

RF/Fiber Optic Transceiver AC231-2.5



Features

- 2500 MHz Bandwidth
- 1.3 μm Low Noise DFB Laser
- High Dynamic Range
- Optical Stabilization
- Monitoring and Alarm Capability
- Singlemode Fiber

Description

The AC 231-2.5 is a linear, low noise RF fiber optic transceiver designed for fiber optic wireless antenna remoting or repeater applications and other RF systems. The system is composed of a fully integrated transceiver module. The transmitter utilizes a high performance, linear isolated DFB laser operating at 1.3 μm over 9/125 μm singlemode fiber. For optimal stability, the laser incorporates average optical power feedback which monitors and actively adjusts the laser for constant power output over temperature and lifetime. The receiver utilizes a high-speed, low distortion InGaAs PIN diode photodetector.

The RF interface is via a 50 Ω SMA connector and the optical connector is a low reflection FC/APC connector. The unit requires a single 12 volt DC supply with no external settings necessary. A laser and received optical power monitor and alarm is provided. The AC 231-2.5 transceiver integrates the transmitter and receiver section into one package. Individual TX and RX are available. Other packaging options including internal WDM for bidirectional single fiber transmission are available.

Specifications (Tc = 25°C)

Parameter	Min	Typ	Max	Units
Wavelength, peak	1280	1310	1340	nm
Bandwidth	2500			MHz
Frequency Response, 50 to 2500 MHz		+/- 2.0		dB
Input and Output VSWR			2.0:1	--
Spur Free Dynamic Range (1)	97			dB/Hz ^{2/3}
RF Link Gain (2)		0		dB
Output Noise Floor		-130		dBm/Hz
Input 3rd Order Intercept		25		dBm

Notes:

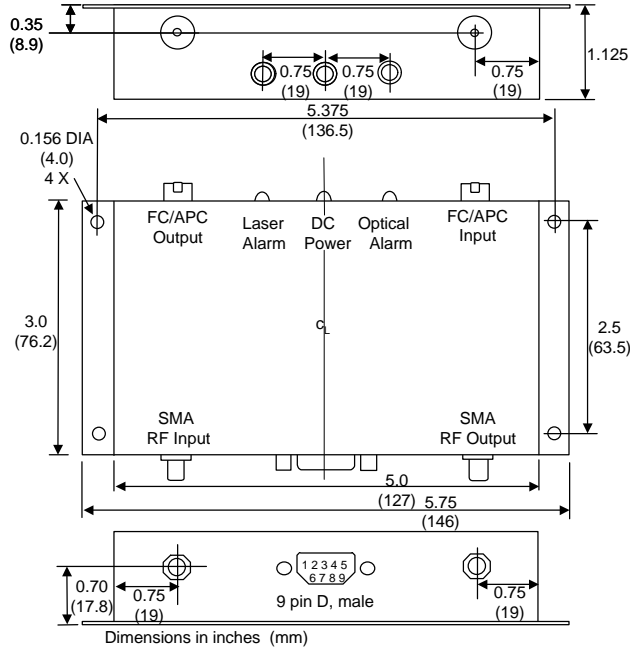
- (1) SFDR specified with optical loss budget of 2 dB.
- (2) Link Gain specified with 1 meter fiber.

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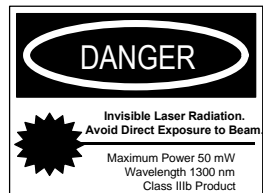
Absolute Maximums

Parameter	
Operating Temperature	-30 to +75°C
Storage Temperature	-40 to +85°C
Maximum RF Input to Transmitter	+10 dBm
Maximum Optical Input to Receiver	4 mW
D.C. Supply Voltage	12 volts \pm \-5%

Package Schematic



PINOUT	
1.	Laser Disable
2.	Ground
3.	+12 volts (250 mA max)
4.	Ground
5.	Ground
6.	Laser Bias Monitor (0.1 V = 10 mA)
7.	Laser Bias Alarm (open collector, 25 mA)
8.	Received Power Monitor (1V = 1mW)
9.	Received Power Alarm (open collector, 25 mA)



Ordering Information

Model Number: AC 231-2.5
 Description: Fiber Optic RF Transceiver
 Please consult the Sales Department for other packaging configurations

Laser Warning: Invisible Laser Radiation emitting from optical connector. Avoid direct exposure to beam.
 50 mW max. @ 1300nm. Class IIIb. Product complies with 21 CFR 1040.10 and 1040.11.

The information is considered to be accurate however to provide the best product possible, Anacom Systems Corporation reserves the right to make changes and improvements to the specifications without notice.