

RF-over-Fiber RFoF1 – 6 GHz

Description

The RF-over-Fiber Module (RFoF1 – 6GHz) converts analog RF signals into Fiber signals; and also converts Fiber signals to RF signals. The module offers a wide frequency range up to 6 GHz, with excellent stability, frequency jitter and phase noise performance. Rapidly growing use in within communications systems, defence systems, test environments and other high-tech niches.

Features

- Wide bandwidth from 300 MHz to 6 GHz
- Single Mode with a max. distance of >100 km
- No external control circuits required
- Analog Signal to Optical convert and back

Applications

- Within communication systems
- Radar applications
- Test environments



Order Information

Item Description	Item Number
RFoF1 - 6GHz (TX)	85085011
RFoF1 - 6GHz (RX)	85085013

Electrical Data

Parameters			Value			Remarks
			Min.	Typ.	Max.	
All specifications at 25°C case Temperature T _c , unless otherwise specified						
Frequency range		MHz	10		6000	
Gain		dB		8		<1.5 @ <5 GHz
Gain flatness		dB		< 0.5		
Noise figure		dB		25		
Spurious-free dynamic range		dB Hz ^{2⁄3}		100		
Max. input at 1dB compression		dBm		0		
Max. input power for no damage		dBm		+15		
VSWR (input and output)		dB		1.9		
OIP3		dBm		10		
Time Delay		ns		12		
Supply voltage V _s	Transmitter	VDC	+ 11	+ 12	+ 16	Max. 150 mA
Supply voltage V _s	Receiver	VDC	+ 11	+ 12	+ 16	Max. 120 mA
Temperature range (OTR)	Operating	°C	- 40		+ 85	
	Storage	°C	- 40		+ 85	
RF input impedance		ohm	50			
Module weight		Kg / lbs	0.27 / 0.6			Transmitter and Receiver
Module dimensions		mm / inches	90 x 95 x 23 / 3.5 x 3.7 x 0.9			Transmitter and Receiver
RF connectors			QMA / SMA female			

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			
Fiber		Single mode fiber 9/125 um			
Optical power in fiber	mW	0	4	6	
Side mode suppression ratio	dB	30	40		

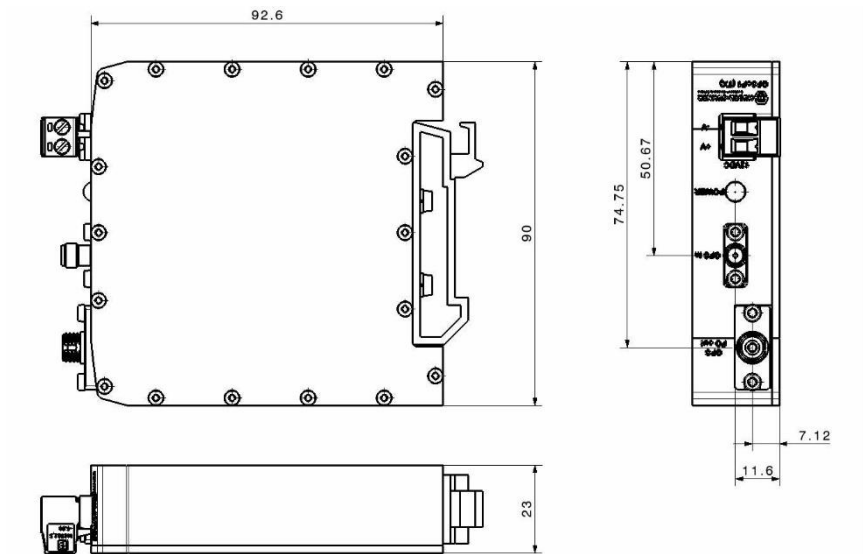
RF-over-Fiber
RfOf1 – 6 GHz

Mechanical Data

RfOf1 - 6GHz (TX)

