

SFP85P154FxD – SFP Dual Fibre

850nm / 150m / 4x Fibre Channel

For your product safety, please read the following information carefully before any manipulation of the transceiver:



ESD

This transceiver is specified as ESD threshold 1kV for SFI pins and 2kV for all others electrical input pins, tested per MIL-STD-883G, Method 3015.4 / JESD22-A114-A (HBM). However, normal ESD precautions are still required during the handling of this module.



LASER SAFETY

This is a Class1 Laser Product according to IEC 60825-1:2007. This product complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated (June 24, 2007).

The optical ports of the module need to be terminated with an optical connector or with a dust plug in order to avoid contamination.

1. Overview

SFP85P154Fxx is a high performance transceiver module for up to 4x Fibre Channel data links over a multimode fibre pair. The maximum reach is 150m (50/125µm), with 6dB end of life (EOL) power budget. The emitter is an 850nm VCSEL laser, the receiver a PIN photodiode.

This transceiver module is compliant with the Small Form-factor Pluggable (SFP) Multisource Agreement (MSA) and hot pluggable. Always contact Skylane Optics commercial agents for compatibility with different equipment platforms.

2. Features

- SFP Multi-Source Agreement compliant [INF-8074]
- Hot pluggable SFP footprint
- Serial ID functionality supported according to [SFF-8472]
- Class 1 laser safety standard IEC 60825 compliant
- Dual LC connector
- 850nm VCSEL transmitter
- Up to 150m point-to-point transmission on 50/125µm fibre
- Up to 70m point-to-point transmission on 62.5/125µm fibre
- xFiber Channel compliant
- 2xFiber Channel compliant
- 1xFiber Channel compliant
- Operating temperature range 0°C to 70°C or -40°C to 85°C
- Low power dissipation (<1W)
- Digital diagnostics monitoring (DDM)

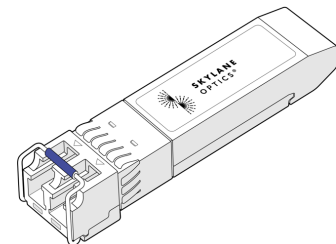


Figure 1. SFP Dual Fiber 850nm (non-binding illustration)

3. Applications

- 4xFiber Channel
- 2xFiber Channel
- 1xFiber Channel
- 1000BASE-SX

4. Optical Interface

P/N	Wavelength [nm]	Output Optical Power ² [dBm]	Optical Receiver Sensitivity ³ [dBm]	Optical Receiver Overload ⁴ [dBm]	Power Budget ² [dB]
SFP85P154Fxx	850nm	-9 to 0	≤ -15	-3	≥ 6

1. Distance is estimated assuming typical optical losses after decent quality fibre deployment; Only optical budget value is guaranteed.

2. EOL, over operating temperature range

3. Measured with 4.25Gbps PRBS 27-1, ER=9dB, BER≤10-12

4. The optical input to the receiver should not exceed this value. Transmitters must never be directly connected to receivers (optical loop back) before ensuring that proper optical attenuation is used.

5. Technical Parameters

5.1. Recommended Operating Conditions

Parameter	Min	Typ	Max	Unit	Notes
Storage temperature	-40		85	°C	
Operating Case Temperature	0		70	°C	SFP85P154F00, SFP85P154F0D
	-40		85	°C	SFP85P154F20, SFP85P154F2D
Relative Humidity	5		95	%	Non condensing
Power Supply Voltage	3.15	3.3	3.45	V	
Power Supply Current			300	mA	

5.2. Transmitter Optical Specifications

Parameter	Min	Typ	Max	Unit	Notes
Average Output Power	-9		0	dBm	5
Centre Wavelength	830	850	860	nm	
Optical Extinction Ratio ER	5			dB	
Spectral Width			0.85	nm	

5. Output power coupled into a 62.5/125 µm multimode fibre

5.3. Receiver Optical Specifications

Parameter	Min	Typ	Max	Unit	Notes
Sensitivity			-15	dBm	6
Receiver Overload	-3			dBm	6
Wavelength of Operation	760		860	nm	

