

RF Over Fiber Link

(0.045 ~ 2.6GHz, SM28 Fiber)



DATASHEET

BUY NOW



This series of RF Over Fiber Link transmits both analog and digital RF signals with a wide bandwidth of up to 2.6GHz over an optical fiber link with a distance of up to 20 km. It converts an input electrical RF signal into an optical signal via a high linearity DFB laser (transmitter) and re-converts the optical signal back into the RF signal at the other end of the fiber link via a high linearity photodiode and low noise amplifier (receiver). The transmitter and receiver pair form a transceiver that provides a transparent data transmission channel. They are available in 1310nm, 1490nm, and 1550nm wavelengths, providing a versatile wavelength division multiplexing (WDM) capability. For example, bidirectional RF communication can be established with a single fiber link using two different wavelength transceivers and matching WDM cable adaptors. Another example is that three communication channels can be transmitted through a single fiber link by combining three transceivers of different wavelengths with our WDM cable adaptors. The module is packaged in a ruggedized aluminum case.

Features

- 0.045 ~ 2.6GHz
- SM28 Fiber
- Low Loss
- Low Cost
- Stable

Specifications

Parameter	Min	Typical	Max	Unit
Optical Wavelength	1310 ± 20	1490 ± 20	1550 ± 20	nm
Optical Output Power	2	5	8	dBm
Optical Input Power	-16		-6	dBm
RF Frequency Range	45		2600	Mhz
Flatness		4	6	dB
RF Output Power (@-10dBm optical input)			-30	dBm
Input RF Return Loss	10	12		dB
RF Input Power	-45	-40	-30	dBm
RF AGC Variation		± 2		dB
IMD 2 nd Order (two input tones at -20dBm)	32	50		dB
IMD 3 rd Order (two input tones at -20dBm)	55			dB
Noise (0dB RF gain, 0dB optical decrease)	-130			dBm/Hz
Link Gain		0		dB
Delay	60			ns
Fiber Type	Single Mode	9µm /125µm		
RF Impedance		75		Ω
RF Connector		F-Type		
Power Consumption	3			W
Weight	0.5			kg
Operating Temperature	-20		50	°C
Storage Temperature	-45		85	°C

Applications

- GSM Repeater
- CDMA Repeater
- WCDMA Repeater
- PHS Repeater
- Digital TV Repeater
- Broadcast Repeater

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Dimensions (Unit: mm)

*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Electrical/Computer Connection

Ordering Information (Part Number)

Prefix	Type	Wavelength	Laser Power	Package	RF Frequency	WDM	Fiber Connector ^[1]
RFOF-	Standard = 11 Special = 00	1310 nm = 1 1550 nm = 2 1490 nm = 3 Special = 0	Standard = 1 High Power = 2	Module = 1 Rack = 2 Special = 0	42-2600 MHz = A1 950-2150 MHz = A2 174-806 MHz = A3	None = 1 Bidirectional = 2 2 Channel = 3 3 Channel = 4 Special = 0	FC/APC = 2 FC/UPC = 3 SC/APC = 4 SC/UPC = 5 LC/UPC = U Special = 0

Note:

red marked -- special order

[1]. The connector cannot be installed directly onto bare fiber, as it is prone to damage during shipping. However, the connector can be assembled on bare fiber if a 3 cm protective loose tube is added for reinforcement. The customer can remove this protective tube after testing. The optical power handling of a standard connector is less than 0.5 W for SM28 fiber and decreases further with smaller core fibers.