

Data Sheet

RF-over-Fiber RFoF6 – 6 GHz

Description

The RF-over-Fiber Module (RFoF6 – 6GHz) converts analog RF signals into optical signals and optical signals back to RF signals. The modules offers a wide operating bandwidth 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 |
|--------------------|-------------|
| RFoF6 (TX) – 6 GHz | 85065392 |
| RFoF6 (RX) – 6 GHz | 85065393 |

Electrical Data

| Parameters | | Value | | | Remarks |
|---|---------------------|------------|-------|------|-------------------------------|
| | | Min. | Typ. | Max. | |
| All specifications at 25°C case Temperature T _c , 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 ^{2/3} | | 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 | | without interconnection fiber |
| Supply voltage Transmitter | VDC | +11 | +12 | +16 | max. 750 mA |
| Supply voltage Receiver | VDC | +11 | +12 | +16 | max. 500 mA |
| Temperature range | Operating °C | -40 | | +85 | |
| | Storage °C | -40 | | +85 | |
| RF input impedance | ohm | 50 | | | |
| Module weight | kg | 1.1 | | | Transmitter and Receiver |
| Module dimensions | mm | 220x100x34 | | | Transmitter and Receiver |
| RF connectors | | SMA female | | | other connectors available |

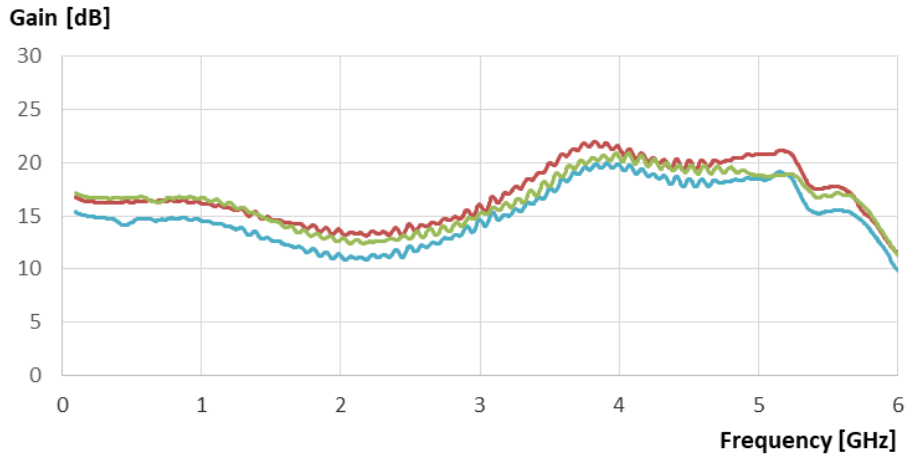
Optical Data

| Parameters | | Value | | | Remarks |
|---|-------|-------------------------------|------|------|----------------------------|
| | | Min. | Typ. | Max. | |
| All specifications at 25°C case Temperature T _c , unless otherwise specified | | | | | |
| Fiber optic connectors | | Q-ODC 12 | | | other connectors available |
| 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 | | |

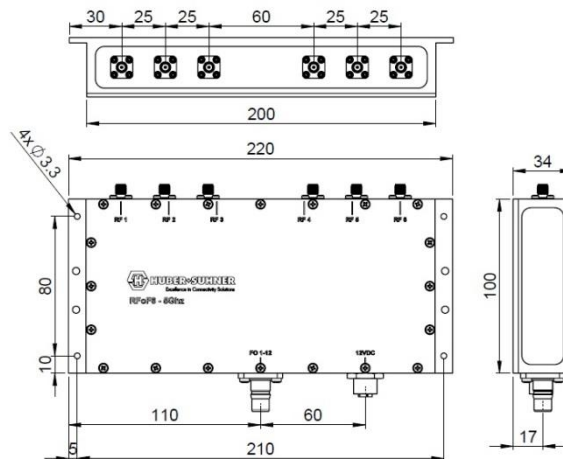
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Typical Frequency Response (based on 3 random samples)



Dimensions (mm)



Additional Information

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