

### **PRO-QSFP28-EDFA-BOOST-17DB**

QSFP28 Pluggable EDFA Booster amplifier for DWDM, Duplex LC, Input power -20dBm to 0dBm, Nominal gain +17dB

#### **Features:**

- SFF-8661 compliant
- QSFP28 standard
- Narrowband amplification over C-band with built-in control circuits
- Low power consumption
- Up to 17dBm adjustable output power
- Duplex LC/UPC receptacle
- Commercial Temperature: 0°C to 70°C
- Hot pluggable amplifier
- Telcordia GR-1312-CORE qualified
- RoHS compliant and lead-free



#### **Product Description:**

This QSFP28 pluggable EDFA booster amplifier offers a optical input range and provides a +17dB nominal gain to a C-Band DWDM link. The pluggable EDFA connects to a composite DWDM link via an LC connector. It is configured for Automatic Gain Control (AGC) by default and can be further configured via CLI prompt in supported hosts or by our coding and tuning system.

## General Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Supply Voltage	Vcc	3.15	3.3	3.45	V	
Storage Temperature	Tstg	-40		85	°C	
Operating Case Temperature	Tc	0		70	°C	
Storage Humidity	RH	0		95	%	
Operating Humidity	RH	5		90	%	
Power Consumption				2.5	W	1

### Notes:

1. Steady state.

## Electrical Characteristics

Parameter	Min.	Typ.	Max.	Unit	Notes
Input Power Monitor Accuracy	-0.5		0.5	dB	1
Output Power Monitor Accuracy	-0.5		0.5	dB	2
Gain Accuracy	-0.5		0.5	dB	

### Notes:

1. @-23~+3dBm.
2. @-10~+20dBm.

## Optical Characteristics

Parameter	Min.	Typ.	Max.	Unit	Notes
Wavelength Range	1529		1567	nm	1
	1545.32		1557.36	nm	2
Input Power Range	-20		0	dBm	
Saturated Output Power		17		dBm	
Output Power Variation	-0.5		0.5	dB	
Nominal Gain		17		dB	
Gain Range	9		24	dB	
Gain Flatness		3.5	5.0	dB	3
		1	1.5	dB	4
Output Monitor Range	-10		20	dBm	
Noise Figure		5.5	6.5	dB	5
Input/Output Port Return Loss	40			dB	
PDG			0.3	dB	
PMD			0.5	ps	
Operation Mode	AGC/APC				
Input LOS Threshold		-23		dBm	
LOS Hysteresis		1		dB	

### Notes:

1. 48 channels.
2. 16 channels.
3. 48 channels @ nominal gain.
4. 16 channels @ nominal gain.
5. Nominal gain @ Pin=-10dBm.

## Pin Descriptions

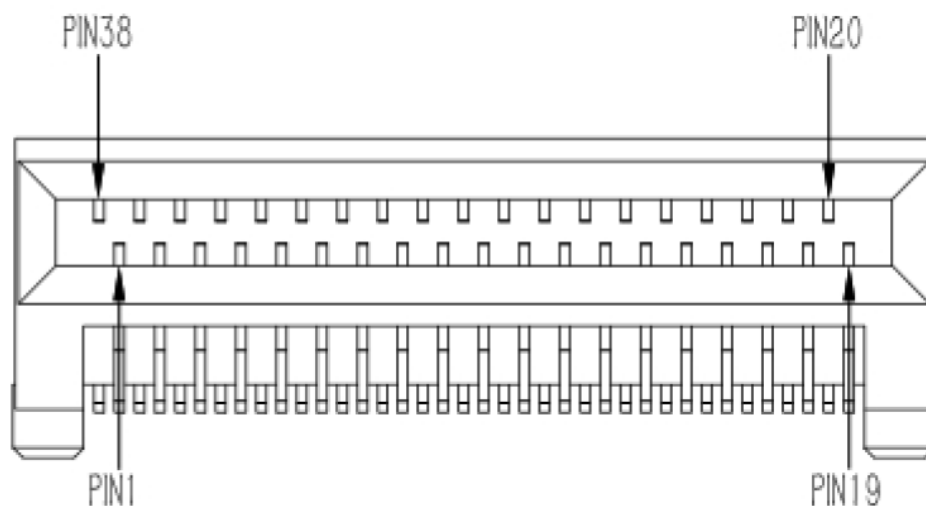
Pin	Logic	Symbol	Name/Description	Plug Sequence	Notes
1		GND	Module Ground.	1	1
2		Reserved	Not connected within the module.	3	
3		Reserved	Not connected within the module.	3	
4		GND	Module Ground.	1	
5		Reserved	Not connected within the module.	3	
6		Reserved	Not connected within the module.	3	
7		GND	Module Ground.	1	
8	LVTTL-I	ModSelL	Module Select.	3	
9	LVTTL-I	ResetL	Module Reset. Internal pull-up 10kΩ.	3	
10		Vcc3	+3.3V Power Supply.	2	
11	OC-I	SCL	I2C Serial Interface Clock.	3	3
12	OC-I/O	SDA	I2C Serial Interface Data.	3	3
13		GND	Module Ground.	1	
14		Reserved	Not connected within the module.	3	
15		Reserved	Not connected within the module.	3	
16		GND	Module Ground.	1	
17		Reserved	Not connected within the module.	3	
18		Reserved	Not connected within the module.	3	
19		GND	Module Ground.	1	
20		GND	Module Ground.	1	
21		Reserved	Not connected within the module.	3	
22		Reserved	Not connected within the module.	3	
23		GND	Module Ground.	1	
24		Reserved	Not connected within the module.	3	
25		Reserved	Not connected within the module.	3	
26		GND	Module Ground.	1	
27	LVTTL-O	ModPrsL	Module Present. Internally connected to the GND.	3	
28	LVTTL-O	IntL/INLOS	Interrupt. Optionally configurable as INLOS, EDFA loss of input signal.	3	
29		Vcc3	+3.3V Power Supply.	2	
30		Vcc3	+3.3V Power Supply.	2	
31	LVTTL-I	LPMode/TxDis	Low-Power Mode. Optionally configurable as TxDis via the management interface (SFF-8636).	3	
32		GND	Module Ground.	1	
33		Reserved	Not connected within the module.	3	
34		Reserved	Not connected within the module.	3	
35		GND	Module Ground.	1	

