

## RF-over-Fiber RFoF12 – 6 GHz

### Description

The RF-over-Fiber Module (RFoF12 – 6 GHz) converts analog RF signals into optical signals and optical signals back 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 within communications systems, defence systems, test environments and other high-tech niches.



### Features

- Wide bandwidth from 100 MHz to 6 GHz
- No external control circuits required
- Analog signal to optical conversion and back

### Applications

- Communication systems
- Radar applications
- Test environments

### Order Information

Item Description	Item Number
RFoF12 (TX) – 6 GHz	85065394
RFoF12 (RX) – 6 GHz	85065395

### Electrical Data

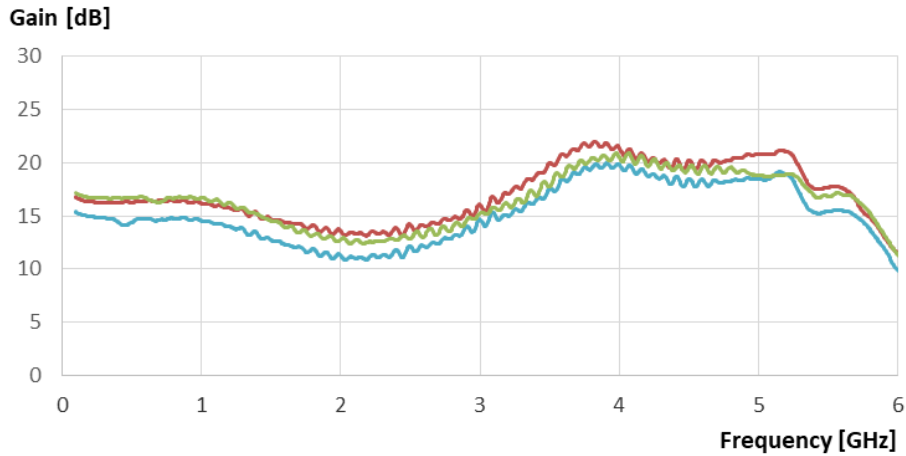
Parameters		Value			Remarks
		Min.	Typ.	Max.	
All specifications at 25°C case Temperature T <sub>c</sub> , unless otherwise specified					
Frequency range	MHz	100		6000	
Gain	dB	10	15	20	
Gain flatness	dB/100MHz		< 1.5		
Noise figure	dB		20		
Spurious-free dynamic range	dBHz <sup>2/3</sup>		100		
Max. input at 1dB compression	dBm		-8		
Max. input power for no damage	dBm		+17		
VSWR (input and output)			1.9		
OIP3	dBm		10		
Time Delay	ns		12		
Supply voltage Transmitter	VDC	+11	+12	+16	max. 1500 mA
Supply voltage Receiver	VDC	+11	+12	+16	max. 1000 mA
Temperature range	Operating °C	-40		+85	
	Storage °C	-40		+85	
RF input impedance	ohm	50			
Module mass	kg	2.5			Transmitter and Receiver
Module dimensions	mm	482.6 x 286 x 43.65			Transmitter and Receiver
RF connectors		SMA female			other connectors possible.

### Optical Data

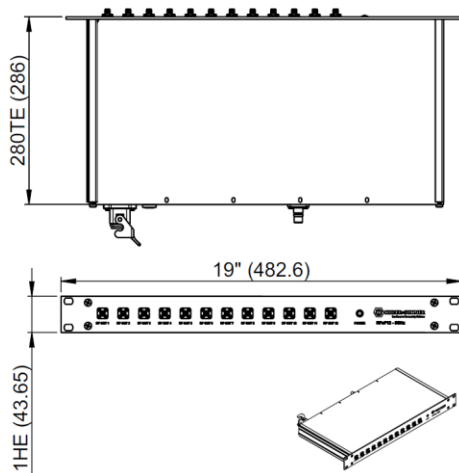
Parameters		Value			Remarks
		Min.	Typ.	Max.	
All specifications at 25°C case Temperature T <sub>c</sub> , unless otherwise specified					
Fiber optic connectors		Q-ODC 12			other connectors possible.
Fiber		Standard single mode 9/125 um			
Fiber power loss	dB/km		0.4		
Optical power in fiber	mW	3	6	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.
- 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.
- SATCOM applications.
- Specialised test environments.
- Offshore applications such as communications systems on oil rigs.