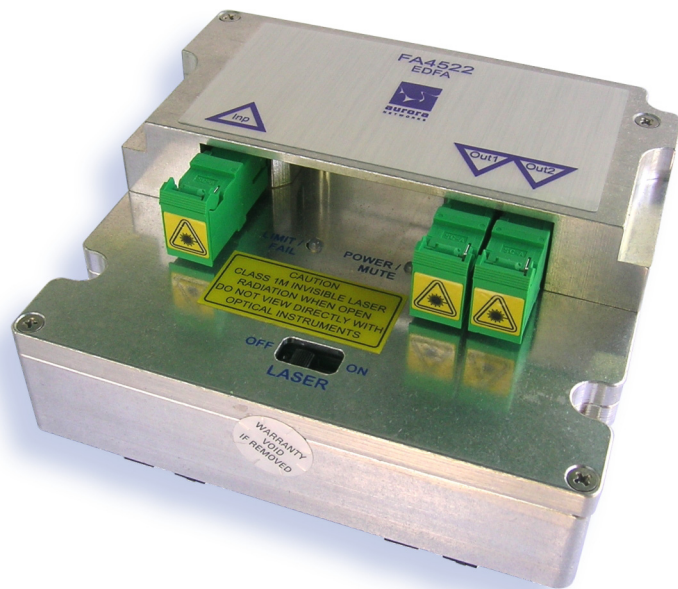


## Features

- Output power level of 19 dBm on each of two outputs
- ASE muting function prevents amplification of mere noise in the absence of an acceptable input signal level
- Low noise figure
- Optical path isolation (input and output)
- Remote status monitoring and control
- Hot plug in/out

## Optical Amplifier with ASE Muting Function



Aurora Networks' FA4522S-01 is a high-output, extremely compact 1550 nm optical amplifier with an output power limiting function that limits the optical output power to a maximum 21.8 dBm to comply with requirements for Class 1M laser products. This high performance amplifier features dual high level outputs (19 dBm per output) and allows operators to use 1550 nm analog and DWDM transmitters to deliver high-quality broadcast and digital narrowcast content over significant transmission distances.

The FA4522S-01 also features an ASE muting function that will prevent the amplification and transmission of "spontaneous emissions" (*i.e.*, primarily circuit noise) in the absence of an acceptable input signal level. This function may be disabled or enabled and, if enabled, the threshold at which the function is activated (to shut down pump laser currents) can be set by remote management software. (An automatic recovery to normal operation occurs once input power has returned to a level approximately 0.8 dB above the threshold.)

The FA4522S-01 Optical Amplifier enhances the deployment of traditional HFC, passive HFC and fiber to the home (FTTH) networks. The unit is designed as a plug-in module for Aurora's NC4000 series Fiber Node Platforms, including the VH4000 "Virtual Hub," and, when used in the latter, provides a practical alternative to OTN-style cabinets.

# FA4522S-01

## Product Specifications

### Physical:

- Dimensions: 4.0" L x 2.3" H x 4.5" W (10.2 cm x 5.8 cm x 11.4 cm)
- Weight: 1.6 lbs (0.7 kg)

### Environmental:

- Operating temperature range: -40° to +85°C (-40° to 185°F)
- Storage temperature range: -40° to +85°C (-40° to 185°F)
- Humidity: 5% to 95% non-condensing

### General:

- Hot plug in/out
- Mode of operation: Constant Current

### Optical Interface:

- Optical connectors: SC/APC

### Power Requirements:

- Input voltage: 24 V<sub>DC</sub>
- Power consumption, max: 17 W (closed node at +65°C)

### Status Indicator LEDs:

- POWER / MUTE - Bi-state LED that is green when unit is switched ON and red if ASE muting function is activated (input power less than user-defined threshold for minimum acceptable input power)
- LIMIT / FAIL - Bi-state LED that is yellow if laser operating at maximum output power (21.8 dBm) and red if limit exceeded (for Class 1M protection; pumps shut down)

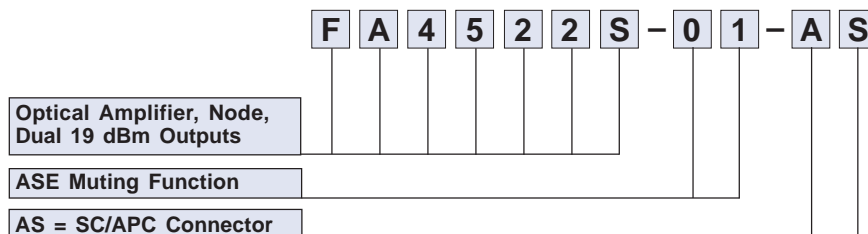
### Optical:

- Input signal wavelength: 1530 – 1565 nm (Noise figure and output power may vary from nominal over this range.)
- Optical signal path isolation, input: > 30 dB
- Composite input power range: -10 to +10 dBm
- Nominal output power: 19 dBm (with 0 dBm input) (internal coupler splits 22 dBm into two outputs at nominal 19 dBm each)
- Output power stability: ±0.6 dB
- Output power margin: 0.2 dB min, 0.6 dB max
- Noise figure: < 5.5 dB (at 0 dBm input, over all wavelengths and temperatures)
- Noise figure, broadcast: < 4.8 dB (typ < 4.5 dB) (1545 – 1563nm input)
- Output power limit: 21.8 ± 0.2 dB (LIMIT/FAIL LED lighted yellow and Constant Current mode disabled when operating at limit; LIMIT/FAIL LED lighted red and pumps shut down if output power limit exceeded)
- ASE muting function: User-defined threshold via management software (POWER/MUTE LED lighted red and pumps shut down if activated; recovery - pumps on - is 0.8 dB above threshold shutdown value.)

### Remote Monitoring / Control Parameters:

Optical input power, laser current, optical output power, laser temperature

## Ordering Information



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