6. Measured with 4.25Gbps PRBS 2⁷-1, ER=9dB, BER≤10⁻¹²

6. Transceiver Electrical Pad Layout

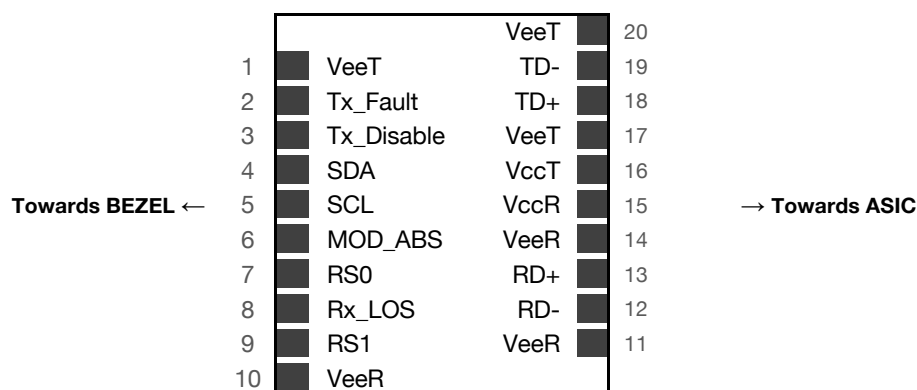


Figure 2. Transceiver Electrical Pad Layout

7. Module Electrical Pin Definition

Pin Number	Name	Function
1	VeeT	Transmitter Ground
2	TX_Fault	Transmitter Fault Indication
3	TX_Disable	Transmitter Disable
4	SDA	Two-Wire Serial Interface Data
5	SCL	Two-Wire Serial Interface Clock
6	MOD_ABS	Not Used
7	RS0	Not Used
8	Rx_LOS	Loss of signal
9	RS1	Rate select 1 grounded
10	VeeR	Receiver Ground
11	VeeR	Receiver Ground
12	RD-	Inverted received data output
13	RD+	Received data output
14	VeeR	Receiver Ground
15	VccR	Receiver Power
16	VccT	Transmitter Power
17	VeeT	Transmitter Ground
18	TD+	Transmit data input
19	TD-	Inverted transmit data input
20	VeeT	Transmitter Ground

8. EEPROM

SFP MSA (INF-8074 & SFF-8472)

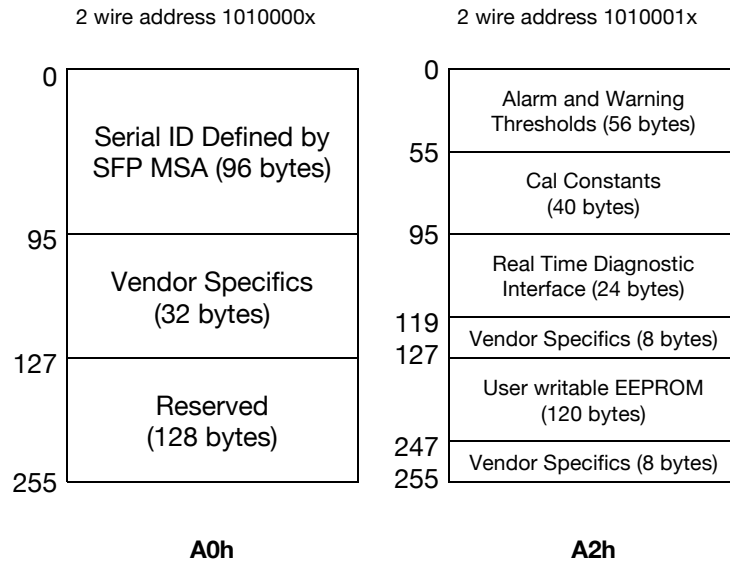


Figure 3. EEPROM of a an SFP

9. Ordering Information

Part Number	Description
SFP85P154F00	SFP dual fibre, Tx 850nm (VCSEL), Rx (PIN), maximum distance 150m, power budget 6dB, 4×Fibre Channel, LC connector, 0°C to 70°C
SFP85P154F0D	SFP dual fibre, Tx 850nm (VCSEL), Rx (PIN), maximum distance 150m, power budget 6dB, 4×Fibre Channel, LC connector, 0°C to 70°C, DDM
SFP85P154F20	SFP dual fibre, Tx 850nm (VCSEL), Rx (PIN), maximum distance 150m, power budget 6dB, 4×Fibre Channel, LC connector, -40°C to 85°C
SFP85P154F2D	SFP dual fibre, Tx 850nm (VCSEL), Rx (PIN), maximum distance 150m, power budget 6dB, 4×Fibre Channel, LC connector, -40°C to 85°C, DDM

10. Document Revision Information

Revision	Description
A	Initial release

Skylane Optics supplies a broad range of optical transceivers. Our engineers work closely with our customers to find the best solutions for every application. We are committed to provide high quality products and services to our customers.

For questions on this product please contact:
support@skylaneoptics.com

**Beyond
Quality**

**Reliable
Alliance**

**Performing
Smartly**