

SPP85P3010xD – SFP+ Dual Fibre

850nm / 300m / 10× Gigabit Ethernet

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 Class 1 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

SPP85P3010xD is a high performance transceiver module for up to 10× Gigabit Ethernet data links over a multimode fibre pair. The maximum reach¹ is 300m (50/125µm), with 5dB end of life (EOL) power budget. The transmitter is an 850nm VCSEL, the receiver is 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 (SFF-8431)
- 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
- 300m point-to-point transmission on 50/125µm fibre
- Operating temperature range 0°C to 70°C
- Low power dissipation (<1W)
- Digital Diagnostics Monitoring (DDM)



Figure 1. SFP+ Dual Fibre (non-binding illustration)

3. Applications

- 10× Gigabit Ethernet
- 8× Fiber Channel
- 4× Fiber Channel
- 2× Fiber Channel

4. Optical Interface

P/N	Wavelength [nm]	Optical Output Power ² [dBm]	Receiver Sensitivity ³ [dBm]	Dispersion Penalty [dB]	Receiver Overload ⁴ [dBm]	Power Budget ² [dB]
SPP85P30100D	850	-6 to -1	≤ -11	3.9	-1	≥ 5

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 10.3125Gbps PRBS 2³¹-1, 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	
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	-6		-1	dBm	5
Centre Wavelength	840	850	860	nm	
Spectral Width (RMS)			0.45	nm	
Extinction Ratio	3	5		dB	
Dispersion Penalty			3.9	dB	

5. Output power coupled into a 50/125µm µm multimode fibre

5.3. Receiver Optical Specifications					
Parameter	Min	Typ	Max	Unit	Notes
Receiver Sensitivity			-11	dBm	6
Receiver Overload	-1			dBm	6
Receiver Operating Range	840	850	860	nm	

6. Measured with 10.3125Gbps PRBS 2³¹-1, BER≤10⁻¹²

6. Transceiver Electrical Pad Layout

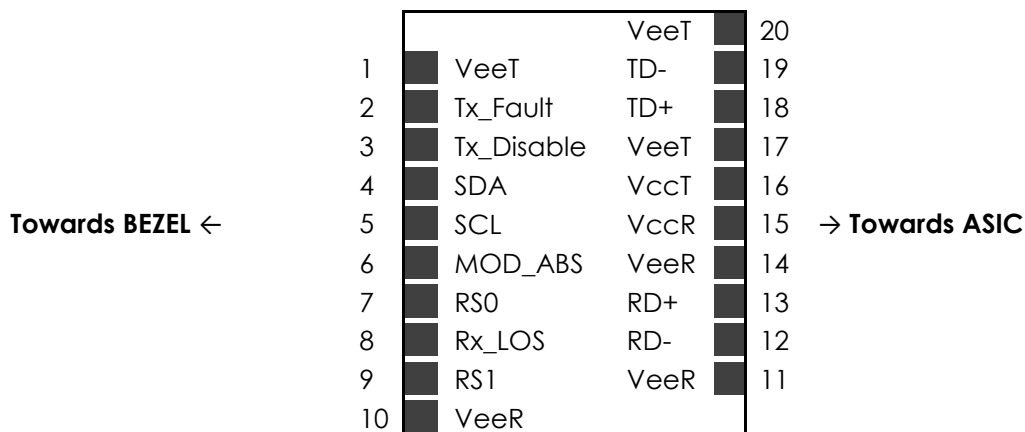


Figure 2. Transceiver Electrical Pad Layout

9. Ordering Information

Part Number	Description
SPP85P30100D	SFP+ Dual Fibre, Tx 850nm (VCSEL), Rx (PIN), maximum distance 300m, power budget 5dB, 10x Gigabit Ethernet, LC connector, 0°C to 70°C, DDM
SPP85P3010GD	SFP+ Dual Fibre, Tx 850nm (VCSEL), Rx (PIN), maximum distance 300m, power budget 5dB, 10x Gigabit Ethernet, LC connector, 0°C to 70°C, DDM, Specific Firmware
SPP85P3010AD	SFP+ Dual Fibre, Tx 850nm (VCSEL), Rx (PIN), maximum distance 300m, power budget 5dB, 10x Gigabit Ethernet, LC connector, 0°C to 70°C, DDM, Specific Firmware

10. Document Revision Information

Revision	Description
A	Initial release
B	Specification updated to include 8x Fiber Channel compatibility
C	Ordering information table updated with the "G" and "A" versions

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

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