



ONU150

RF-Over-Glass (RFoG)

Optical Network Unit

Flexible Installation

- Stand-alone or co-resident with Motorola ONT
- Operates on a single PON fiber architecture
- Powered via an independent 12VDC power source
- Supports power over COAX
- Temperature hardened

Motorola's ONU150 Optical Network Unit transparently delivers bi-directional services up to 1.1GHz, and interactive RF services over a reliable all-fiber optical distribution network.

Designed to operate in parallel to industry standard Passive Optical Network (PON) solutions, the Motorola ONU150 supports the seamless delivery of existing voice, video, and broadband services – all on a common infrastructure. The Motorola ONU150 serves as the optical transport layer for RF video, Aloha, DAVIC, and DOCSIS® technologies. A PON network can be easily overlaid at the premises by connecting a PON ONT to the PON expansion port of the ONU150 when higher-bandwidth, advanced data services are required.

The ONU150 eliminates HFC nodes and RF amplifiers along with the long-term operating expenses associated with an active access network architecture, and is transparent to headend and customer premises equipment. Motorola's flexible Optical Network Unit offers cable operators the ability to meet today's broadband demands while evolving their networks in support of new business and residential services.

Features and Benefits

- GPON, GEAPON, and BPON compatible
- Extended RF spectrum
- Universal HFC set-top box and head-end support
- Transparent return path capability (protocol and modulation format agnostic)
- Optical AGC with positive RF up-tilt
- Supports most in-home applications without amplifiers
- Multiple set-top box support
- In-home power over 75Ω coax cabling

Data Sheet
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Specifications

PHYSICAL

1.2 in H x 3.5 in W x 5 in D (30 mm H x 89 mm W x 127 mm D)

INDICATORS/EXTERNAL ALARMS

Green LED power indicator
 Red LED loss of signal indicator

OPTICAL INTERFACE

Two recessed SC/APC female connectors

CUSTOMER INTERFACE

75 Ω coax F connector

FORWARD PATH CHARACTERISTICS

Input wavelengths 1545 – 1560 nm
 Input power range +1 to –5 dBm
 RF Output @ 550MHz +18dBmV/ch \pm 2dBmV
 Frequency response
 ONU150K 50MHz to 1.1GHz
 ONU150A 88MHz to 1.1GHz
 Up-tilt 50MHz – 1.1GHz: 3dB
 CNR @ –5dBm input power: 48
 CSO @ 0dBm input power: 60
 CTB @ 0dBm input power: 65

RETURN PATH CHARACTERISTICS

Wavelength 1610 nm
 Output power +2dBm to +4dBm
 Input dynamic range +15dBmV to +40dBmV
 Frequency response
 ONU150K 5MHz to 42MHz
 ONU150A 5MHz to 65MHz
 Compatible with DOCSIS, DSG, Aloha (SCTE-55-1), and DAVIC (SCTE-55-2)

POWER AND ENVIRONMENTAL

Operating temperature range –40 °C to +65 °C
 Humidity 5% to 95% non-condensing
 Power input 10 to 18 VDC (+12 VDC nominal)
 Power consumption 3.0 W

STANDARDS AND CERTIFICATIONS

TUV listed, CE mark certified
 Meets or exceeds FCC part 15b
 IEC 60825-1:1993+A1:1997+A2:2001
 RoHS compliant

Ordering Information

Model Name	Description
ONU150K	Optical Network Unit, RFoG, 50MHz–1.1GHz FWD, 5–42MHz RTN, 1610nm RTN TX, PON Expansion Port
ONU150A	Optical Network Unit, RFoG, 88MHz–1.1GHz FWD, 5–65MHz RTN, 1610nm RTN TX, PON Expansion Port
Related Products	
ONU100K	Optical Network Unit, RFoG, 50MHz–1.1GHz FWD, 5–42MHz RTN, 1310nm RTN TX
ONU100A	Optical Network Unit, RFoG, 88MHz–1.1GHz FWD, 5–65MHz RTN, 1310nm RTN TX
ONU120K	Optical Network Unit, RFoG, 50MHz–1.1GHz FWD, 5–42MHz RTN, 1610nm RTN TX
ONU120A	Optical Network Unit, RFoG, 88MHz–1.1GHz FWD, 5–65MHz RTN, 1610nm RTN TX
ONU190K	Optical Network Unit, RFoG, 54MHz–1.1 GHz FWD Pass-thru, 5–42MHz RTN, 1610nm RTN TX
ONU190A	Optical Network Unit, RFoG, 88MHz–1.1GHz FWD Pass-thru, 5–65MHz RTN, 1610nm RTN TX
WT-12V-110-NEMA1-F	ONU Wall Transformer, 12VDC Output, COAX feed, 110VAC Input, NEMA 1–U.S. Style plug
WT-12V-220-EU-B	ONU Wall Transformer, 12VDC Output, Bayonet style connector, 220VAC Input, European Style wall plug
UPS-12V-NB	UPS for ONU, 12VDC, 24W, with charger (battery not included)
UPS-12V-NB-H	UPS for ONU, 12VDC, 24W, with charger (battery not included), Hardened
ONU-CBL-COAX-UPS	UPS to Coax adapter cable, 8" long
ONU-CBL-BAYONET-UPS	UPS to Bayonet adapter cable, 8" long
ONU-OSPE301	ONU Standard outside enclosure
R1U-RX100BX4	Quad Return-path receiver, 5–100MHz, 1200–1620nm, rear output
AM-OCM-II-WDM-1310/1550-M-SCA	Optical Mux/Demux, 1310nm & 1550nm, monitoring port, SC/APC
AM-OCM-II-WDM-1310/1490/1550-M-SCA	Optical Mux/Demux, 1310nm, 1490nm, & 1550nm, monitoring port, SC/APC
AM-OCM-II-WDM-1310/1490/1550/1610-M-SCA	Optical Mux/Demux, 1310nm, 1490nm, 1550nm, & 1610nm, monitoring port, SC/APC



Motorola, Inc., 101 Tournament Drive, Horsham, Pennsylvania 19044 U.S.A. www.motorola.com

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