OTA -Optical Terminal Station Amplifier Board

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Details

OTA Optical Terminal Amplifier (DWDM EDFA Board)

The **OTA (Optical Terminal Amplifier)** launched by **D-TECH Trading** is designed to compensate for optical signal loss in DWDM transmission systems. It provides both **booster amplification (BA)** and **pre-amplification (PA)** for multiplexed optical signals, making it an essential component in long-distance optical communication networks.

Supporting up to **48 DWDM channels (100 GHz spacing)** or **96 DWDM channels (50 GHz spacing)**, the OTA delivers flat optical gain, adjustable amplification, low noise performance, and high output power for modern metro, backbone, and long-haul optical networks.

The amplifier integrates a **built-in OSC optical monitoring channel**, VOA, passive filter, Automatic Power Reduction (APR), and monitoring interfaces for OCM and OTDR, making it an ideal solution for Optical Terminal Multiplexer (OTM), DWDM systems, and future all-optical transmission networks.

Quick Specifications

DWDM Channels
48 / 96

Wavelength
1528–1568 nm

Maximum Output
?21 dBm

Operating Mode
AGC / APC

Key Features

- Supports booster and pre-amplification
- Supports up to 48 channels (100GHz)
- Supports up to 96 channels (50GHz)
- Flat optical gain with low noise
- Configurable AGC or APC operating modes
- Built-in OSC optical monitoring channel
- Built-in VOA and passive optical filter
- Automatic Power Reduction (APR)
- Reserved OCM monitoring interface
- Reserved OTDR monitoring interface

- Adjustable optical attenuation (VOA)
- High output optical power
- Excellent gain flatness and stability
- Designed for long-distance DWDM systems

Applications

Optical Terminal Station (OTM)

Amplifies MUX output signals and pre-amplifies received DWDM optical signals.

DWDM Networks

Designed for long-haul, metro, backbone, and high-capacity DWDM optical transmission.

Optical Monitoring

Supports OSC communication together with OCM and OTDR monitoring interfaces.

All-Optical Networks

Suitable for future high-speed all-optical communication infrastructures.

General Specifications

Parameter	Description
Function	Supports booster amplification and pre-amplification of MUX signals with built-in unidirectional OSC

Parameter	Description
Slot Requirement	2 Slots
Integration	Built-in BA, PA, OSC, VOA and passive filter
Safety	Automatic Power Reduction (APR)
Monitoring Ports	Reserved OCM & OTDR monitoring ports
Line-side VOA Location	PA Front Input (BA without VOA)
VOA Insertion Loss	1 dB
VOA Adjustment Range	0 ~ 15 dB
OSC Wavelength	1510 nm
OSC Rate	1.25 Gb/s
OTDR Wavelength	1625 nm
OTDR Channel Loss	1 dB

Optical Amplification Specifications

Parameter	BA: 21G13V	PA: 21G20V
Operating Wavelength	1528–1568 nm	1528–1568 nm
Operating Mode	AGC / APC	AGC / APC
Gain Range	8–18 dB	15–25 dB
Maximum Output Power	?21 dBm	?21 dBm
Gain Flatness	1.5 dB	1.5 dB

Parameter	BA: 21G13V	PA: 21G20V
Gain Slope	-3 ~ 0 dB	-3 ~ 0 dB
Polarization Related Loss	0.5 dB	0.5 dB
Input Power Measurement	-18 ~ +13 dB	-28 ~ +6 dB
Output Power Measurement	-2 ~ +22 dB	-2 ~ +22 dB
Reflection Coefficient	-30 dB	-30 dB
Gain Stability	±0.5 dB	±0.5 dB

Installation Recommendation

The OTA Optical Terminal Amplifier is recommended for installation in **Optical Terminal Multiplexer (OTM)** sites where DWDM multiplexed signals require booster amplification before transmission or pre-amplification before reception. Select the appropriate BA or PA model according to the optical link budget, configure the amplifier in **AGC or APC mode**, and utilize the built-in **OSC**, **VOA**, **OCM**, and **OTDR monitoring interfaces** to ensure stable long-distance optical transmission and simplified network maintenance.

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