



RF – Optical Transceiver 4-wave Cascade



Cascade type 4-wave Optical Transceiver is composed of 1-one master and 3-three slaves so it is possible to do cascade type optical communication. It is designed to transmit TX/RX signal simultaneously by using different wavelengths for one master and three slave modules over one optical fiber. The input optical signal to each Transceiver is converted back to RF signal and transmitted over RF cable. At the same time, if input optical power is below -10dB comparing to link loss a PD Alarm is triggered to be modulated to uniform power in process of E/O conversion.

Features

- Built-in WDM
- Low noise figure
- High linearity
- Selected operating wavelength
- Wide operation bandwidth
- Wide operating temperature range
- Isolated optical output
- Compact size
- Single Voltage Supply
- FC/APC optical connector

ABSOLUTE MAXIMUM RATINGS

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only. Operation of the device is not implied at these conditions in excess of those given in the operation section of the data

Parameter	Rating	Unit
Optical Input Power	7	dBm
RF Input Power	10	dBm
DC Supply Voltage	13 (typ 12)	V
Operating Temperature	- 20 ~ + 70	°C
Storage Temperature	- 40 ~ + 85	°C

PIN CONFIGURATION (MASTER & SLAVE)

Pin	Function	Pin	Function
1	NC	6	LD Monitor
2	GND	7	LD Alarm (TTL, Normal High)
3	Vcc(+12V)	8	PD Monitor
4	485_A	9	PD Alarm (TTL, Normal High)
5	485_B		

- Modem Frequency: 36MHz (Forward), 29MHz (Reverse)
- Data Rate: 9600Bps / RS-485

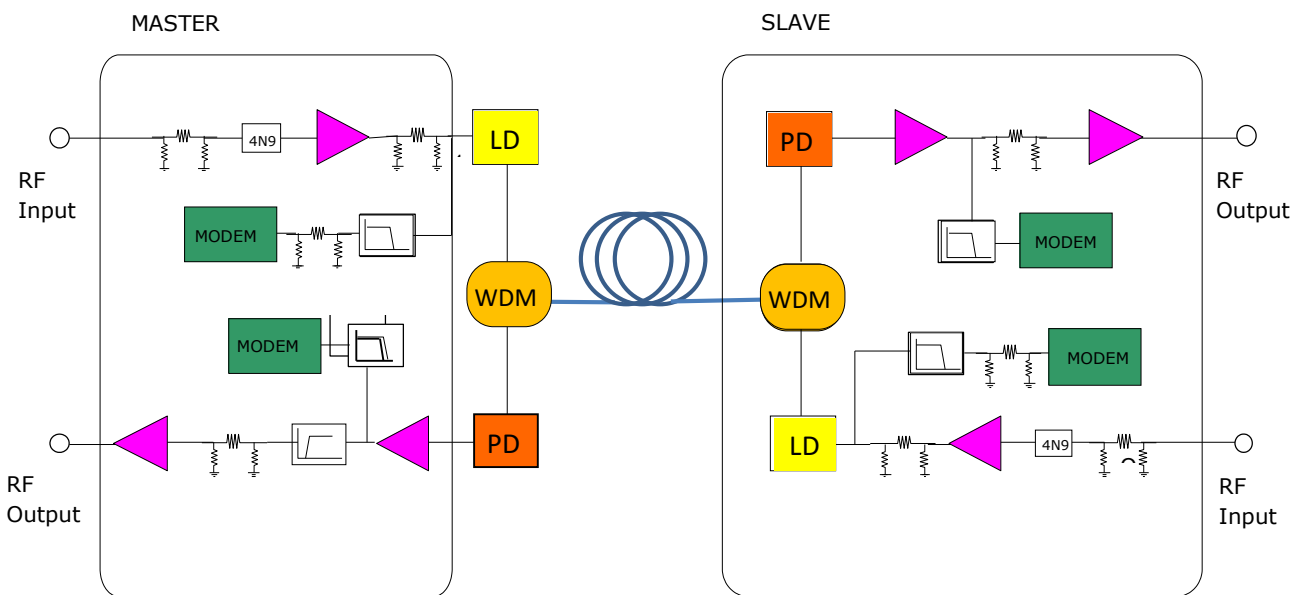
ELECTRICAL CHARACTERISTICS (T = 25°C)

