

ALL4794 (Commercial 0- + 70Grad) **ALL4794-INDU (Industrial -40 / +85 Grad)**

1. Feature

- *SFP package with LC connector*
- *1310nm FP Laser and PIN photo detector*
- *Up to 2Km transmission on 50/125 um MMF*
- *+3.3V single power supply*
- *LVPECL compatible data input/output interface*
- *Low EMI and excellent ESD protection*
- *laser safety standard IEC-60825 compliant*
- *Compatible with RoHS*

Art.-Nr. 194705/194706



2. Application

- Ethernet
- Telecom
- Fiber Channel

3. Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Storage Temperature	Tst	-40	+85	°C
Supply Voltage	Vcc	0	+3.6	V
Operating Relative Humidity	RH	5	95	%

4. Operation Environment

(Ambient Operating Temperature 0°C to +70°C, Vcc = 3.3V)

Parameter	Symbol	Min	Typical	Max	Units
Supply Voltage	Vcc	3.15		3.45	V
Operating Case Temperature	Commercial	0		+70	°C
	Industrial	-40		+85	
Power Dissipation				1	W
Data Rate			155		Mbps



5. Optical Characteristics

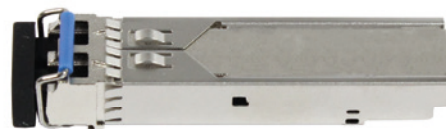
(Ambient Operating Temperature 0°C to +70°C, Vcc = 3.3V)

Parameter	Symbol	Minimum	Maximum	Units	Units
Transmitter Selection					
Center Wavelength	λ_o	1260	1310	1360	nm
Spectral Width (RMS)	$\Delta\lambda$			4	nm
Average Output Power	Po	-20		-15	dBm
Extinction Ratio	Er	12		18	dB
Rise/Fall Time (20%~80%)	Tr/Tf			0.26	ns
Total jitter	Tj			0.43	UI
Optical Eye Diagram	IEEE 802.3u and ANSI Fibre Channel Compatible				
Receiver Selection					
Center Wavelength	λ_o	1260		1620	nm
Receiver Sensitivity	Rsen			-34	dBm
Receiver Overload	Rov	-3			dBm
Return Loss		12			dB
LOS Assert	LOS _A	-45			dBm
LOS Dessert	LOS _D			-34	dBm
LOS Hysteresis		0.5		5	

6. Electrical Characteristics:

(Ambient Operating Temperature 0°C to +70°C, Vcc = 3.3V)

Parameter	Symbol	Minimum	Maximum	Units	Units
Transmitter Selection					
Input Differential Impedence	Zin	90	100	110	Ohm
Data Input Swing Differential	Vin	500		2400	mV
TX Disable	Disable	2.0		Vcc	V
	Enable	0		0.8	V
TX Fault	Assert	2.0		Vcc	V
	Deassert	0		0.8	V
Receiver Selection					
Output differential impedance	Zout		100		Ohm
Data Input Swing Differential	Vout	370		2000	mV
Rx_LOS	Assert	2.0		Vcc	V
	Deassert	0		0.8	V



7. EEPROM INFORMATION (A0):

Addr	Field Size (Bytes)	Name of Field	HEX	Description
0	1	Identifier	03	SFP
1	1	Ext. Identifier	04	MOD4
2	1	Connector	07	LC
3 - 10	8	Transceiver	00 00 00 02 12 00 0D 01	Transmitter Code
11	1	Encoding	01	8B10B
12	1	BR, nominal	01	155M bps
13	1	Reserved	00	
14	1	Length (9um)-km	02	2Km
15	1	Length (9um)	00	
16	1	Length (50um)	37	550m
17	1	Length (62.5um)	1B	270m
18	1	Length (copper)	00	
19	1	Reserved	00	
20 - 35	16	Vendor name	57 49 4E 54 4F 50 20 20 20 20 20 20 20 20 20 20	WINTOP
36	1	Reserved	00	
37 - 39	3	Vendor OUI	00 00 00	
40 - 55	16	Vendor PN	XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX	ASC II
56 - 59	4	Vendor rev	31 2E 30 20	V1.0
60 - 61	2	Wavelength	05 1E	1310nm
62	1	Reserved	00	
63	1	CC Base	XX	Check sum of byte 0~62
64 - 65	2	Options	00 1A	LOS, TX_DISABLE, TX_FAULT
66	1	BR, max	32	50%
67	1	BR, min	32	50%
68 - 83	16	Vendor SN	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Unspecified
84 - 91	8	Vendor date code	XX XX XX 20	Year, Month, Day
92 - 94	3	Reserved	00	
95	1	CC_EXT	XX	Check sum of byte 64~94
96 - 255	160	Vendor specific		



