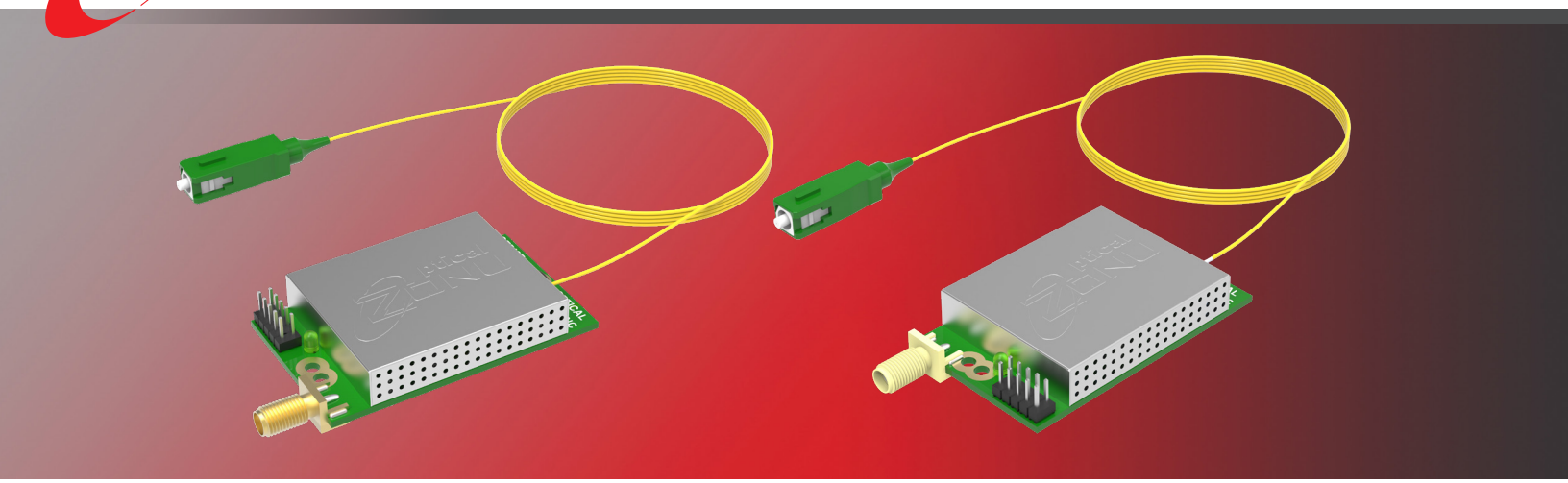
RF OVER FIBER

OZ51x OEM Transmitter and Receiver



OZ51x

Features

- 30 MHz to 3 GHz RF Bandwidth (optional 6 GHz)
- -40°C to +70°C Operating Case Temperature Range (1310 nm)
- Small Size, 1.5” x 2.5” x 0.6”
- 1310 nm, 1550 nm, CWDM Wavelengths
- High SFDR
- Automatic Optical Power Control
- LED and Monitor/Alarm Indications
- 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, 10 kHz
- +5 VDC or +12 VDC Bias-T
- Multimode Fiber Capability (3 GHz models)

Applications

- L-Band Satcom
- Cellular Backhaul
- MMDS
- Antenna Remoting
- GPS Distribution
- Antenna Site Diversity
- Low Phase Noise Reference Clock Distribution
- Optical Delay Lines

Description

The OZ51x OEM fiber optic transmitter and receiver modules are broadband RF-over-Fiber standalone board Level-assemblies. The OZ51x 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 bandwidth of 6 GHz (for higher roll-off) and/or 10 kHz (for lower roll-off) are available.

An integrated LNA may be added to the transmitter to optimize noise figure and input/output IP3 for a variety of RF power levels and optical loss budgets. The OZ51x 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. The standard RF interface is 50 Ohm SMA and the standard optical interface is an SC/APC fiber pigtail (FC/APC and LC/APC are also available). Built-in RF shielding supports low EMI/RF interference. An optional Bias-T (transmitters) is available to provide bias/power to antennas.

Average Automatic Power Control (AAPC) provides closed-loop control of the transmitter optical output power over the full operating temperature range. Alarm and monitoring functions are available through the onboard 10-pin connector. An LED indicates the laser bias current (transmitter) or received optical power (receiver). The OZ51x module is powered from +12 VDC. Variations of this OEM form factor also support GPS, IRIG-B/1PPS/TTL, and low phase noise clock distribution.

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