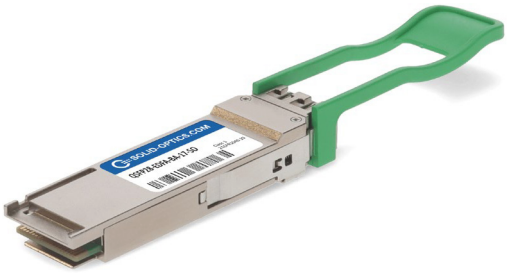


QSFP28 Pluggable EDFA Preamp

Tech Specs

QSFP28-EDFA-PA-17-SO

QSFP28 Pluggable EDFA Preamplifier for DWDM, Duplex LC, Input power -30dBm to -10dBm, Nominal gain +17dB

1. PRODUCT INTRODUCTION

QSFP28 EDFA module is a hot pluggable amplifier with standard QSFP28 packaged. It is designed for C band signal amplification with built-in control circuits. The products feature ultra compact size, low power consumption and excellent noise figure. With standard QSFP28 interface and protocol ,the micro-processor controlled and managed QSFP28 module can ideally be used in high densely telecom systems, such as compact DCI networks. The products are Telcordia GR-1312-CORE qualified, and RoHS compliant.

2. PRODUCT SPECIFICATION & 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℃ to 70℃
- Hot pluggable amplifier
- Telcordia GR-1312-CORE qualified
- RoHS compliant and lead-free

3.GENERAL SPECIFICATIONS

Items	Unit	Min	Typ.	Max	Note
Input Power Monitor Accuracy	dB	-0.5		0.5	@~33~-7dBM
Output Power Monitor Accuracy	dB	-0.5		0.5	@-20~+10dBm
Gain Accuracy	dB	-0.5		+0.5	dB
Operating Temperature	℃	-5		70	
Storage Temperature	℃	-40		85	
Operation Humidity	%RH	5		90	
Storage Humidity	%RH	0		95	
Working Voltage	V	3.15	3.3	3.45	
Power Dissipation	W	-		2.5	steady state

4. OPTICAL CHARACTERISTICS

Items	Min	Typ.	Max	Unit	Notes
Operating Wavelength	1529		1554	nm	48CH
Operating Wavelength	1545.32		1557.36	nm	16CH
Input Power Range	-30		-10	dBm	
Saturated Output Power	7			dBm	
Output Power Variation	-0.5		0.5	dB	
Nominal Gain		17		dB	1
Gain Range	9		24	dB	
Gain Flatness		3.5	5.0	dB	48CH@Nominal gain
Gain Flatness		1	1.5	dB	16CH@Nominal gain
Output Monitor Range	-20		10	dBm	
Noise Figure		5.5	6.5	dB	Nominal gain@Pin=-10dBm
Input/output Port Return Loss	40				
PDG			0.3	dB	
PMD			0.5	ps	
Operation Mode		AGC/APC			
Input LOS Threshold		-33		dBm	
LOS Hysteresis		1		dB	

5. PIN DESCRIPTIONS

Pad	Logic	Symbol	Description	Plug Sequence4	Notes*
1		GND	Ground	1	1
2		Reserved	No Connect in the module	3	
3		Reserved	No Connect in the module	3	
4		GND	Ground	1	
5		Reserved	No Connect in the module	3	
6		Reserved	No Connect in the module	3	
7		GND	Ground	1	
8	LVTTL-I	ModSelL	Module Select	3	
9	LVTTL-I	ResetL	Module Reset, Internal pullup 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 line	3	3
13		GND	Ground	1	
14		Reserved	No Connect in the module	3	
15		Reserved	No Connect in the module	3	
16		GND	Ground	1	
17		Reserved	No Connect in the module	3	
18		Reserved	No Connect in the module	3	
19		GND	Ground	1	
20		GND	Ground	1	
21		Reserved	No Connect in the module	3	
22		Reserved	No Connect in the module	3	
23		GND	Ground	1	
24		Reserved	No Connect in the module	3	
25		Reserved	No Connect in the module	3	
26		GND	Ground	1	
27	LVTTL-O	ModPrsL	Module Present, Internal connect to GND	3	
28	LVTTL-O	IntL/INLOS	Interrupt/Optional INLOS, EDFA loss of input signal	3	
29		VCC3	+3.3V Powe 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	Ground	1	
33		Reserved	No Connect in the module	3	
34		Reserved	No Connect in the module	3	
35		GND	Ground	1	
36		Reserved	No Connect in the module	3	
37		Reserved	No Connect in the module	3	
38		GND	Ground	1	

Notes*:

1) GND is the symbol for signal and supply (power) common for the module. All are common with in 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.