8. Pin Description:

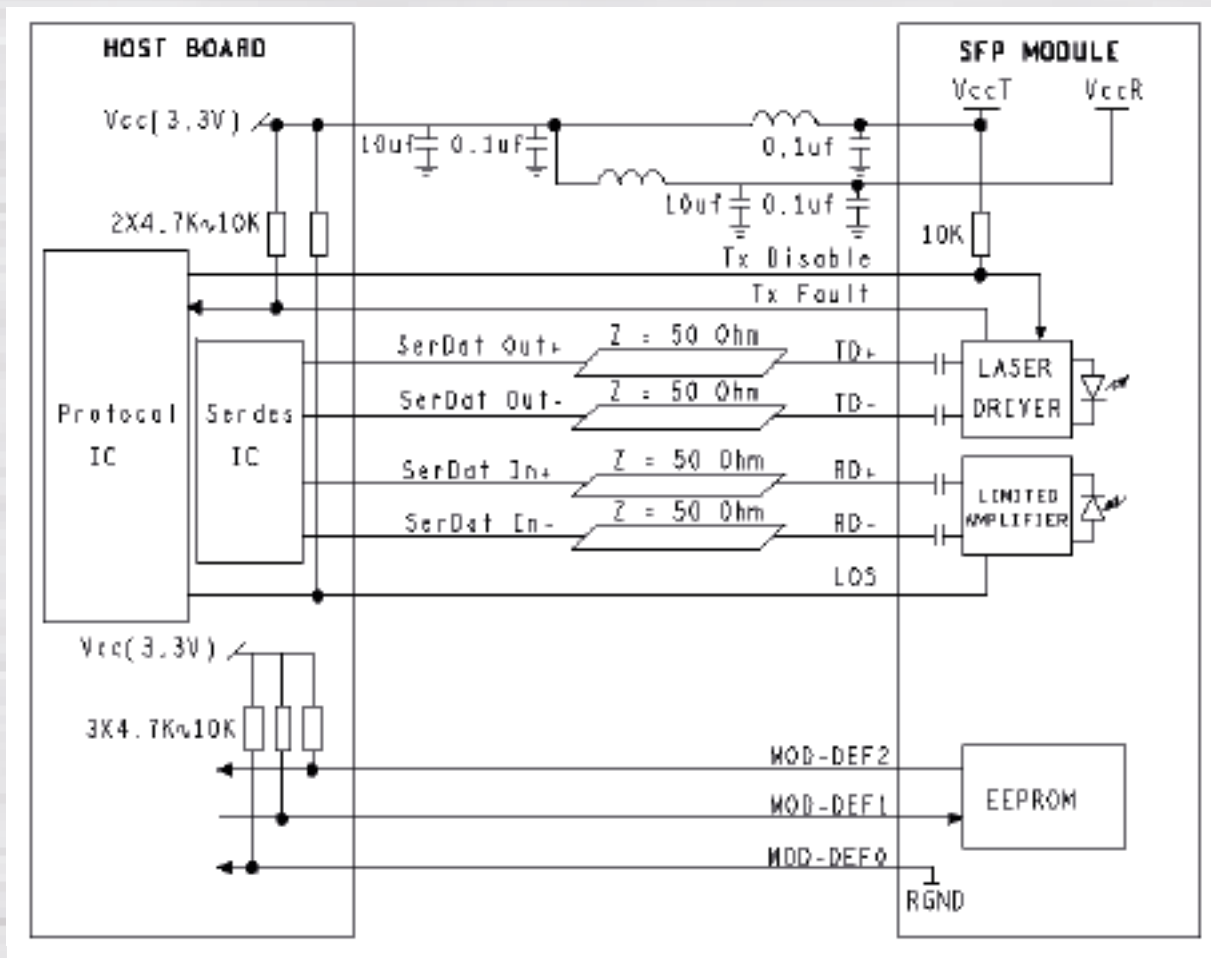
Addr	Field Size (Bytes)	Description	NOTE
1	VeeT	Transmitter Ground	
2	Tx Fault	Transmitter Fault Indication	1
3	Tx Disable	Transmitter Disable	2
4	MOD DEF2	Module Definition 2	3
5	MOD DEF1	Module Definition 1	3
6	MOD DEF0	Module Definition 0	3
7	Rate Select	Not Connected	
8	LOS	Loss of Signal	4
9	VeeR	Receiver Ground	
10	VeeR	Receiver Ground	
11	VeeR	Receiver Ground	
12	RD-	Inv. Received Data Output	5
13	RD+	IReceived Data Output	5
14	VeeR	Receiver Ground	
15	VccR	Receiver Power	
16	VccT	Transmitter Power	
17	VeeT	Transmitter Ground	
18	TD+	Transmit Data Input	6
19	TD-	Inv. Transmit Data Input	6
20	VeeT	Transmitter Ground	

- 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.
- 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. Its states are:
 Low (0~0.8V): Transmitter on
 (>0.8V, <2.0V): Undefined
 High (2.0~3.465V): Transmitter Disabled
 Open: Transmitter Disabled
- 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
- 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.



