RON1512
RFoG Node

RON1500 Series

- **Supports 1.2 GHz RF pass band**
- **Single fiber WDM for forward and return path**
- **1550 nm forward, 1610 nm return**
- **AGC optical input range of -10 dBm to 0 dBm**
- **22 dBmV RF output level**
- **RF test points for forward and reverse path**
- **Push-button laser status switch**
- **Easy installation**
- **LED indicators**
- **Low power consumption**

Ascent's RON1512 is a compact 1.2 GHz two-way node compatible with DOCSIC 3.1 FTTH architecture. It provides excellent forward and reverse path performance combined with high reliability and a user-friendly layout. RON1512 features an optical AGC function in the forward path to ensure the same RF output level in every home. The return transmitter has burst mode (turns on the laser by return signal) to greatly reduce return fibers.

The RON1512 optical node is part of ACT overall FTTx solution suite. It is designed with 1550 nm forward-path RF signals, and return-path upstream signal at 1610 nm. It incorporates a low noise optical receiver and an isolated DFB optical laser to modulate the return-path signal from any set-top box (STB) or DOCSIS modem onto the fiber.

Key Features

- Supports 1.2 GHz RF pass band
- Single fiber WDM for forward and return path
- 1550 nm forward, 1610 nm return
- AGC optical input range of -10 dBm to 0 dBm
- 22 dBmV RF output level
- RF test points for forward and reverse path
- Push-button laser status switch
- Easy installation
- LED indicators for optical input, output and power
- Compact form factor
- Low power consumption

Specifications

Forward Section Specifications

Item	Value
Optical Section	
Wavelength	1540 nm to 1560 nm
Responsivity	0.8 A/W, λ = 1550 nm
Optical Input Power Range	-10 dBm to 0
Optical AGC Range	-10 dBm to 0
Optical Return Loss	45 dB
Optical Connector	SC / APC
RF Section	
Frequency Range	54 MHz to 1218 MHz (other optional)
Frequency Response	±0.75 dB
RF tilt	0 dB
RF Output Level	22 dBmV (-10 - 0 dBm optical Input, OMI 3.5 %)
Return Loss	16 dB min, 18 dB typ.
RF Test Point	-20 dB

Link Section	
C/N*	50 dB
Distortion*	
CTB	60 dB
CSO	60 dB

* RF output level is 22 dBmV (20 km fiber + passive loss, -3 dBm optical input power, 3.5% OMI). Loaded with 59 PAL D/K CW carriers from 47 MHz to 550 MHz. Digital refers to 550 MHz to 1 GHz loading with QAM carriers at -10 dB relative to analog CW carrier levels.

Reverse Section Specifications

Item	Description
Laser Type	DFB
Optical Wavelength	1610 nm (others optional)
Optical Output Power	3 dBm
Optical Return Loss	45 dB
Optical Connector	SC / APC
RF Input Range	15 dBmV to 40 dBmV
Optical Power Turn On / Off Threshold	Complies with the SCTE 174 standard
NPR Dynamic Range	25 dB
Transmitter Optical Power, High	3 dBm (RF > threshold)
Transmitter Optical Power, Off	-35 dBm (RF < threshold)
Turn-on Time	<700 ns
Turn-off Time	<700 ns
RF Frequency Range	5 MHz to 42 MHz (other optional)
RF Frequency Response	±0.75 dB
RF Return Loss	16 dB min, 18 dB typ.
RF Test Point	-20 dB

General Specifications

Item	Description
External Supply Voltage	12 V DC 350 mA
RF Connectors	F-female, Imperial
RF Impedance	75 Ω
Dimensions (W × H × D)	128 mm × 108 mm × 32 mm
Weight	0.2 kg
Operating Temperature	-10 °C to +50 °C

Note: Unless otherwise noted, all specifications reflect typical performance and are referenced to 20 °C (68 °F).

Ordering Information

Item	Description
RON1512-82-D-204-AS-03-0	RON1500 RFoG ONU 1.2GHz, 82dBuV, 3dBm DFB 1610nm RTX, 204MHz, SC/APC, +12V Power Adaptor with Continental EU Plug, No PON Port Upgrade

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Specifications and product availability are subject to change without notice.

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