Features:

- Compliant with SFP MSA standard
- Compliant with SFF-8472
- Duplex LC Connector
- Up to 155Mb/s Data Rate
- Up to Distance 20km
- 1310nm FP Single-Mode
- 3.3V DC Power Supply
- Hot-Pluggable
- RoHS Compliant Products Available
- Difference LVPECL inputs and outputs

Applications:

- Fast Ethernet data link
- Data storage networks
- Optical access network
- Other Optical Links

Specification:

a) Performance Specification:

Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Transmitter						
Supply Voltage	VCC	3.15	3.3	3.45	V	
Operation Current	Icc	-	-	130	mA	
Differential Input Voltage	V_{IN}	400	-	1600	mV	
Data Rate	Rate	-	155	-	Mbps	
Optical Output Power	Po	-8	-	-3	dBm	
Extinction Ratio	ER	12	-	20	dB	
Central Wavelength		1260	1310	1360	nm	
Output Spectrum Width	Δλ	-	-	4	Nm	RMS
Optical Rise Time	Tr	-	-	0.26	ns	20% ~ 80%
Optical Fall Time	Tf	-	-	0.26	ns	20% ~ 80%
Eye Diagram	Compliant IEEE802.3z					
Receiver						
Supply Voltage	VCC	3.14	3.3	3.47	V	
Operation Current	Ioc	-	-	120	mA	
Differential Output Voltage	V_{OUT}	400	-	2000	mV	1
Data Rate	Rate	-	155	-	Mbps	
Sensitivity	S	-	-	-34	dBm	2
Optical Input Overload	P_{OL}	-3	-	-	dBm	-
Central Wavelength		1100	-	1600	nm	
SD (Signal Detected)	Optical Decreased	-47	-	-	dBm	-
SD (Signal Detected)	Optical Increased		-	-34	dBm	
SD Hysterics	P_H	0.5	-	5	dB	

Note1: Internally AC Coupled.
Note2: Average received power where the BER = 10^{-10}, measured with a 2^{23}-1 NRZ test pattern

TERRABIT NETWORKS PTE LTD
33. Ubi Avenue 3 #05-42. VERTEX Tower A. Singapore 408868
[Tel] 65.6741.1232 [Fax] 65.6749.0670 [Web] http://www.terrabitnet.com
Reg. no. 200607441N

b) Absolute Maximum Ratings:

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	T_{ST}	-40	+85	˚C
Operating Temperature	T_O	-10	70	˚C
Storage Relative Humidity	RHs	-	95	%
Power Supply	VCC	-	5.5	V
Lead Solder Temperature	T_{SLD}	-	260	˚C
Lead Solder Duration	t_{SLD}	-	10	S
Voltage on any input/ output pin	V_{10}	0	VCC	V

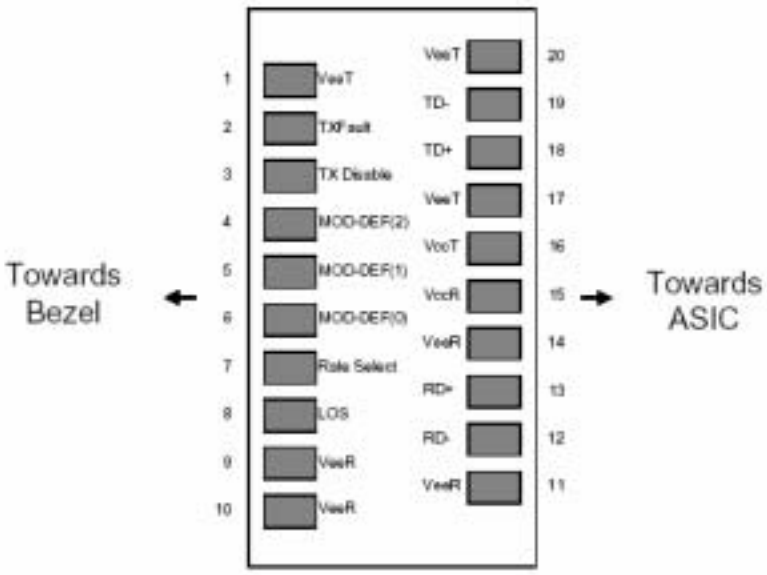
c) PECL Logic Level:

