



ROF- MINIThe Mini analog wideband transceiver module



The Mini analog wideband transceiver module is a low-cost, high-performance analog wideband transceiver with a very wide dynamic range, designed specifically for optical fiber RF applications. A pair of transceivers will create two-way RF to optical and optical to RF conversion and transmission links that can provide high spurious free dynamic range (SFDR), operating at frequencies from 0.6GHz to 6GHz. The standard optical connector is FC/APC for low back reflection applications, and the RF interface is via a 50 ohm SMA connector. The receiver uses high performance InGaAs photodiode, the transmitter uses linear optical isolation FP/DFB laser, and the optical fiber uses 9/125 μm single-mode fiber with working wavelength of 1.3 or 1.5 μm .

product feature

- Bandwidth response 0.6GHz to 6GH
- Tight cast metal case
- High SFDR
- flat frequency response
- 1.3 and/or 1.5 μm with isolated FP/DFB

Application field

- WiMAX / 4G LTE
- 5G communication
- Shipborne radio frequency distribution
- satellite earth station



performance parameter

parameter	symbol	Minimum value	Typical value	Maximum value	unit
Supply voltage	Vcc	9	12	15	Volts
Supply current (total current received and received)	Icc		100		mA
Laser output power			2	4	mW
Transmitter operating wavelength			1310/1550		nm
Receiver operating wavelength			1310/1550		nm
High frequency cut-off	HFC		0.5		MHz
Low frequency cutoff	LFC		1200		MHz
Frequency response(0.5– 1200 MHz)			± 1.5	± 2	dB
Input rf power			-5		dBm
input/Output impedance	Z		50		Ohms
Standing wave ratio VSWR			1.5		dB
Rf link gain		-5	0		dB
Rf port		SMA			
Optical fiber port		Single-mode fiber 900um Protective casing FC/APC			

parameter	symbol	Minimum value	Typical value	Maximum value	unit
Supply voltage	Vcc	9	12	15	Volts
Supply current (total current received and received)	Icc		100		mA
Laser output power			2	4	mW
Transmitter operating wavelength			1310/1550		nm
Receiver operating wavelength			1310/1550		nm
High frequency cut-off	HFC		50		MHz
Low frequency cutoff	LFC		3000		MHz
Frequency response(50– 3000 MHz)			± 1.5	± 2	dB
Input rf power			-5		dBm
input/Output impedance	Z		50		Ohms
Standing wave ratio VSWR			1.5		dB
Rf link gain		-5	0		dB
Rf port		SMA			
Optical fiber port		Single-mode fiber 900um Protective casing FC/APC			



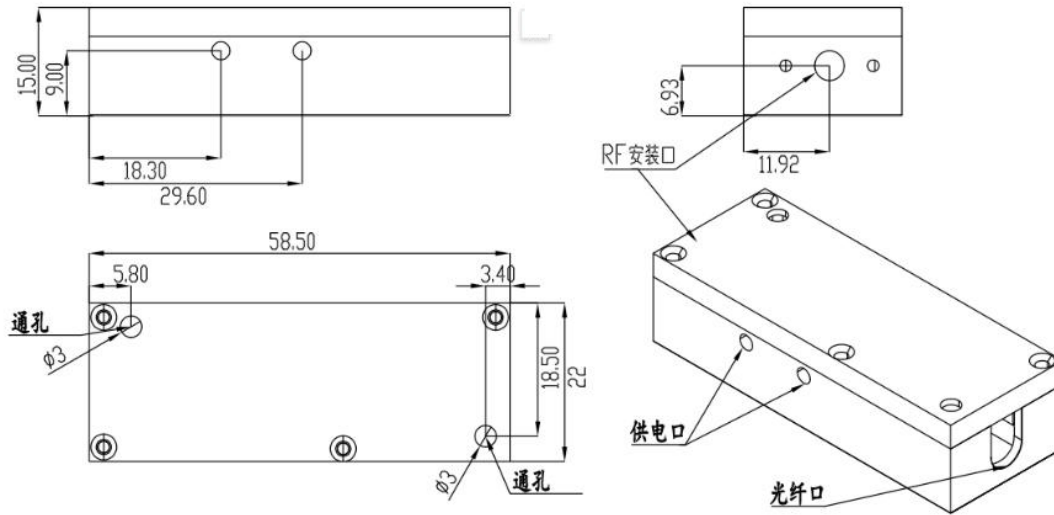
parameter	symbol	Minimum value	Typical value	Maximum value	unit
Supply voltage	Vcc	9	12	15	Volts
Supply current (total current received and received)	Icc		100		mA
Laser output power			2	4	mW
Transmitter operating wavelength			1310/1550		nm
Receiver operating wavelength			1310/1550		nm
High frequency cut-off	HFC		6		GHz
Low frequency cutoff	LFC		0.6		GHz
Frequency response(0.6– 6 GHz)			± 1.5	± 2	dB
Input RF power			-5		dBm
input/Output impedance	Z		50		Ohms
Voltage Standing Wave Ratio VSWR			1.5		dB
Rf link gain		-5	0		dB
Rf connector		SMA			
Optical fiber connector		Single-mode fiber 900um Protective casing FC/APC			

