

**Product Features**

- compliant to SFF-8402 for SFP28 solution
- Digital Diagnostic Monitor Interface with SFF-8472
- Hot pluggable SFP+ footprint
- 850nm VCSEL transmitter
- Up to 25.78Gb/s data links
- Applicable for 100m MMF(OM4) or 70m MMF(OM3) connection
- High transmission margin
- Low power consumption < 1.2W
- Single 3.3V power supply
- Operating case temperature: 0 to 70 °C

**Applications**

- 25.78 Gb/s single lane 100GE SR4
- Other optical links

**Product Descriptions**

This 850 nm 25.78Gbps SFP+ transceiver is designed for use in 25Gb/s data rate over multi-mode fiber for link length 100m(OM4).

The transceiver designs are optimized for high performance and cost effective to supply customers the best solutions for 25Gb/s single lane optical links. The transceiver can interwork with 100G SR4 .

**Absolute Maximum Ratings**

Parameter	Symbol	Min.	Max.	Unit	Note
Supply Voltage	Vcc	-0.5	4.0	V	
Storage Temperature	Ts	-40	85	°C	
Relative Humidity	RH	0	85	%	

Note: Stress in excess of the maximum absolute ratings can cause permanent damage to the module

**General Operating Characteristics**

Parameter	Symbol	Min.	Typ	Max.	Unit	Note
Data Rate			25.78		Gb/s	
Supply Voltage	Vcc	3.13	3.3	3.47	V	
Supply Current	Icc			300	mA	
Operating Case Temp	Tc	0		70	°C	

## Electrical Input/Output Characteristics

Parameter	Symbol	Min.	Typ	Max.	Unit	Note
<b>Transmitter</b>						
Differential data input swing	VIN <sub>pp</sub>	120		800	mV <sub>pp</sub>	1
Tx Disable input	H	TD <sub>H</sub>	2.0	V <sub>cc</sub> +0.3	V	
	L	TD <sub>L</sub>	0	0.8		
Tx Fault output	H	TF <sub>H</sub>	2.0	V <sub>cc</sub> +0.3	V	2
	L	TF <sub>L</sub>	0	0.8		
Input differential impedance	R <sub>in</sub>		100		Ω	
<b>Receiver</b>						
Differential data output swing	V <sub>out,pp</sub>	340	650	800	mV <sub>pp</sub>	3
Rx Los Output	H	VO <sub>H</sub>	2.0	V <sub>cc</sub> +0.3	V	2
	L	VO <sub>L</sub>	0	0.8		

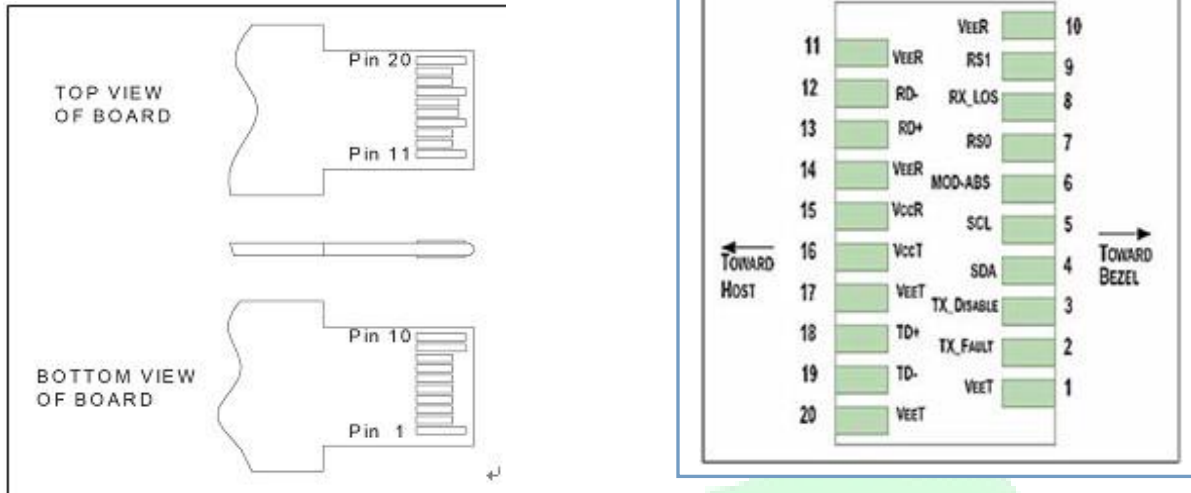
### Note :

1. TD<sub>H/L</sub> are internally AC coupled with 100Ω differential termination inside the module.
2. Tx Fault and Rx LOS are open collector outputs, which should be pulled up with 4.7k to 10kΩ resistors on the host board. Pull up voltage between 2.0V and V<sub>cc</sub>+0.3V.
3. RD<sub>H/L</sub> outputs are internally AC coupled, and should be terminated with 100Ω (differential) at the user SERDES.