Logic State	Unit	Min.	Typ.	Max.
Low	V	VCC-1.84	-	VCC-1.60
High	V	VCC-1.10	-	VCC-0.90

d) TTL Logic Level:

Logic State	Unit	Min.	Typ.	Max.
Low	V	0	-	0.8
High	V	2.4	-	VCC

e) Pin Assignment:



Pin out of Connector Block on Host Board

TERRABIT NETWORKS PTE LTD
33. Ubi Avenue 3 #05-42. VERTEX Tower A. Singapore 408868
[Tel] 65.6741.1232 [Fax] 65.6749.0670 [Web] http://www.terrabitnet.com
Reg. no. 200607441N

f) Pin Description:

Pin Num.	Name	Function	Plug Seq.	Notes
1	VeeT	Transmitter Ground	1	
2	TX Fault	Transmitter Fault Indication	3	1
3	TX Disable	Transmitter Disable	3	2
4	MOD-DEF2	Module Definition 2	3	3
5	MOD-DEF1	Module Definition 1	3	3
6	MOD-DEF0	Module Definition 0	3	3
7	Rate Select	Not Connect	3	
8	LOS	Loss of Signal	3	4
9	VeeR	Receiver Ground	1	
10	VeeR	Receiver Ground	1	
11	VeeR	Receiver Ground	1	
12	RD-	Inv. Received Data Out	3	5
13	RD+	Received Data Out	3	5
14	VeeR	Receiver Ground	1	
15	VccR	Receiver Power	2	
16	VccT	Transmitter Power	2	
17	VeeT	Transmitter Ground	1	
18	TD+	Transmit Data In	3	6
19	TD-	Inv. Transmit Data In	3	6
20	VeeT	Transmitter Ground	1	

Notes:

1. 1, TX Fault is an open collector output, which should be pulled up with a 4.7k~10kΩ resistor on the host board to a voltage between 2.0V and Vcc+0.3V. Logic 0 indicates normal operation; logic 1 indicates a laser fault of some kind. In the low state, the output will be pulled to less than 0.8V.
2. TX Disable is an input that is used to shut down the transmitter optical output. It is pulled up within the module with a 4.7k~10kΩ resistor. It's states are: Low (0~0.8V): Transmitter on (>0.8V, <2.0V): Undefined
   High (2.0~3.465V): Transmitter Disabled
   Open: Transmitter Disable
3. MOD-DEF 0, 1, 2 are the module definition pins. They should be pulled up with a 4.7k~10kΩ resistor on the host board. The pull-up voltage shall be VccT or VccR.
   MOD-DEF 0 is grounded by the module to indicate that the module is present.
   MOD-DEF 1 is the clock line of two wire serial interface for serial ID.
   MOD-DEF 2 is the data line of two wire serial interface for serial ID
4. LOS is an open collector output, which should be pulled up with a 4.7k~10kΩ resistor on the host board to a voltage between 2.0V and Vcc+0.3V. Logic 0 indicates normal operation; logic 1 indicates loss of signal. In the low state, the output will be pulled to less than 0.8V.
5. These are the differential receiver outputs. They are AC-coupled 100Ω differential lines which should be terminated with 100Ω (differential) at the user SERDES.
6. These are the differential transmitter inputs. They are AC-coupled, differential lines with 100Ω differential termination inside the module.

TERRABIT NETWORKS PTE LTD
33. Ubi Avenue 3 #05-42. VERTEX Tower A. Singapore 408868
[Tel] 65.6741.1232 [Fax] 65.6749.0670 [Web] http://www.terrabitnet.com
Reg. no. 200607441N