# **Data Sheet**

# HUBER+SUHNER Excellence in Connectivity Solutions

## RF-over-Fiber RFoF1 – 3 GHz

## **Description**

The RF-over-Fiber Module (RFoF1 - 3 GHz) converts an analog RF signal into a 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 within 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 convert 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.	Тур.	Max.	
All specifications at 25℃ case Tempera	ture T <sub>c</sub> , unless	otherwise specified				
Frequency range		MHz	1		3000	3 dB Bandwidth
Gain		dB	6	10	14	
Gain flatness		dB/100MHz		< 1.5		
Noise figure		dB	12	15	25	
Spurious-free dynamic range		dB Hz²′³		100		
Max. input at 1dB compression		dBm		+ 0		
Max. input power for no damage	Э	dBm		+15		
VSWR (input and output)		dB		< 1.8		
OIP3		dBm		+ 20		
Time Delay		ns		12		
Supply voltage Transmitter		VDC	+11	+12	+16	Max. 750 mA
Supply voltage Receiver		VDC	+11	+12	+16	Max. 500 mA
Temperature range (OTR)	Operating	$\mathcal{C}$	-40		+85	
	Storage	$\mathcal{C}$	-40		+85	
RF input impendence		ohm	50	50		
Module weight		g	270	270		Transmitter and Receiver
Module dimensions		mm	90 x 95	90 x 95 x 23		Transmitter and Receiver
RF connectors			QMA / S	QMA / SMA female		Alternative connectors possib

## **Optical Data**

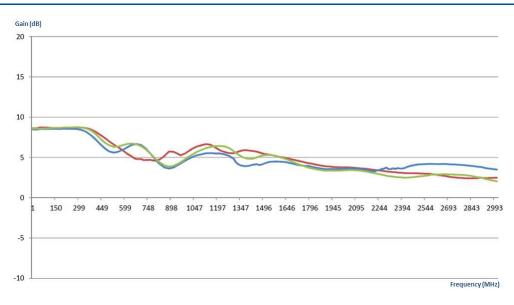
Parameters		Value			Remarks
		Min.	Тур.	Max.	
All specifications at 25°C case Temperature T $_{\mbox{\scriptsize c}}$ , unless	s otherwise specified				
Fiber optic connectors		FC/APC			
Fiber		Single m	ode fiber 9/1	25 um	
Fiber power loss	dB/km		0.4		
Optical power in fiber	mW	6	8	10	
Side mode suppression ratio	dB	30	40		

# **Data Sheet**

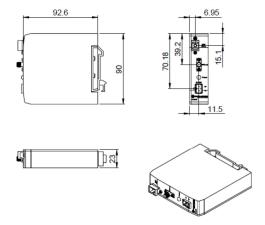


## RF-over-Fiber RFoF1 – 3 GHz

## Typical Frequency Response (based on 3 random samples)



## **Dimensions (mm)**



## **Additional Information**

- All modules are RoHS Compliant.
- All modules are EMC 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.

#### **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.

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