

16 Gb/s 100m SFP+ 850nm Transceiver



SFP+ Series

- 16GFC/8GFC/4GFC serial optical interface
- Rate Adaptation
- 850nm VCSEL transmitter and GaAs PIN PD receiver
- Wide operating temperature
- Low Power Consumption <1W

Ascent's SFPP-16LP-85-01 SFP+ transceiver is an integrated fiber optic transceiver that provides a high-speed serial link at signaling rates up to 16 Gb/s.

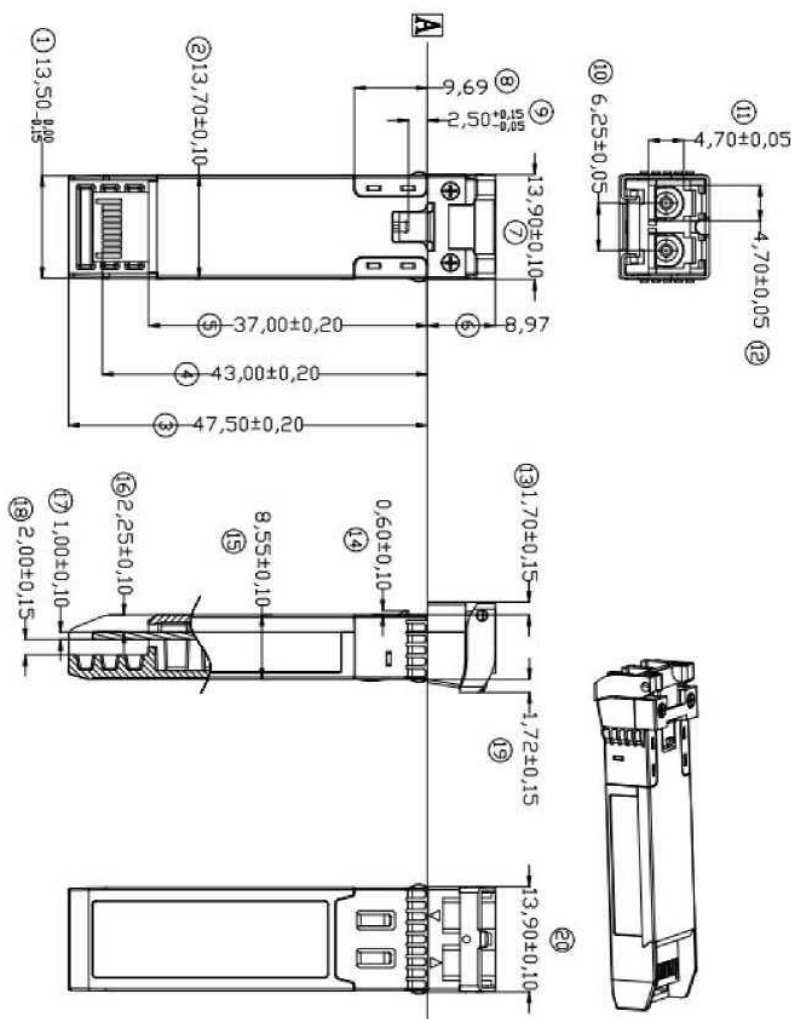
The module complies with SFF-8431 and SFF 8472 standards. It is suitable for 16G Ethernet applications and has a transmission distance of up to 100 m on OM3 and 150 m on OM4 multi-mode fibers. The SFPP-16LP-85-01 transceiver features a metal enclosure for lower EMI. It utilizes a 2-wire interface that is compliant with the serial communication protocol as defined in the SFP+ MSA.

It also provides a unique integrated digital diagnostic monitoring interface, allowing for real-time access to device operating parameters. This module is also hot-pluggable.

