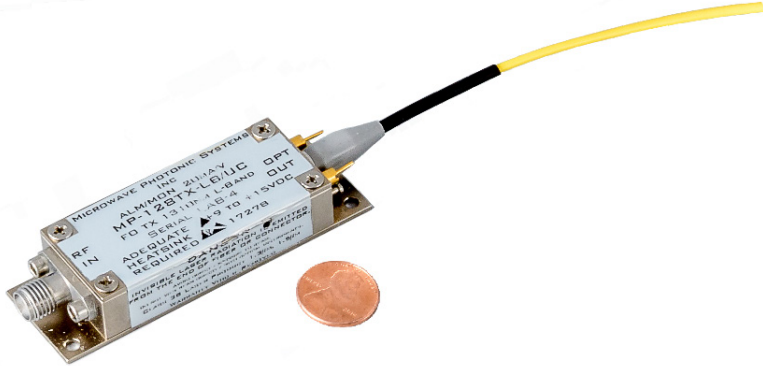


MP-128RX Series Microwave Fiber Optic Receiver

3.5 GHz RF Analog Fiber Optic Receiver



Ultra-Compact electrical-to-optical (O/E) conversion of broadband RF signals over the 1 MHz to 3500 MHz frequency range.

The MP-128RX is a comprehensive family of RF/Fiber Optic Receivers that are designed to provide optical-to-electrical (O/E) conversion of broadband RF signals over a frequency range of 1.0 MHz to 3500 MHz.

This industry leading mechanical package is ideal for OEM fiber optic integration into legacy RF platforms and products.

The receiver family can be optimized over a unique frequency range, as indicated in the part number generator tool on page two. Further system optimization can be achieved by using the integrated RF attenuators to satisfy almost any application.

The utilization of the MP-128RX, in conjunction with the appropriate MP-128TX RF/Fiber Optic Transmitter, forms a broadband link capable of supporting the transmission of RF signals over singlemode optical fiber for use in a wide array of communication applications. The link applications include antenna remoting, time and frequency reference distribution, RF delay lines, telemetry tracking, and point-to-point RF transmission.

The Receiver utilizes a high speed, low distortion PIN photodiode detector that is integrated with a broadband RF post amplifier. The unit provides the user with an open collector summary status pin.

Information: Call us toll-free at 888-868-8967 or email info@b2bphotonic.com

Applications:

- Wideband RF Transmission
- Microwave Antenna Remoting
- L-Band SATCOM Links
- GPS Antenna Remoting
- Wireless / PCS
- Phased array Antenna Systems
- OEM Integration

Features:

- 1.0 MHz to 3.5 GHz Bandwidth
- CWDM Compatible
- Low Noise Post-amplifier
- High Dynamic Range
- Ultra Compact Form Factors
- Configurable Design
- Multiple Powering and Mounting Options



MP-128RX Series Microwave Fiber Optic Receiver

General Specifications

Optical

| Parameter | Min | Typ | Max | Unit | Notes |
|-------------------------|--------------------------------------|--------------|------|------------|------------------------|
| Operational Wavelength | 1200 | | 1600 | nm | |
| Responsivity | | 0.85 0.90 | | A/W A/W | @ 1310 nm @ 1550 nm |
| Optical Input Power | | | 5 | mW | |
| Optical Connector Type | FC/APC, SC/APC, PC/APC, LC/APC, AVIM | | | | Others Available |
| Optical Back Reflection | | -40 | | dB | |

Electrical - RF

| Parameter | Min | Typ | Max | Unit | Notes |
|-------------------------------------|----------------|-------|------|----------------------|-----------------------------|
| Frequency Response | 1 | | 3500 | MHz | |
| Input/Output RF Impedance | 50 | | | Ohms | |
| Input/Output Return Loss | -16 | -20 | | dB | |
| RF Connector Type | SMA (f) female | | | | Others Available |
| RF Link Gain | -30 | 0 | +20 | dB | Higher Link Gains Available |
| RF Link Gain Flatness | | +/- 2 | | dB | 1 MHz to 3.5 GHz Bandwidth |
| RF Link Noise Figure | 16 | +30 | | dB | |
| Input 1dB Compression Point | | +10 | | dBm | IP1dB |
| Input Third Order Compression Point | +23 | | | dBm | IIP3 |
| Spur Free Dynamic Range | 108 | 110 | | dB*Hz ^{2/3} | SFDR |

Mechanical and Environmental

| Parameter | Min | Typ | Max | Unit | Notes |
|-----------------------|------------------------------------|-----|--------|----------|------------------------|
| Power Supply | +8 | +15 | +24 | VDC | 1.4 Watts max. |
| Operating Temperature | -20 | | +60 | °C | |
| Storage Temperature | -45 | | +85 | °C | |
| Operating Humidity | | | 95 | % | Non-Condensing |
| Operating Altitude | | | 50,000 | ft | |
| Dimensions | 2.35 x 0.75 x 0.43 65 x 19 x 12 | | | in mm | Varies with Case Style |
| Local Alarms | Open Collector | | | | |
| Power & I/O Connector | Solder Pin | | | | |

Note (1) : Performance stated with RX Output applied to MP-128TX Receiver Module

MP-128RX Series Microwave Fiber Optic Receiver

Part Number Generator

| | | | | | | |
|---------|---|---|---|----|----|----|
| MP128RX | F | W | G | PT | CN | CT |
|---------|---|---|---|----|----|----|

Example PN: **MP128RX-E-1-P00-3-2-1**

100 to 3000 MHz Frequency Range
 1200 to 1600 nm Optical Wavelength
 0 dB Gain
 10" long 1.8mm kevlar reinforced pigtail
 FC/APC Optical Connector
 Case Style 1

| | | |
|---------------------------------|----------------------------|----------------------|
| F <u>Frequency Range</u> | W <u>Wavelength</u> | G <u>Gain</u> |
| A = 1.0 MHz to 300 MHz | 1 = 1200 -1600 nm | N20 = -20 dB |
| B = 50 MHz to 1000 MHz | | N10 = -10 dB |
| D = 100 MHz to 2500 MHz | | P00 = 0dB |
| E = 100 MHz to 3000 MHz | | P10 = 10 dB |
| F = 500 MHz to 3500 MHz | | P20 = 20 dB |
| G = 50 MHz to 3500 MHz | | XXX = Custom |
| H = 50 MHz to 3000 MHz | | |

| | |
|--|----------------------------|
| PT <u>Fiber Pigtail</u> | CN <u>Connector</u> |
| 1 = 0.5m long 900u loose-tube pigtail | 0 = None |
| 2 = 18" long 1.8mm kevlar reinforced pigtail | 2 = FC/APC |
| 3 = 10" long 1.8mm kevlar reinforced pigtail | 4 = SC/APC |
| 4 = 24" long 1.8mm kevlar reinforced pigtail | 6 = Special |
| 5 = 24" long 900u loose-tube pigtail | 7 = LC/APC |
| NF = None, Case 2 only | 8 = AVIM / APC |
| XX = Custom | |

CT Case Type
 1 =Case Style 1
 2 = Case Style 2