

Data Sheet

RF-over-Fiber RFoF1 – 3 GHz

Description

The RF-over-Fiber Module (RFoF1 – 3 GHz) converts an analog RF signal into an optical fiber signal; and also converts the fiber signal back to an RF signal. The module offers a wide frequency range of up to 3 GHz with excellent stability, frequency jitter and phase noise performance. Rapidly growing use in communications systems, defence systems, test environments and other high-tech niches.

Features

- Wide bandwidth from 1 MHz to 3 GHz
- Single Mode with a max. distance of >100 km
- No external control circuits required
- Analog signal to optical conversion and back

Applications

- Within communication systems
- Radar applications
- Test environments



Order Information

Item Description	Item Number
RFoF1 (TX) – 3 GHz	85073881
RFoF1 (RX) – 3 GHz	85073882

Electrical Data

Parameters			Value			Remarks
			Min.	Typ.	Max.	
All specifications at 25°C case Temperature T _c , unless otherwise specified						
Frequency range		MHz	1		3000	3 dB Bandwidth
Gain		dB	3	5	8	
Gain flatness		dB/100MHz		< 1.5		
Noise figure		dB	12	15	25	
Spurious-free dynamic range		dBHz ^{2/3}		100		
Max. input at 1dB compression		dBm		+ 0		
Max. input power for no damage		dBm		+ 15		
VSWR (input and output)				< 1.8		
OIP3		dBm		+ 20		
Time Delay		ns		12		
Supply voltage Transmitter		VDC	+11	+12	+16	Max. 150 mA
Supply voltage Receiver		VDC	+11	+12	+16	Max. 120 mA
Temperature range	Operating	°C	-40		+85	
		Storage	°C	-40		+85
RF input impedance		ohm	50			
Module weight		g	270			Transmitter and Receiver
Module dimensions		mm	90 x 95 x 23			
RF connectors			SMA female			Other connectors possible

Optical Data

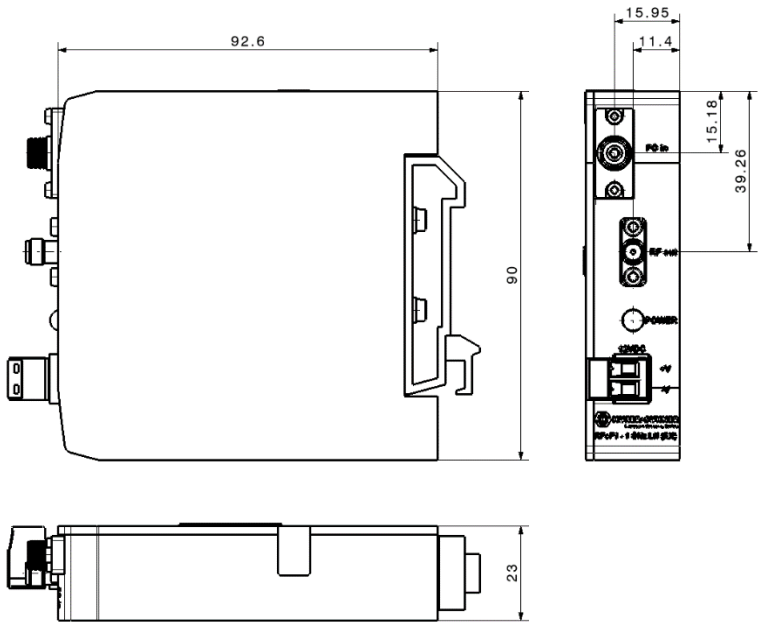
Parameters		Value			Remarks
		Min.	Typ.	Max.	
All specifications at 25°C case Temperature T _c , unless otherwise specified					
Fiber optic connectors		FC/APC			other connectors possible
Fiber		Standard single mode 9/125 um			
Fiber power loss	dB/km		0.4		
Optical power in fiber	mW	6	8	10	
Side mode suppression ratio	dB	30	40		