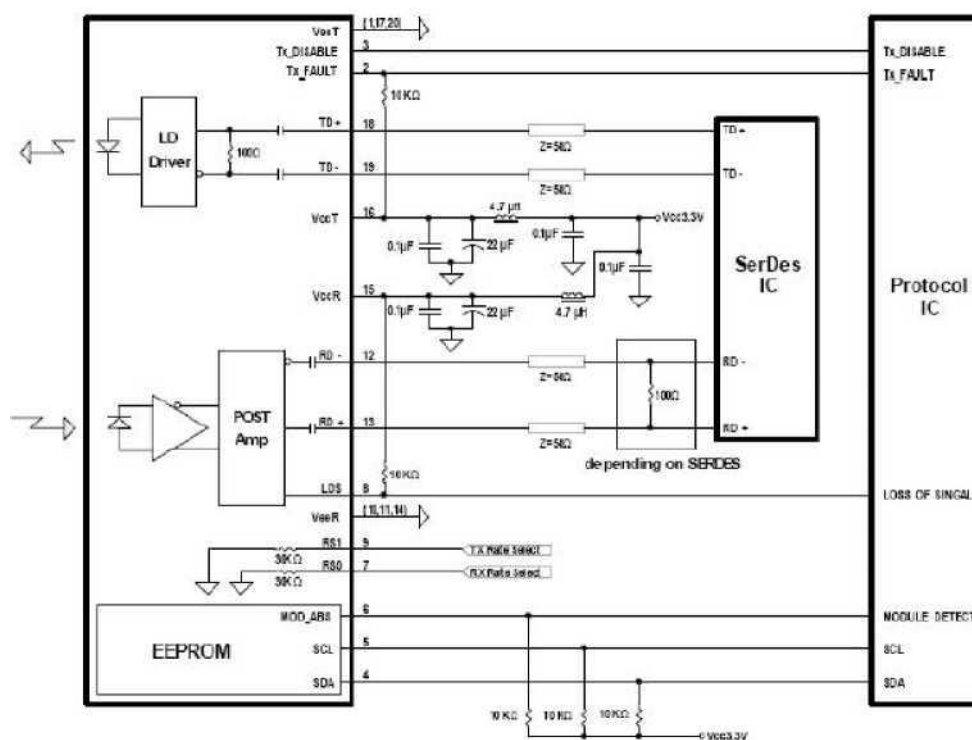
Key Features

- 16GFC(14.025Gb/s)/8GFC(8.5Gb/s)/4GFC(4.25Gb/s) serial optical interface
 - Rate Adaptation
 - 850nm VCSEL transmitter and GaAs PIN PD receiver
 - Wide operating temperature(0°C to 70°C)
 - Low power consumption <1W
 - Maximum link length of 100m via OM3 multimode Fiber(MMF)
 - Fibre Channel FC-P1-5 compliant high speed interface
- 1600-SN-M6-S, 800-SN-M6-S, 400-SN-M6-I
- 1600-SN-M5-S, 800-SN-M5-S, 400-SN-M5-I
- 1600-SN-M5E-I, 800-SN-M5E-I, 400-SN-M5E-I
- 1600-SN-M5F-I, 800-SN-M5F-I, 400-SN-M5F-I

Outline Dimensions



Recommended Interface Circuit



Specifications

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Storage Temperature	T _s	-40		+85	°C
Relative Humidity	RH	0		85	%

Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Operating Case Temperature	T _c	0		+70	°C	
Power Supply Voltage	V _{cc}	3.15	3.30	3.45	V	
Signaling Rate each Channel		4.25	14.025		Gbps	

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter						
Center Wavelength	λ	840		860	nm	
RMS Spectral Width	P _m			0.6	nm	
Average Optical Power	P _{avg}	-8.4		2.4	dBm	
Optical Modulation Amplitude	OMA	-6.4		3	dBm	
Average Launch Power of OFF Transmitter	P _{off}			-30	dBm	
Extinction Ratio	ER	2			dB	
Optical Return Loss Tolerance				12	dB	
Receiver						
Center Wavelength	λ	840	850	860	nm	
Damage Threshold		3.4			dBm	
Receive Power Overload		2.4			dBm	
Receiver Reflectance				-12	dB	
Receiver Sensitivity	SENS			-10.3	dBm	1
LOS Assert	LOS _A	-30			dBm	
LOS De-Assert	LOS _D			-13	dBm	
LOS Hysteresis	LOSH	0.5			dB	

Note1: Measured at 14.025125Gb/s, ER>3.5dB, PRBS 2³¹-1 and BER better than or equal to 1E-12.