Parameter			Unit	Min	Typ	Max	Note!
Optical Output Power		1310 nm	dBm	2	4	6	Master
		1510 nm					Slave 1
		1530 nm					Slave 2
		1550 nm					Slave 3
Wave length		Master	nm	1305	1310	1315	Internal WDM
		Slave 1		1505	1510	1515	
		Slave 2		1525	1530	1535	
		Slave 3		1545	1550	1555	
RF Gain	Forward	50~500MHz	dB	-2	0	2	
	Reverse	50~500MHz					
Flatness	Forward	50~500MHz	dB			2	Peak-Peak Value
	Reverse	50~500MHz					
VSWR	Forward		S11			1,5	
	Reverse		S22			1,5	
IP3 (0dBm/Tone)	Forward		dBm	30			
	Reverse						
Output Noise Floor	Forward		dBm/Hz			-135	
	Reverse						
Directivity (Isolation)	Forward		dB	60			
	Reverse						
Alarm		LD	dBm	-3			Normal High
		PD	dBm	-12			
Current	Master	12V	mA			500	
	Slave	12V	mA			500	
Gain Variation		-20°C~+70°C	dB	-3			
Optical Connector	FC/APC						
RF Connector	SMA Female						
Supply Voltage			V	11,5	12	12,5	

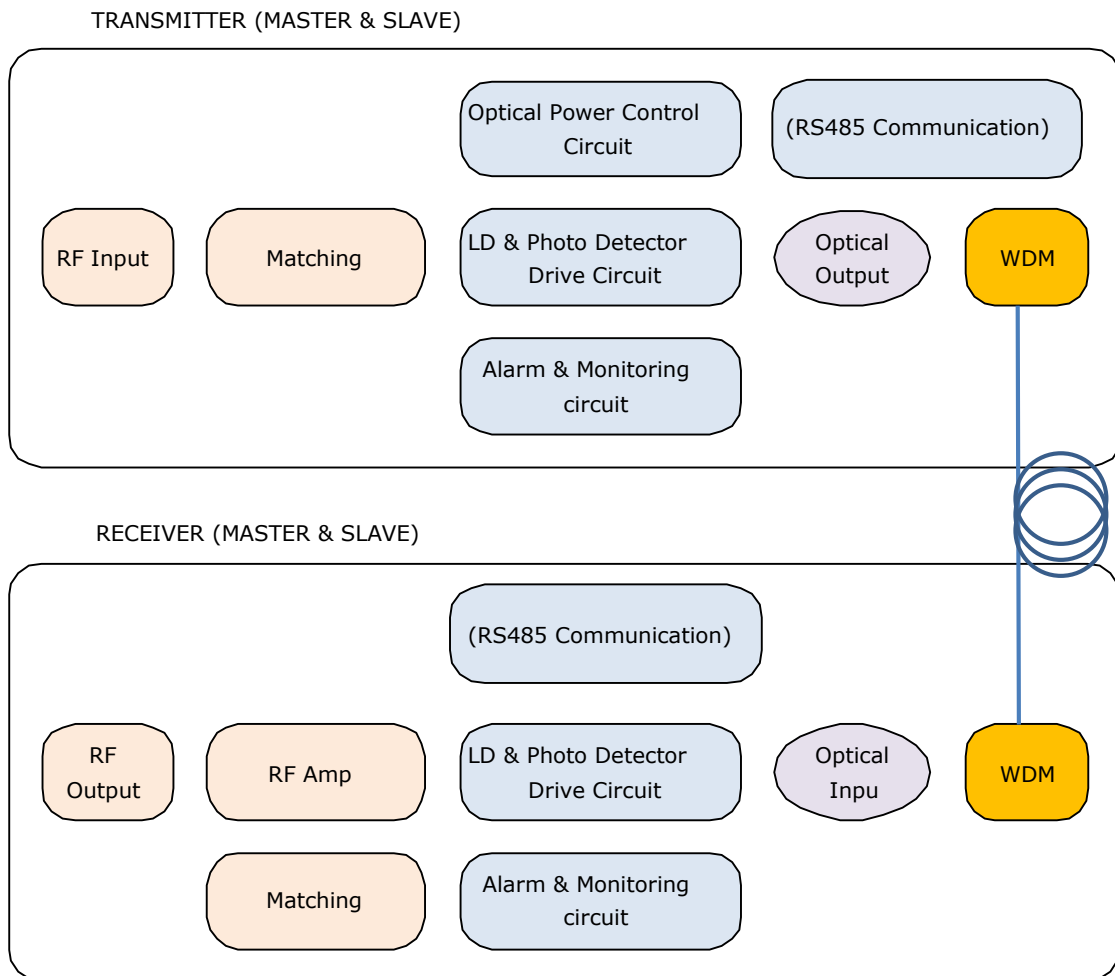
OPTICAL CHARACTERISTICS (T = 25°C)

Parameter			Symbol	Min	Typ	Max	Unit
Optical Output Power			P ₀			4	mW
Wavelength		Master			1310		nm
		Slave 1			1510		
		Slave 2			1530		
		Slave 3			1550		
Optical Return Loss			O _{RL}	60			dB
SMSR.			SMSR	30			dBc
Optic Input Power to Receiver			O _{Pin}			4	mW
Optic Power Stability			O _{st}		0,5		dBm
Fiber Connector			FC/APC				

BLOCK DIAGRAM



MASTER & SLAVE CONCEPT



PACKAGE DIMENSIONS

