Data Sheet

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.	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		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		< 1.8		
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 (OTR)	Operating	°C	-40		+85	
	Storage	°C	-40		+85	
RF input impendence		ohm	50			
Module weight		g	270			Transmitter and Receiver
Module dimensions		mm	90 x 95 x 23			Transmitter and Receiver
RF connectors			QMA / SMA female			Alternative 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			
Fiber			Single mode fiber 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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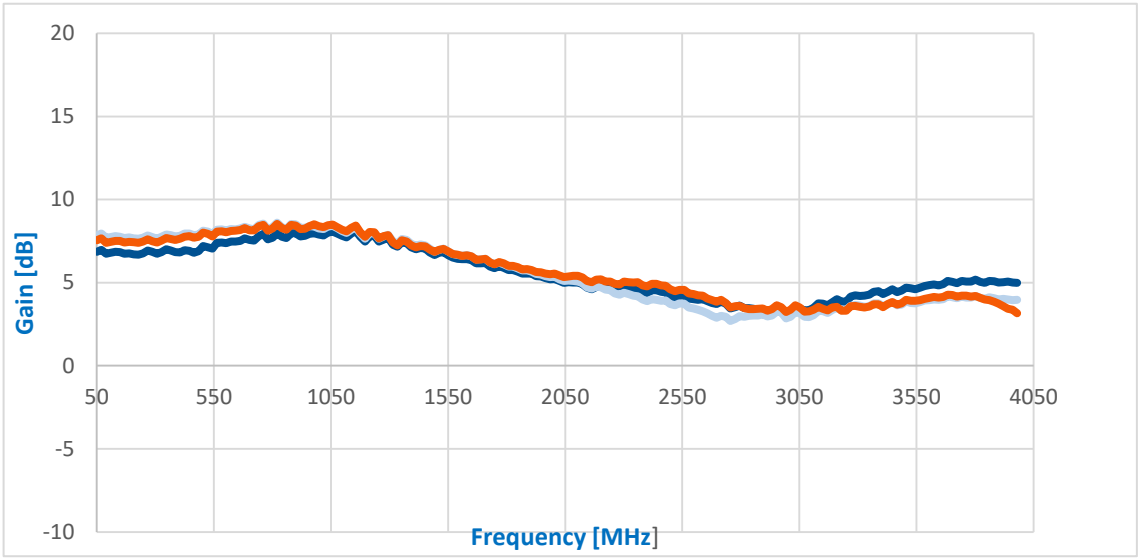
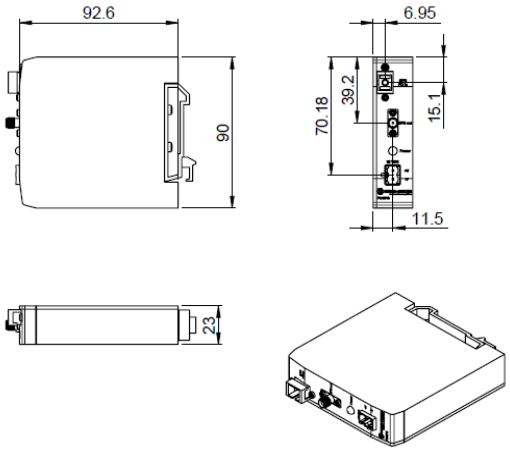
Typical Frequency Response (based on 3 random samples)



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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RFoF1-3GHz(RX) RFoF1-3GHz(TX)