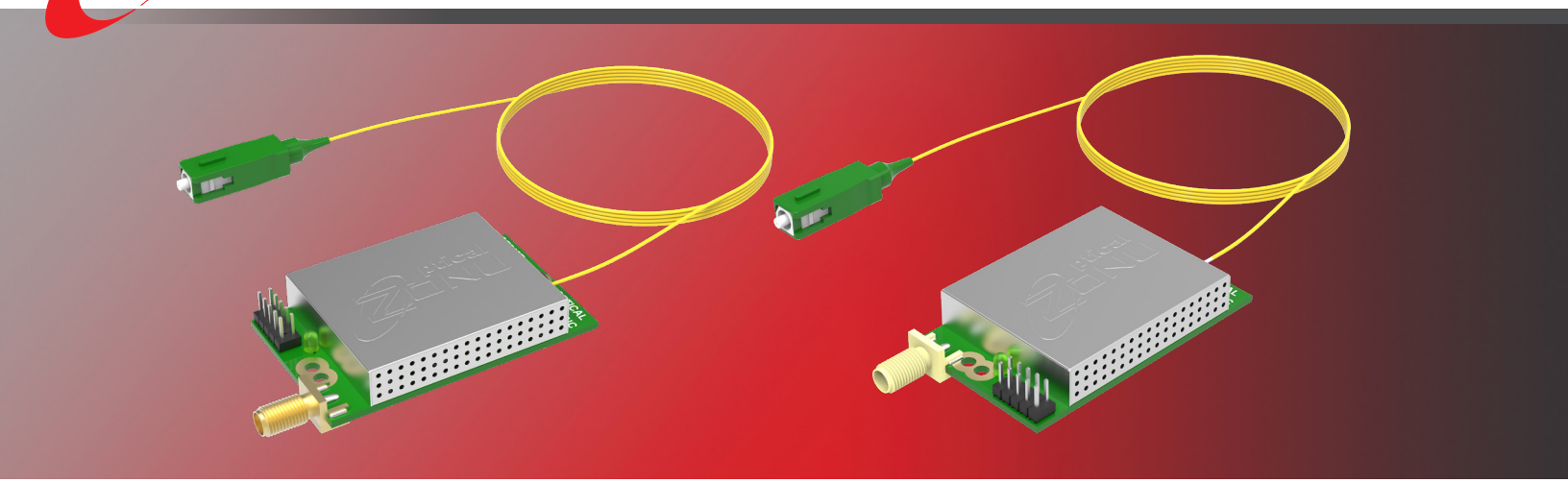
RF OVER FIBER

OZ52x OEM Transmitter and Receiver



OZ52x

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"
- User RF gain adjust, transmitter & receiver, 30 dB range
- I2C status and control
- 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
- Integrated +40 dB Transmitter LNA
- Extended Low Frequency, 10 kHz
- Automatic RF Gain Control (AGC), Transmitter & Receiver, 30 dB Range
- +5 VDC (standard) or +12 VDC Bias-T
- Multimode Fiber Capability (3 GHz Models)

Applications

- L-Band Satcom
- Cellular Backhaul
- Antenna Remoting
- Antenna Site Diversity
- Optical Delay Lines

Description

The OZ52x OEM fiber optic transmitter and receiver modules are broadband RF over Fiber pigtailed board level assemblies. The OZ52x 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 10 kHz (for lower rolloff) and/or 6 GHz (for upper rolloff) are also available. The OZ52x modules provide a means to adjust transmitter and receiver RF gain remotely (user gain control). RF gain may be adjusted to optimize noise figure and input/output IP3 for a variety of RF power levels and optical loss budgets. Boards with RF power monitor may also be operated in automatic gain control (AGC) mode.

The OZ52x 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 on 3 GHz models (contact Optical Zonu for details). The standard RF interface is 50 Ohm SMA and the standard optical interface is an SC/APC (FC/APC is also available) fiber pigtail. Built-in RF shielding supports low EMI/RF interference. An optional Bias-T (transmitters without RF power monitor) 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 on-board 10-pin connector. An LED provides status of laser bias current (transmitter) or received optical power (receiver). The OZ52x modules also provide status via an I2C interface. The OZ52x 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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