36		Reserved	Not connected within the module.	3	
37		Reserved	Not connected within the module.	3	
38		GND	Module Ground.	1	

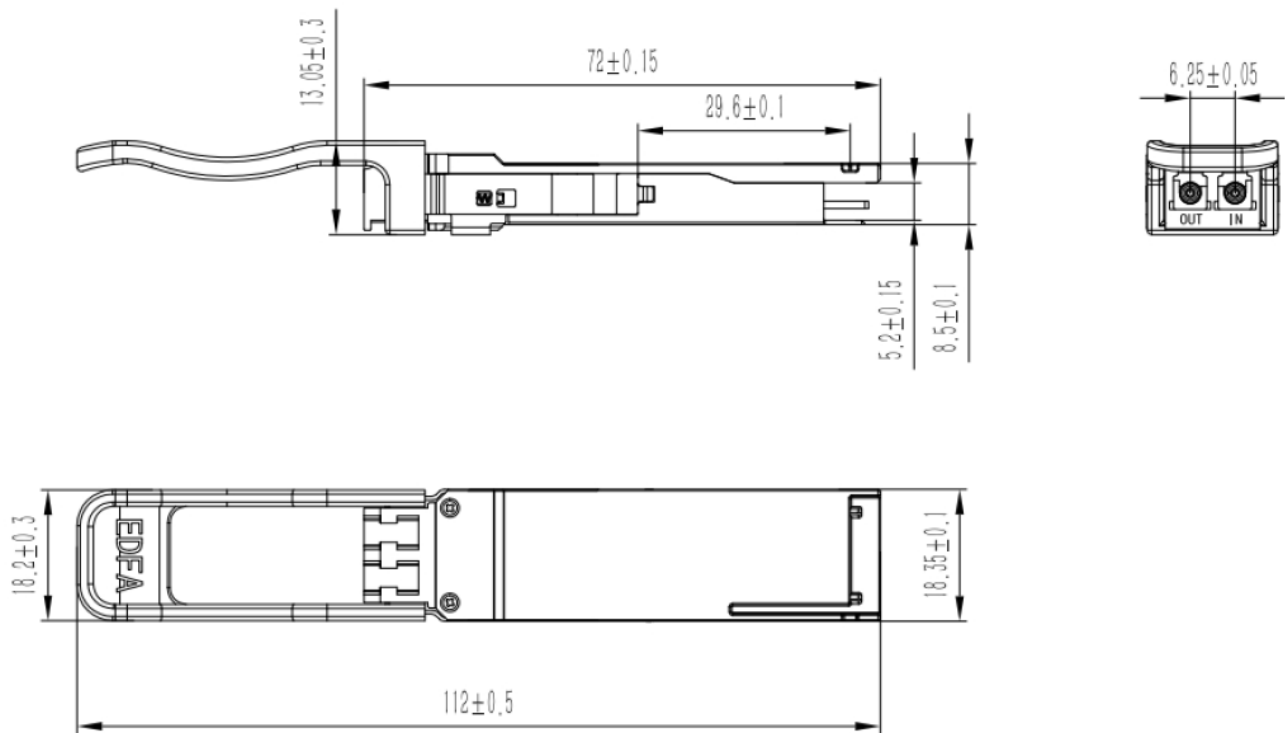
**Notes:**

1. GND is the symbol for signal and supply (power) common for the module. All are common within the module and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal-common ground plane.
2. An alarm condition is present when Pin 4 changes from the normal condition of LVTTTL “high” to a condition LVTTTL “low.” The alarm condition can be for Output Power, Pump Laser Bias, Case Temperature, and/or Power Supply Voltage. Read specific alarm conditions through the I2C interface.
3. Pulled up in the module to a voltage between 3.15V and 3.45V.
4. Voltages applied to this pin do not impact operation or performance of the module.
5. Connected in series with a capacitor (0.1uF) and resistor (51Ω) to the GND in the module.

**QSFP28 Host Socket Connector**



Mechanical Specifications



Dimensions are in mm.

### About Us:

Proline Options is one of North America's leading providers of transceivers and high speed cabling. With a reputation for quality, tested products that cover the connectivity spectrum, Proline Options has a solution for you regardless of the specification.

At Proline Options, every product is tested in its intended application - never batch or spec tested only. We run bandwidth, distance and IOS network tests. We have documented an impressive 0.03% failure rate over the last 10 years. To continue this rate of success we invest millions annually in our own on-site testing lab.



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