

OmniStar® GX2 GX2-OA100B Series

Optical Amplifiers for HFC Networks



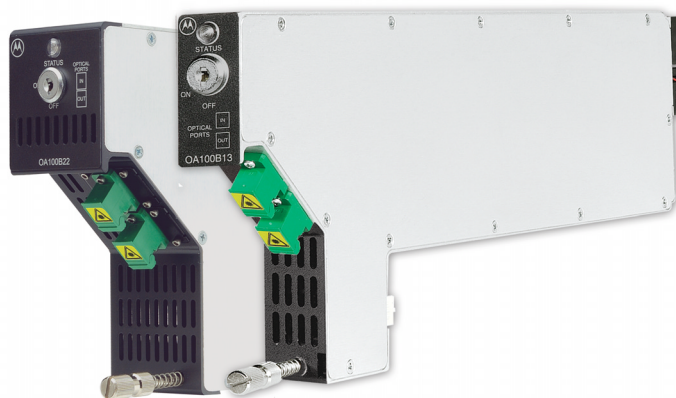
Motorola's OmniStar GX2-OA100B Series erbium-doped optical amplifiers serve multiple applications for HFC networks including super-trunking, direct distribution to many nodes, and DWDM narrowcast and return. The GX2-OA100B Series optical amplifiers are designed for use with the OmniStar® GX2 1550 nm broadcast transmitters and DWDM transmitters. With adjustable output and several nominal output powers available, the GX2-OA100B Series accommodates a wide range of link budgets. Its three operating modes can satisfy a wide range of system design requirements: Constant Output Power mode to maintain exact optical levels; Constant Pump Power mode to optimize noise figures; and Constant Gain mode for DWDM applications. The GX2-OA100B Series Optical Amplifiers employ a proprietary erbium-doped fiber formulation that provides low noise performance, along with the most reliable 980 nm pump lasers available in the industry.

Other user benefits offered as part of the OmniStar GX2 platform include: higher density, SNMP interface for network management, and Quick-Swap module capability.

The GX2-OA100B Optical Amplifiers employ a proprietary erbium-doped fiber formulation that provides low noise performance.

BENEFITS INCLUDE:

- Low Noise Figure
- Nominal output powers from +13dBm to +24 dBm
- User-settable optical power alarms
- Flat gain for DWDM applications from 1546 nm to 1562 nm
- Constant Output Power, Constant Gain, and Constant Pump Power Modes
- Front Panel Key Switch for pump on/off control
- Quick-Swap capability allows replacement modules to be automatically configured to prestored settings
- Operating temperature range from -20°C to +65°C
- Ethernet SNMP status monitoring through OmniStar GX2 control module



SPECIFICATIONS

OPTICAL

Operating Wavelength	1530 nm to 1562 nm
Operating Input Power	-10 to +10 dBm
Output Power Stability over temperature	+/-0.25 dB
Output Power Variation with single-tone, saturated	+/-0.25 dB
Optical Return Loss	50 dB Minimum
Optical Connector Types	SC/APC or E2000 with optical safety shutter

GENERAL

Mounting	GX2-HSG* Equipment Shelf
Operating Temperature Range	-20°C to +65°C (-4°F to +149°F)
Storage Temperature Range	-40°C to +80°C (-40°F to +176°F)
Visual Interface	Tri-colored module status LED
Status Monitoring	SNMP 10BaseT Ethernet interface through an RJ-45 port on the GX2-CM100B control module

Parameter	Model					
	OA100B13	OA100B16	OA100B18	OA100B20	OA100B22	OA100B21X2
Preset optical output power (Input power > 3dBm)	13 dBm	16 dBm	18 dBm	20 dBm	22 dBm	24 dBm (21dBm on 2 ports)
Output power adjustment range (Constant output power mode)	-2 to +1 dB	-2 to +0.5 dB	-2.0 to +0.3 dB			
Optical noise figure, maximum. @ Pin = 0 dBm	4.5 dB			4.8 dB		
Nominal gain (DWDM applications)	10 dB	13 dB	15 dB	17 dB	19 dB	18 dB
Multi-tone gain flatness*, maximum	+/-0.7 dB			+/-1.5 dB		N/A
Module dimensions	1 slot in OmniStar GX2 chassis 1" W x 5.9" H x 15" D (2.5 cm x 15 cm x 38 cm)			2 slots in OmniStar GX2 chassis 2" W x 5.9" H x 15" D (5.1 cm x 15 cm x 38 cm)		
Weight	2.0 lbs. (0.9 kgs)			3.5 lbs. (1.6 kgs)		
Power consumption, maximum	12 W	15 W	15 W	21 W	23 W	36 W

* Gain flatness is at nominal gain measured with eight equal level ITU tones from 1546.12 nm to 1561.42 nm.

Specifications are subject to change without notice.

Model Number	Description
GX2-OA100B13	1550 nm EDFA, 13 dBm output, SC/APC optical connectors
GX2-OA100B13/E	1550 nm EDFA, 13 dBm output, E2000 optical connectors
GX2-OA100B16	1550 nm EDFA, 16 dBm output, SC/APC optical connectors
GX2-OA100B16/E	1550 nm EDFA, 16 dBm output, E2000 optical connectors
GX2-OA100B18	1550 nm EDFA, 18 dBm output, SC/APC optical connectors
GX2-OA100B18/E	1550 nm EDFA, 18 dBm output, E2000 optical connectors
GX2-OA100B20	1550 nm EDFA, 20 dBm output, SC/APC optical connectors
GX2-OA100B20/E	1550 nm EDFA, 20 dBm output, E2000 optical connectors
GX2-OA100B22	1550 nm EDFA, 22 dBm output, SC/APC optical connectors
GX2-OA100B22/E	1550 nm EDFA, 22 dBm output, E2000 optical connectors
GX2-OA100B21X2	1550 nm EDFA, 21 dBm output on 2 ports, SC/APC optical connectors
GX2-OA100B21X2/E	1550 nm EDFA, 21 dBm output on 2 ports, E2000 optical connectors

MGBI



Motorola, Inc.
Broadband Communications Sector
101 Tournament Drive
Horsham, PA 19044
1.800.523.6678
www.motorola.com/broadband

MOTOROLA and the Stylized M Logo are registered in the U.S. Patent and Trademark Office.
All other product or service names are the property of their respective owners. ©Motorola, Inc. 2003.

499312-001

5563 - 0703 - 1K