from 1270 nm to 1610 nm with 20 nm spacing, enabling wavelength-based system configurations over a single-mode fiber infrastructure.

The modules support serial data rates from 270 Mbps up to 11.88 Gbps, covering SD-SDI, HD-SDI, 3G-SDI, 6G-SDI and 12G-SDI applications.

Designed in an SFP form factor with LC optical interfaces and a single 3.3 V power supply, the modules are suitable for compact OEM integration in broadcast, medical imaging, security, and other high-speed video transmission systems. Fully compliant with the SFP MSA standard and RoHS requirements, the modules ensure broad system compatibility, low power consumption, and environmentally friendly operation.

Transmitter



Receiver



Transmitter

- Single-channel CWDM optical transmitter
- CWDM 18 wavelengths from 1270 nm to 1610 nm, with 20 nm spacing
- Transmits SDI pathological test patterns for SD-SDI, HD-SDI, 3G-SDI, 6G-SDI and 12G-SDI
- Integrated CDR locks to SMPTE SDI Rates: 11.88, 5.94, 2.97, 1.485 Gbps; corresponding /1.001 sub-rates; and 270 Mbps

Receiver

- Single-channel optical receiver covering 1260 nm to 1620 nm
- Robust error-free transmission from 270 Mbps to 11.88 Gbps over up to 10 km of single-mode fiber
- Integrated CDR locks to SMPTE SDI Rates: 11.88, 5.94, 2.97, 1.485 Gbps; corresponding /1.001 sub-rates; and 270 Mbps

General

- Operating data rate up to 11.88 Gbps
- Single 3.3 V power supply
- Hot-pluggable SFP+ form factor
- LC optical connector interface
- Operating case temperature: 0°C to +70°C
- Digital diagnostic monitoring function

Applications

- UHDTV 4K/8K broadcast video transport
- Remote camera and video monitoring systems
- Medical imaging and surgical video systems
- Security and surveillance video transmission
- Other high-speed serial optical links

Recommended Operating Conditions

Parameter		Symbol	Min.	Typ.	Max.	Unit
Operating Case Temperature		T _c	0	-	+70	°C
Power Supply Voltage		V _{cc}	3.15	3.3	3.45	V
Power Supply Current	TX	I _{cc}	-	-	500	mA
	RX		-	-	300	
Data Rate		-	0.27	-	11.88	Gbps

Electrical Specifications

Parameter		Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter							
CML Input (Differential)		Vin	200	-	1200	mVpp	AC coupled Inputs
Input Impedance (Differential)		Zin	80	100	120	Ohm	
Tx_DISABLE	Disable	-	2	-	Vcc	V	
	Enable		0	-	0.8		
Receiver							
CML Output (Differential)		Vout	600	-	1300	mVpp	AC coupled Outputs
Output Impedance (Differential)		Zout	-	100	-	ohm	

Optical Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit
Transmitter					
Center Wavelength	λ_c	λ_c-6	λ_c	$\lambda_c+7.5$	nm
Spectral Width (-20dB)	$\Delta\lambda$	-	-	1	nm
Average Output Power	Pout	0	-	5	dBm
Extinction Ratio	ER	3.5			dB
Receiver					
Center Wavelength	λ_c	1260	-	1620	nm
Sensitivity	Pmin	-	-	-14	dBm
Receiver Overload	Pmax	0.5	-	-	dBm
Maximum Back Reflection		-	-	-14	dB
LOS De-Assert	LOSD	-	-	-17	dBm
LOS Assert	LOSA	-30	-	-20	dBm
LOS Hysteresis	HY	0.5	-	-	dB

TABLE OF PART NUMBER

#	Part Number	Tx/Rx	Wavelength	Optical Fiber	Optical Connector
1	OHLP-1612G-T-xR *1)	Tx	CWDM : 1270 ~ 1610 nm	SMF	LC
2	OHLP-12G-R-R	Rx	1260 ~ 1620nm	SMF	LC

1) x refers to the CWDM wavelength.

A=1270 nm, B=1290 nm, C=1310 nm, D=1330 nm, E=1350 nm, F=1370 nm, G=1390 nm, H=1410 nm, I=1430 nm, J=1450 nm, K=1470 nm, L=1490 nm, M=1510 nm, N=1530 nm, O=1550 nm, P=1570 nm, Q=1590 nm, R=1610 nm

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