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Mechanical Data

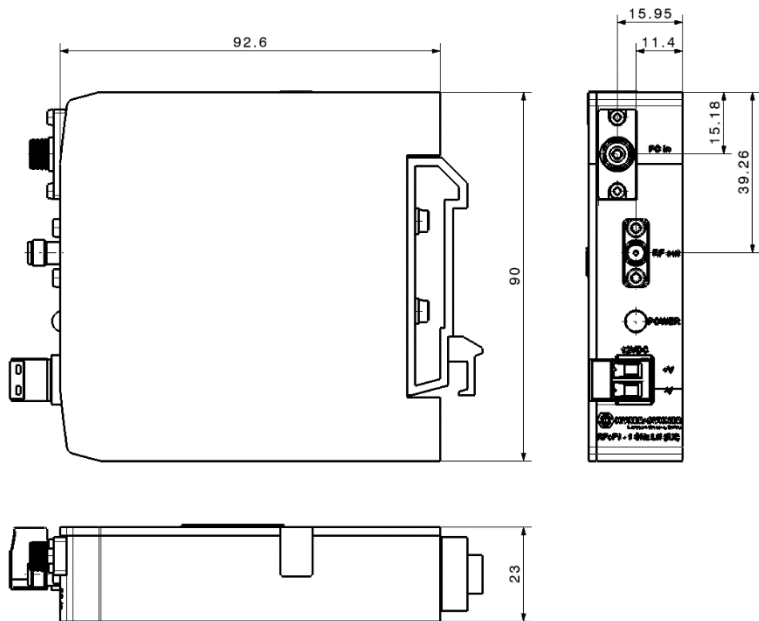
RFoF1 - 1 GHz (TX)
Dimensions Outline Drawing: DOU-00402902

Input	Output	Description	Interface
X		GPS In	SMA (female)
	X	FO Out	FC/APC (Adapter)
X		12 VDC In	



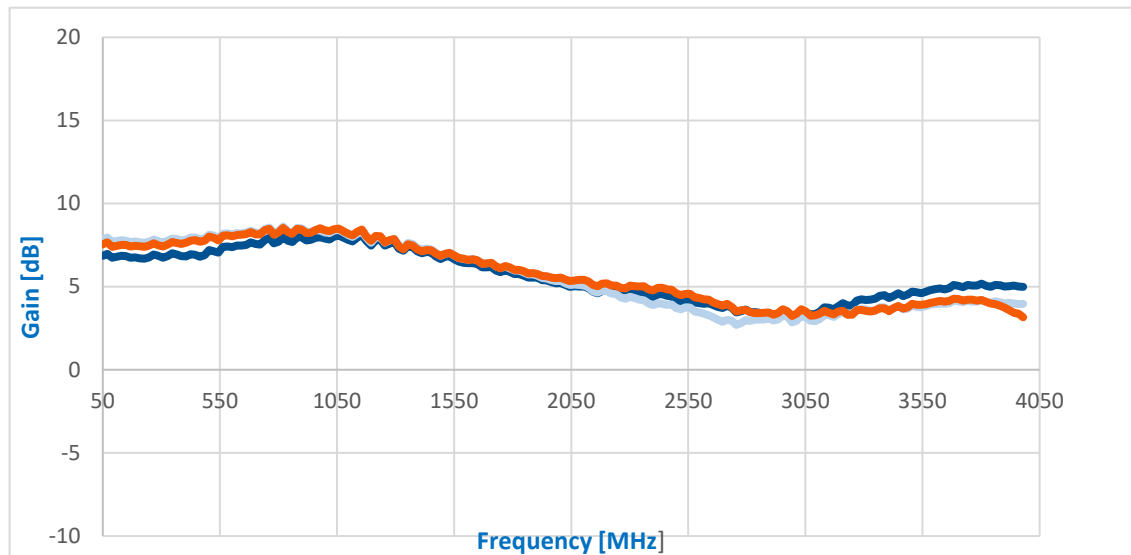
RFoF1 - 1 GHz (RX)
Dimensions Outline Drawing: DOU-00392105

Input	Output	Description	Interface
	X	GPS Out	SMA (female)
X		FO In	FC/APC (Adapter)
X		12 VDC In	



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Typical Frequency Response (based on 3 random samples)



Additional Information

- All modules are RoHS Compliant.
- All modules are EMC protected.
- DIN 35 brackets are delivered with each module. Other brackets , racks and enclosures available upon request.
- MIL and other certifications upon request.

Important catalogue links

RF Cables: <http://literature.hubersuhner.com/Technologies/Radiofrequency/RFCablesEN/>

RF Connectors: <http://literature.hubersuhner.com/Technologies/Radiofrequency/RFCConnectorsEN/>

FO Standard Assemblies: <http://literature.hubersuhner.com/Technologies/Fiberoptics/FOcableassembliesEN/>