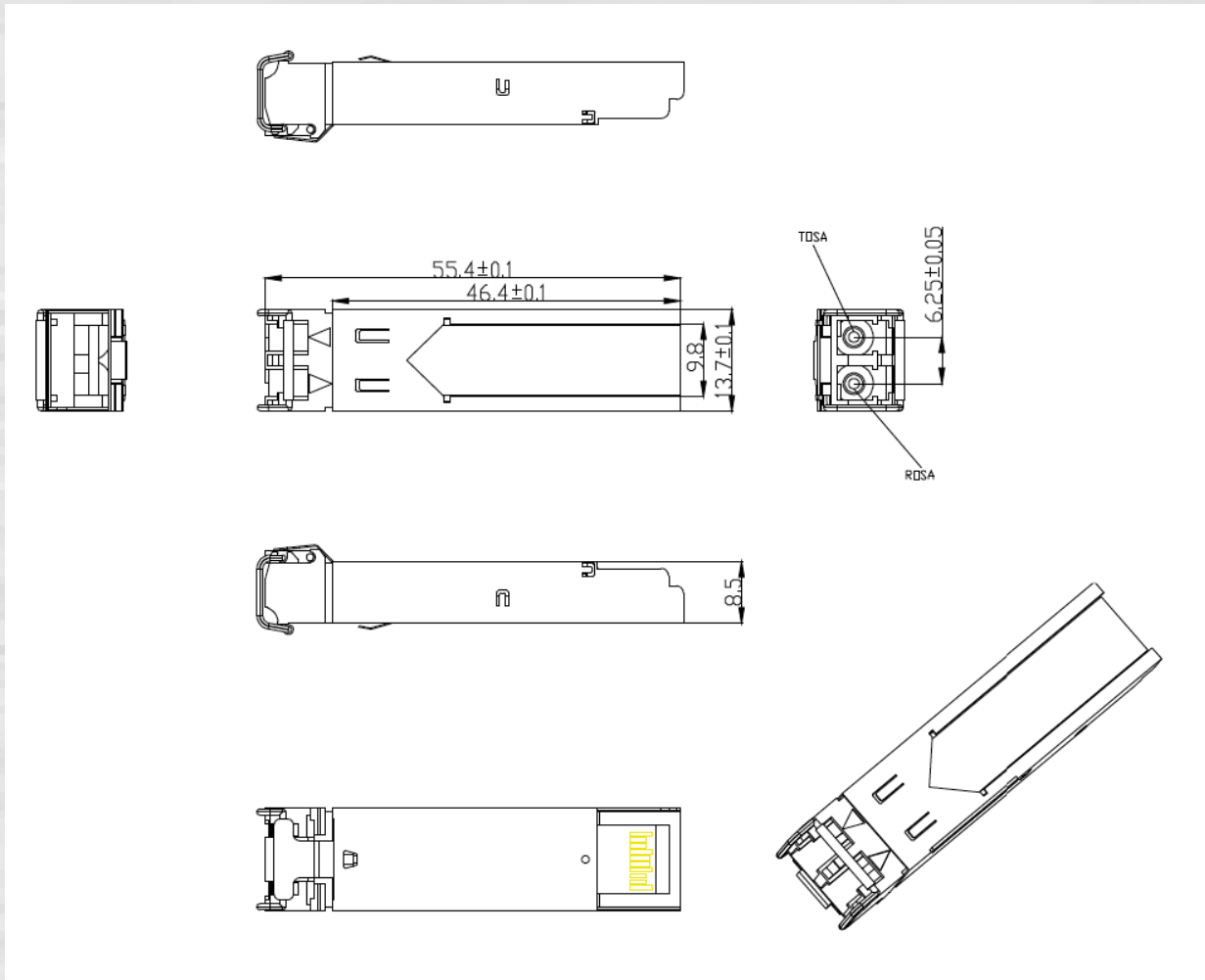
5. These are the differential receiver output. They are internally AC-coupled 100Ω differential lines which should be terminated with 100Ω (differential) at the user SERDES.
6. These are the differential transmitter inputs. They are AC-coupled, differential lines with 100Ω differential termination inside the module.

9. Recommended Application Circuit:





10. Outline drawing (mm):



11. Ordering information:

SFP-FX-NC	Commercial	0 ~ 70°C