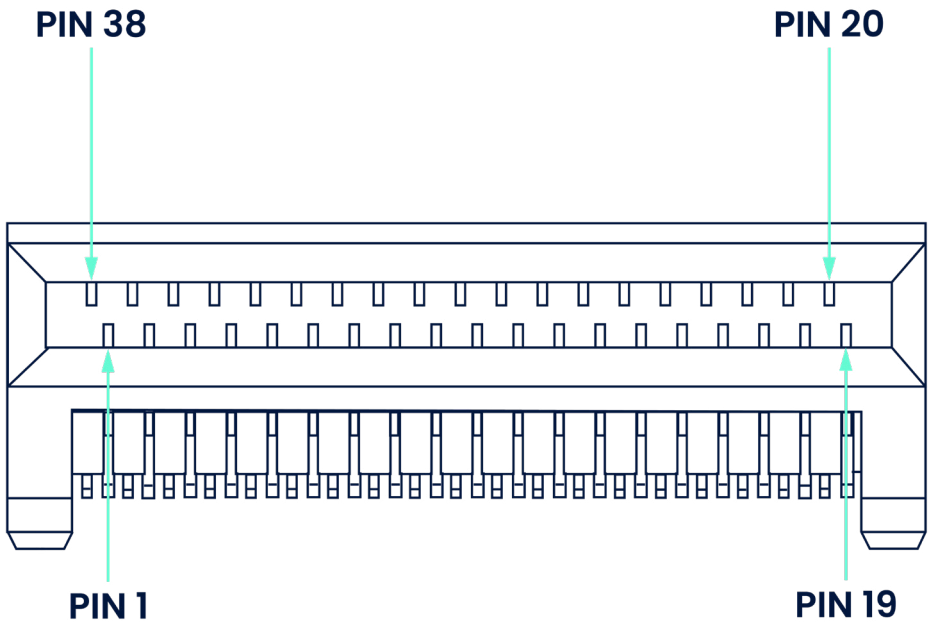
2) An alarm condition is present when Pin 4 changes from the normal condition of LVTTL high to a condition LVTTL low. The alarm condition can be for Output Power, Pump Laser Bias, Case Temperature and/or Power Supply Voltage. Read specific alarm condition through I2C interface.

3) Pulled up in the module to a voltage between 3.15 V and 3.45 V.

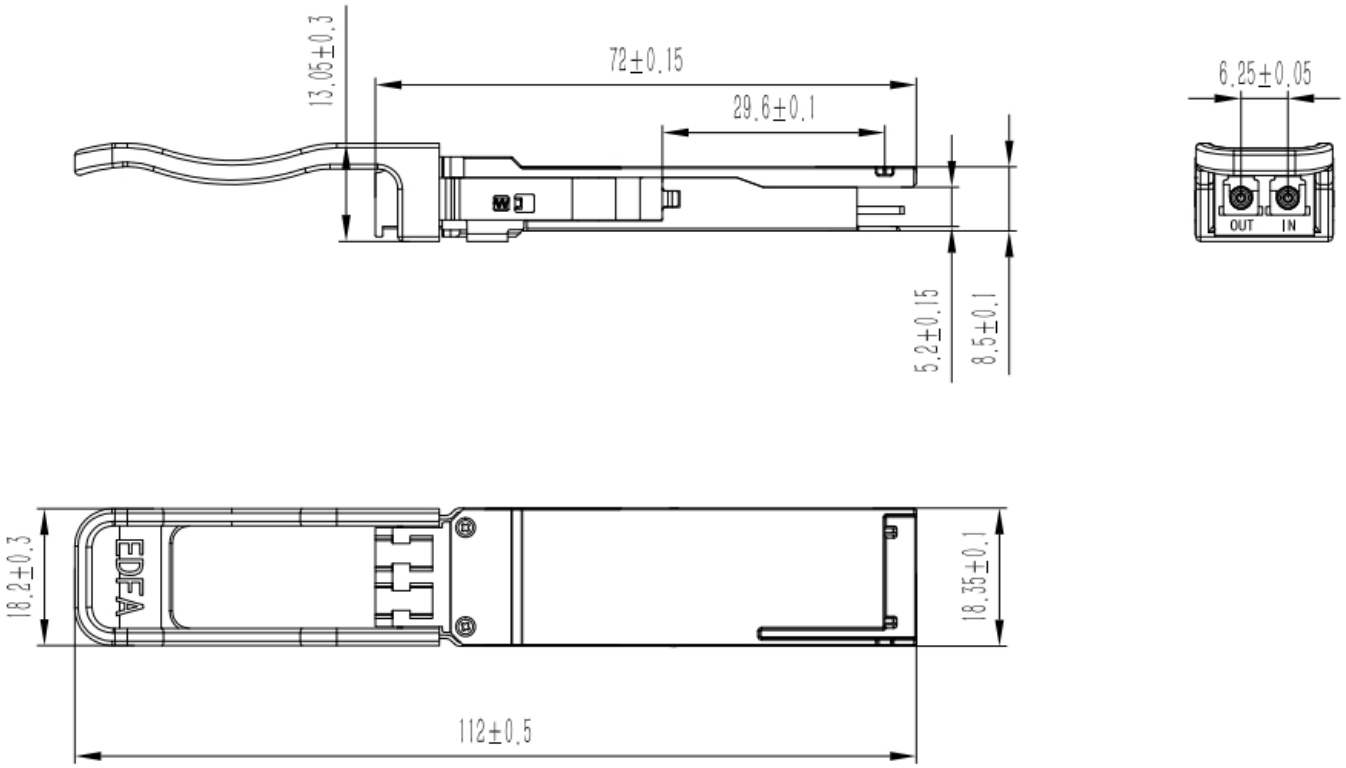
4) Voltages applied to this pin do not impact operation or performance of the module.

5) Connected in series with a capacitor (0.1uF) and resistor (51Ω) to GND in the module.

6. DIAGRAM OF 38-POSITION HOST SOCKET CONNECTOR FOR QSFP28



7. MECHANICAL DIMENSIONS



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