Limiting condition

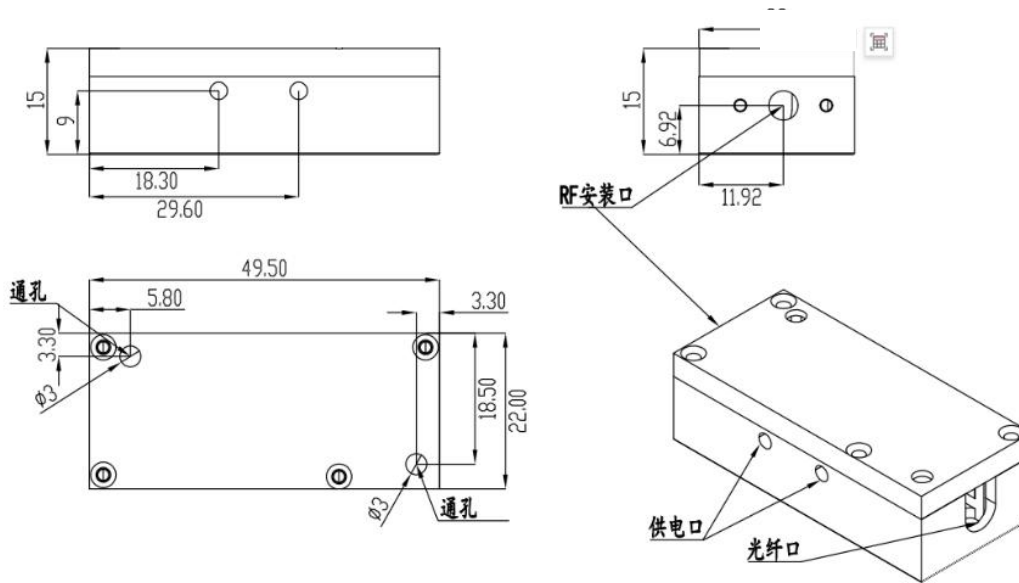
parameter	symbol	Minimum value	Maximum value	unit
Storage temperature	Ts	-40	+85	°C
Operating temperature	To	- 25	+65	°C
DC Supply voltage	V _{DP}	+9	+15	V
Maximum RF input (Tx)			+10	dBm
Maximum optical input (Rx)			4	mW



Mounting dimension



(a) 发射模块 Transmitting module



(b) Receiving module



Ordering information

ROF-MINI	XX	XX	X	X
Mini analog broadband optical transceiver module	Operating wavelength: h: 13-1310nm 15-1550nm	Modulation bandwidth: 01---0.5~1200MHz 02---50-3000MHz 03---0.6~6GHz	encapsulation: M---module	Optical fiber connector: FA---FC/APC SP---User specified

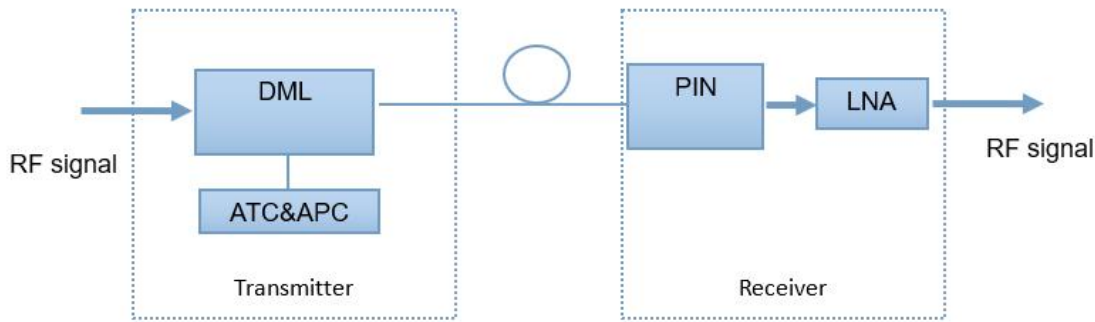
*please contact our seller if you have special requirements



1-6G Microwave optical fiber transmission module

product description:

1-6G microwave optical fiber transmission module is composed of transmitter module and receiver module, and the working principle as shown below. The transmitter uses a high linear linear direct-mode DFB laser (DML) and integrates automatic power control (APC) and automatic temperature control (ATC) circuit, so that the laser can have efficient and stable output. The receiver integrates a high linear PIN detection and low noise broadband amplifiers. Microwave signal modulates laser to produce intensity modulated optical signal directly to achieve electro-optical conversion, after single-mode fiber transmission, the receiver completes photoelectric conversion, and then the signal is amplified and output by the amplifier.



This transmission module delivers a wide range of long-distance, high-bandwidth, low-bandwidth RF signals up to 6GHz in a fully transparent mode of operation, providing excellent linear optical communication for a variety of analog broadband microwave applications. Due to the avoidance of using expensive coaxial cable or waveguide, the transmission distance limitation is canceled, which greatly improves the signal quality and reliability of microwave communication. It is widely used in remote wireless, timing and reference signal distribution, telemetry and delay lines communication field.

Product feature:

- Operating frequency 1-6GHz
- DWDM wavelength is available for wavelength ,multiplexed
- Excellent RF response flatness
- Wide dynamic range
- Entire transparent work
- Can be customized according to customer requirements

Application:

- Remote antenna
- Long distance analog fiber communication
- Tracking, telemetry and control
- Delay lines

performance parameters:

RF feature					
Parameter	Unit	Min	Typ	Max	Remarks
Operating frequency	GHz	1		6	
Input RF range	dBm	-60		20	
Input 1dB compression point	dBm		20		
In-band flatness	dB		3		
Standing wave ratio			1.75		
Gain	dB		-10		Optional path loss 6dB
RF emission loss	dB	-10			<6GHz
Input impedance	Ω		50		
Output impedance	Ω		50		
RF connector		SMA-F			



Limit parameters :

Parameter	Unit	Min	Typ	Max	Remarks
Input RF operating power	dBm			20	
Operating voltage	V	4.5	5	5.5	
Operating temperature	°C	-40		+85	
Storage temperature	°C	-40		+85	
Working relative humidity	%	5		95	

order information:

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