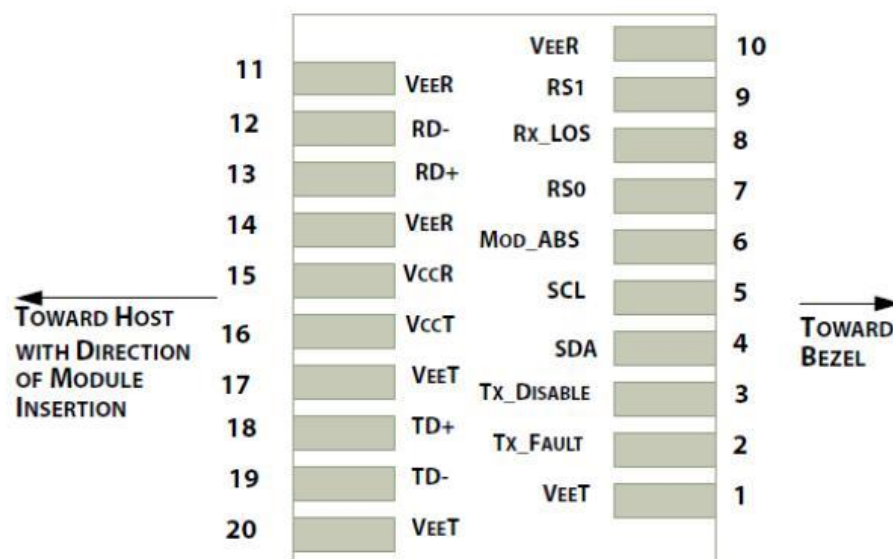
Electrical Characteristics

Parameter	Symbol	Min	Typ.	Max	Unit	Note
Power Consumption				1	W	
Supply Current	I _{cc}			300	mA	

Digital Diagnostic Functions

Parameter	Accuracy	Unit
Internally Measured Transceiver Temperature	+/-3	°C
Internally Measured Transceiver Supply Voltage	+/-3	%
Measured Tx Bias Current	+/-10	%
Measured Tx Output Power	+/-3	dB
Measured Rx Received Average Optical Power	+/-3	dB

Pin Assignment



Pin	Logic	Symbol	Name / Description
1		VeeT	Module Transmitter Ground
2	LVTTL-O	TX_Fault	Module Transmitter Fault
3	LVTTL-I	TX.Dis	Transmitter Disable; Turns off transmitter laser output
4	LVTTL-I/O	SDA	2-Wire Serial Interface Data Line
5	LVTTL-I	SCL	2-Wire Serial Interface Clock
6		MOD_DEF0	Module Definition, Grounded in the module
7	LVTTL-I	RS0	Receiver Rate Select
8	LVTTL-O	RX_LOS	Receiver Loss of Signal Indication Active LOW
9	LVTTL-I	RS1	Transmitter Rate Select(not used)
10		VeeR	Module Receiver Ground
11		VeeR	Module Receiver Ground
12	CML-O	RD-	Receiver Inverted Data Output
13	CML-O	RD+	Receiver Data Output
14		VeeR	Module Receiver Ground
15		VccR	Module Receiver 3.3V Supply
16		VccT	Module Receiver 3.3V Supply
17		VeeT	Module Transmitter Ground
18	CML-I	TD+	Transmitter Non-Inverted Data Input
19	CIVIL-1	TD-	Transmitter Inverted Data Input
20		VeeT	Module Transmitter Ground

Ordering Information

Product Name

SFPP-16LP-85-01

Product Description

SFP+ Plug-in, 16GBASE-SR, 100m, 850nm, on two multimode fiber, LC, DOM

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