Dimensions Outline Drawing: DOU-00394260

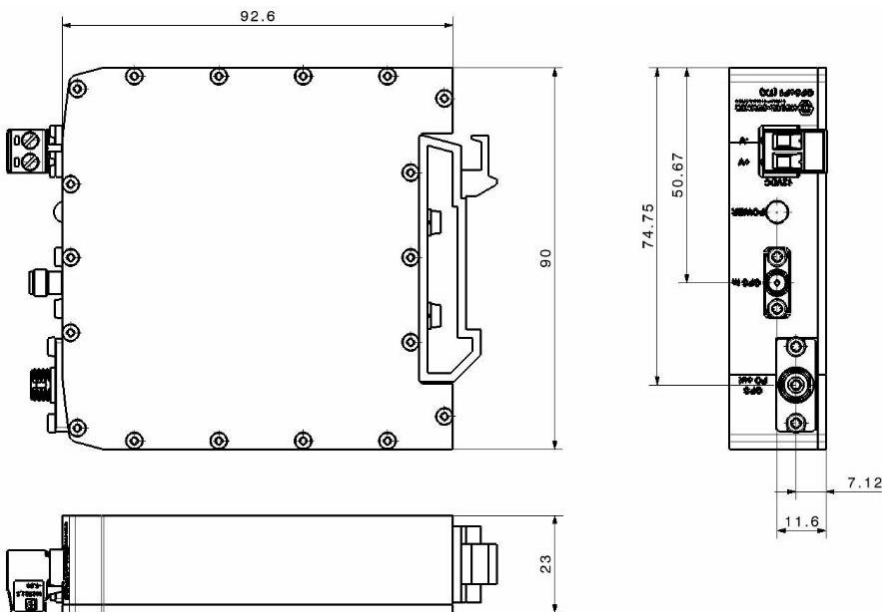
	Input	Output	Description	Interface	
	X		RF In	SMA (female)	
		X	FO Out	FC/APC (Adapter)	
	X		12 VDC In		



RfOf1 - 6GHz (RX)

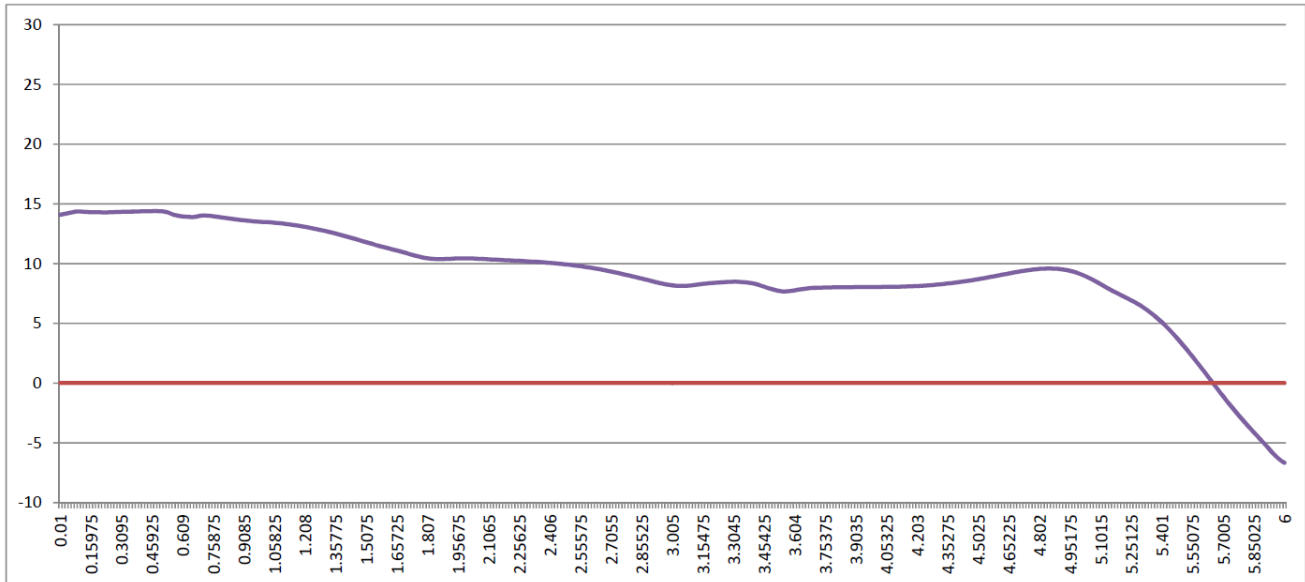
Dimensions Outline Drawing: DOU- 00394261

	Input	Output	Description	Interface	
		X	RF 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

- 4 Port receiver available (Picture on the right)
- All modules are RoHS Compliant
- All modules are EMV protected
- DIN 35 brackets are delivered with each module.
- Other brackets available upon request
- MIL and other certifications are possible upon request
- Various racks and enclosures available
- All modules are single packaged

Important catalogue links

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

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

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

Application Notes

Potential Applications

- Aerospace+Defense applications such as radar systems, naval systems, UAV's and airframe cable systems for aircraft and helicopters.
- Specialised test environments.
- Offshore applications such as communications systems on rigs.

Mouser Electronics

Authorized Distributor

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