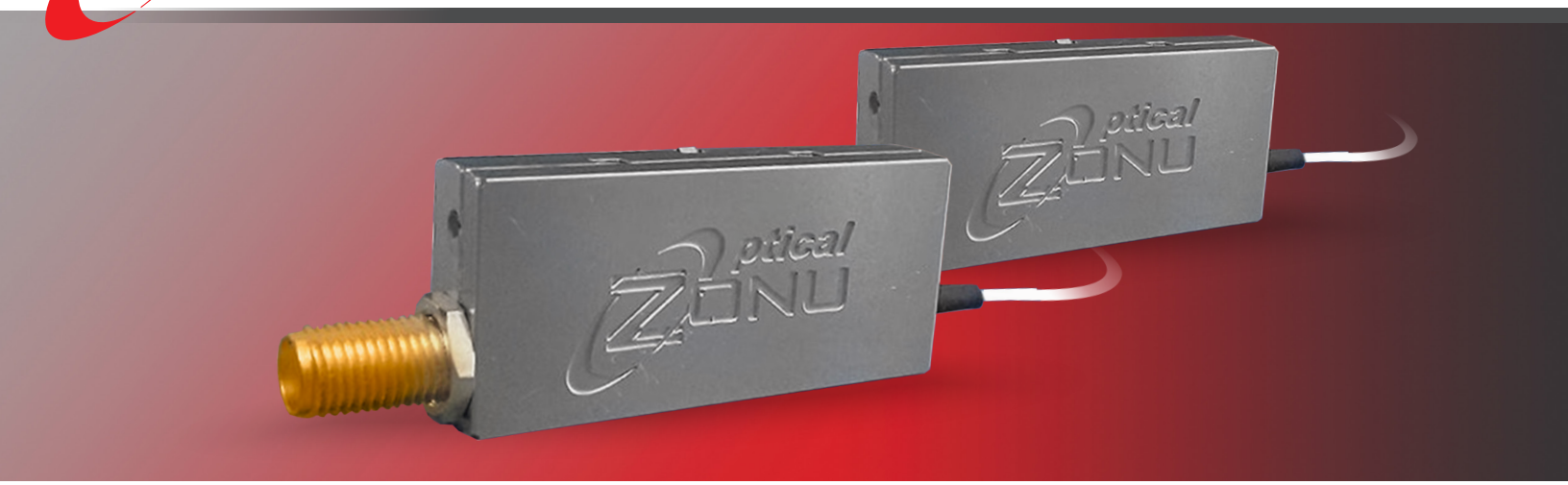
RF OVER FIBER

OZ10x OEM Transmitter and Receiver



OZ10x

Features

- 30 MHz to 3 GHz RF Bandwidth (optional 6 GHz)
- -40°C to +70°C Operating Case Temperature Range (1310 nm)
- Small Size, 0.7” x 1.6” x 0.3”
- Weighs 18.7 Grams
- 1310 nm, 1550 nm, CWDM Wavelengths
- High SFDR
- +5V Supply Voltage
- Automatic Optical Power Control
- Local LED Alarm Indicator
- Uncooled Isolated DFB Lasers
- Lasers Conform to Class 1 Emission Level Per CDRH and IEC-825 (EN 60825) Standards

Options

- Integrated +20 dB Transmitter LNA
- Extended High Frequency, 6 GHz
- Extended Low Frequency, 1 MHz
- I2C Status and Control
- Multimode Fiber Capability

Applications

- Radiation Pattern Measurements
- High Density Deployments
- In-Building DAS Solutions
- Avionics
- Low Voltage Battery Powered
- 4G LTE 5G CBRS
- Optical Delay Line
- Remote Antenna Location
- Satcom

Description

The OZ10x OEM fiber optic transmitter and receiver modules are broadband RF-over- Fiber standalone enclosed board-level assemblies that are well-suited for low size/weight/power applications. The OZ10x has a wide dynamic range and supports RF transport in situations where transport distance or flexibility of cabling may prohibit the use of coaxial cable. The modules provide high Spurious Free Dynamic Range (SFDR) transport for RF signals in the frequency range 30 MHz to 3 GHz. Optional extended bandwidths of 1 MHz (for lower roll-off) and/or 6 GHz (for upper roll-off) are also available. The OZ10x features a linear optically isolated DFB laser diode operating at 1310 nm or 1550 nm or a high performance InGaAs photodiode. CWDM wavelengths are also available. Standard transport is over 9/125 µm Single Mode Fiber, however Multimode fiber transport is also an option (contact Optical Zonu for details). The standard RF interface is 50 Ohm SMA and the standard optical interface is a SC/APC (FC/APC is also available) fiber pigtail. Built-in RF shielding supports low EMI/RF interference. Average Automatic Power Control (AAPC) provides closed loop control of the transmitters optical output power over the full operating temperature range. Alarm and monitoring functions are available through the optional I2C serial data interface. An LED provides status of laser bias current (transmitter) or received optical power (receiver). The OZ10x module is powered by +5 VDC.

A primary application for the small OZ10x OEM module is to facilitate antenna radiation pattern measurements. The optical modules enable the measurement of radiation patterns of small antennas without the EM interference of coaxial cables.

OZ10x transmitter and receiver modules may be integrated into 19” rack mounted architectures to provide very dense RF over fiber transport. Up to 36 transmitter and/or receiver modules can be fit into a 19” 1RU J-Chassis by utilizing the J1 form factor (see J1/J84 Datasheet)

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