## Optical Characteristics

Parameter	Symbol	Min.	Typ	Max.	Unit	Note
<b>Transmitter</b>						
Operating Wavelength	λ	840		860	nm	
Ave. output power (Enabled)	P <sub>AVE</sub>	-8.4		2.4	dBm	1
Side-Mode Suppression Ratio	SMSR	30			dB	
Extinction Ratio	ER	2			dB	
RMS spectral width(-20dB)	Δλ			1	nm	
Dispersion penalty	T <sub>DP</sub>			2.5	dB	
Relative Intensity Noise	R <sub>IN</sub>			-130	dB/Hz	
<b>Receiver</b>						
Operating Wavelength		840		860	nm	
Receiver Sensitivity(OMA)	P <sub>Sen</sub>			-8.3	dBm	2
Average Receiver Power	P <sub>imax</sub>	-10.3		2	dBm	
LOS Assert	Pa	-30			dBm	
LOS De-assert	Pd			-13	dBm	
LOS Hysteresis	Pd-Pa	0.5		5	dB	

## Pin Definitions And Functions

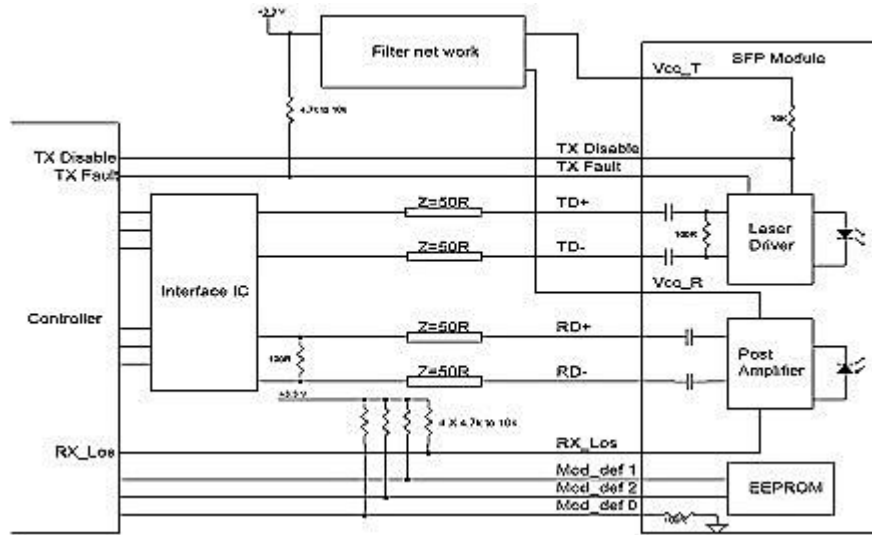


Pin	Symbol	Name/Description
1	VEET [1]	Transmitter Ground
2	Tx_FAULT [2]	Transmitter Fault
3	Tx_DIS [3]	Transmitter Disable. Laser output disabled on high or open
4	SDA [2]	2-wire Serial Interface Data Line
5	SCL [2]	2-wire Serial Interface Clock Line
6	MOD_ABS [4]	Module Absent. Grounded within the module
7	RS0 [5]	Rate Select 0
8	RX_LOS [2]	Loss of Signal indication. Logic 0 indicates normal operation
9	RS1 [5]	Rate Select 1
10	VEER [1]	Receiver Ground
11	VEER [1]	Receiver Ground
12	RD-	Receiver Inverted DATA out. AC Coupled
13	RD+	Receiver DATA out. AC Coupled
14	VEER [1]	Receiver Ground
15	VCCR	Receiver Power Supply
16	VCCT	Transmitter Power Supply
17	VEET [1]	Transmitter Ground
18	TD+	Transmitter DATA in. AC Coupled
19	TD-	Transmitter Inverted DATA in. AC Coupled
20	VEET [1]	Transmitter Ground

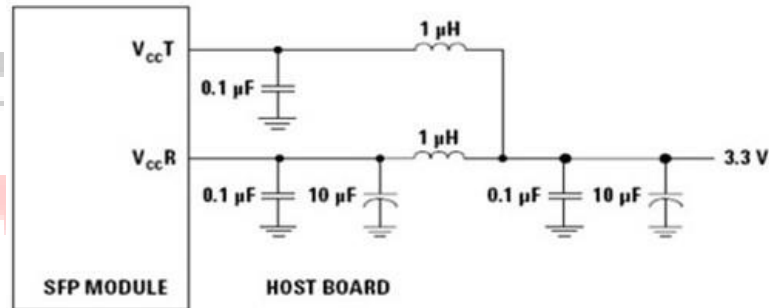
### Notes:

1. Module circuit ground is isolated from module chassis ground within the module.
2. should be pulled up with 4.7k – 10k ohms on host board to a voltage between 3.15V and 3.6V.
3. Tx\_Disable is an input contact with a 4.7 kΩ to 10 kΩ pullup to VccT inside the module.
4. Mod\_ABS is connected to VeeT or VeeR in the SFP+ module. The host may pull this contact up to Vcc\_Host with a resistor in the range 4.7 kΩ to 10 kΩ. Mod\_ABS is asserted “High” when the SFP+ module is physically absent from a host slot.
5. RS0 and RS1 are module inputs and are pulled low to VeeT with > 30 kΩ resistors or NC in the module, don’t use.

## Typical interface circuit

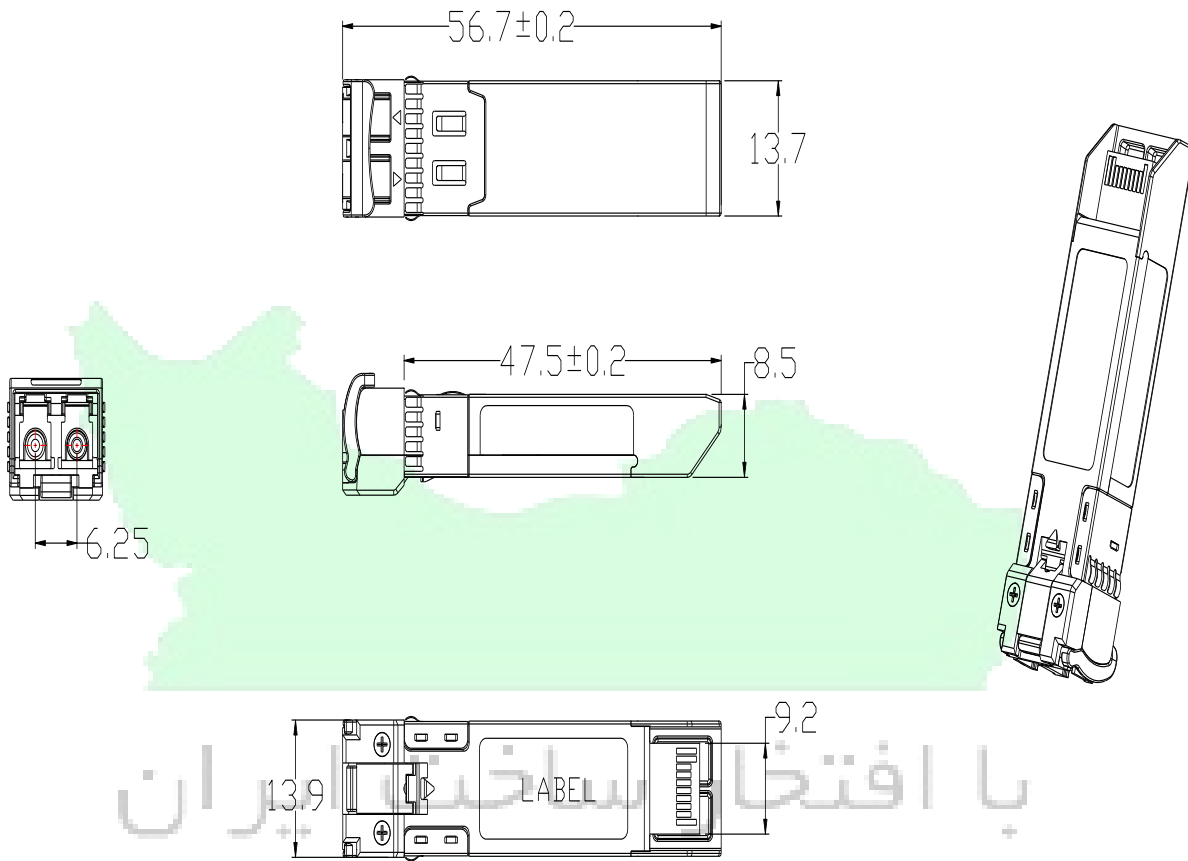


## Recommended power supply filter



**Notes :** Inductors with DC resistance of less than 1Ω should be used in order to maintain the required voltage at the SFP input pin with 3.3V supply voltage. When the recommended supply filtering network is used, hot plugging of the SFP transceiver module will result in an inrush current of no more than 30 mA greater than the steady state value

Package Dimensions



Dimensions are in Millimeter

Tolerance without indication is ±0.1mm