

Applications

- ▲ Any linear RF transmission over fiber from 30 to 2500MHz such as antenna remoting and EMI/EMC measurements
- ▲ Mobile RF systems between 800 and 1900MHz
- ▲ UHF/VHF radio links

Features and Benefits

- ▲ Standard optical and RF connectors simplify system integration
- ▲ Operates over from at least 40km of singlemode fiber and optionally available with high power laser to operate over at least 80km
- ▲ High linearity and low noise DFB laser enable very wide dynamic range links
- ▲ User selectable manual or automatic input level control enables flexible system integration
- ▲ Operates from -20°C to +65°C so can be installed in almost any environment
- ▲ Bar-graph display of input RF level and of the received optical signal level aids simple and effective system setup
- ▲ Operates with non-critical power voltages
- ▲ Extremely rugged metal case for in field deployment and card version for use in OSD's 19" 3RU rack systems for efficient system design
- ▲ Remote monitoring/alarming capability



Description

The OSD9005 transceiver provides an extremely wideband transmission capability which allows its use in a variety of RF over fiber applications. It has an excellent frequency response characteristic which enables its employment in paging systems as well as its primary applications of cellular RF trunking at 800-1000MHz and 1700-1900MHz. It employs extremely linear circuitry to ensure very wide dynamic range performance as required in uplink applications. It is completely format independent so can support any current or proposed cellular system.

The OSD9005 employs a very wideband laser driver and DFB laser and the receiver section is based on a wideband balanced PIN photodiode design all of which ensures outstanding system linearity, noise performance

and dynamic range. The OSD9005 has manual input level adjustment over a range of 31dB. A very convenient feature is user selectable automatic or manual input RF level adjustment.

The OSD9005 is available for use over 1 or 2 fibers and can be supplied in a 10-36VDC powered rugged aluminium wall mount module (optional Din Rail mounting bracket available) or as a card for use in an OSD350B (6 slots) or OSD370B (7 slots) 19" 3RU rack mount chassis.

Furthermore, the OSD9005 has excellent RF shielding which allows for installation in almost any RF environment which, combined with its wide operating range of -20 to +65°C, allows it to be installed almost anywhere.

Ordering Information

Part No.	Description
OSD9005	Transceiver module with manual or automatic input level control for use in OSD350B/OSD370B 19" 3RU chassis. For use over 2 optical fibers operating at 1310nm.
OSD9005C	Transceiver module with manual or automatic input level control for use in. For use over 2 optical fibers operating at 1310nm.
Option WA & WB	Single fiber option. WA unit must be paired with WB unit. WA = Tx1310/Rx1550nm. WB = Tx1550/Rx1310nm.
Option CW	CWDM wavelengths 1270-1610nm available
Option LF	Extended low frequency option. 0.5MHz to 2000MHz

Specifications

Electrical Parameter	Description
RF Input/Output Impedance	50Ω nominal, unbalanced
RF Input/Output Return Loss	>10dB
RF Input/Output Connector	SMA female
System Bandwidth	30 - 2500MHz ± 3.0dB
System Gain	17dB with both Tx and Rx attenuators set to 0dB
System Noise figure	<20dB (0dB optical loss, attenuators set to 0dB)
System Phase Noise	None, the system employs direct intensity modulation of the optical carrier
Input RF Level Control	User adjustable over 31dB range in 1dB increments using DIP switch on front panel
Input 1dB Compression Point	>-3dBm (Attenuation set to 0dB)
Input Third Order Intercept Point	>+10dBm (Attenuation set to 0dB)
Input RF Indicators	Electrical input level (4 level green bar-graph, from -20dBm to +10dBm with red out of range for <-30dBm or >+20dBm) Laser fail alarm Power
Output RF Level Control	Automatic over a 31dB range or manually adjustable in 1dB increments using the front panel DIP switch
Output 1dB Compression Point	>+17dBm (Attenuation set to 0dB)
Output Third Order Intercept Point	>+32dBm (Attenuation set to 0dB)
Optical Power Level Indicators	Optical input level (4 level green bar-graph, from -17 to 0dBm with red out of range for <-17dBm or >+3dBm)
Alarms	Laser fail, loss of optical input

Optical Parameter	Description
Operating Wavelength (Tx)	1310 ± 20nm nominal as standard. Optional 1550nm available. Single Fiber versions use 1310nm and 1550nm lasers with internal WDM All 18 CWDM wavelengths from 1270 to 1610nm available on request
Optical Output Power	+3.0 ± 1.0dBm
Operating Wavelength (Rx)	1270 to 1610nm
Optical Connector	SC/APC (FC/APC is optional)
Optical Return Loss	>45dB

Physical Parameter	Description
Operating Temperature Range	-20°C to +65°C
Relative Humidity	0 to 95% non-condensing
Power Requirements (Module)	+10V to 36V DC @ 6VA via 2-Way 5.08mm Terminal Block (plug supplied)
Alarm Connector (Module)	3-Way 5.08mm Terminal Block (plug supplied)
Alarm Connector (Card)	3-pin circular connector
Dimensions (mm)	138W x 105D x 32H (Module) 50W x 212D x 128H (Card)
Weight (kg)	0.4 (Module) 0.3 (Card)

Warranty

Warranty Period	5 years
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Dimensions

