SPP85P300H0C – SFP+ Dual Fibre

850nm / 300m / OC-192 Multirate / CDR

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

SPP85P300H0C is a high performance transceiver module for 10Gbps data links over a multimode fibre pair. The maximum reach is 300m, with 5.1dB end of life (EOL) power budget. The emitter 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
- PIN receiver
- Up to 300m, point-to-point transmission on multimode fibre [50/125µm]
- Operating temperature range: 0°C to 70°C
- Low power dissipation (<1.5W)
- Digital Diagnostics Monitoring (DDM)
- CDR
- 9.95 to 11.3Gbps

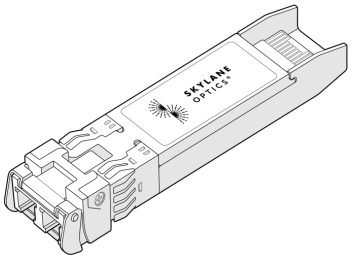

Figure 1. SFP+ Dual Fibre 850nm
(non-binding illustration)

3. Applications

- 10GBASE-SW
- 10GBASE-SR
- 10G Fibre Channel
- STM-64/OC-192

4. Optical Interface

P/N	Wavelength [nm]	Output Optical Power[2] [dBm]	Optical Receiver Sensitivity[3] [dBm]	Transmitter Dispersion Penalty [dB]	Optical Receiver Overload[4] [dBm]	Power Budget[2] [dB]
SPP85P300H0C	850	-6 to -1	≤ -11.1	3.9	-1	≥ 5.1

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 at 10 Gigabit Ethernet
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**	**Units**	**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			455	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	
Optical Extinction Ratio, ER	3			dB	
Spectral Width			0.45	nm	

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

5.3. Receiver Optical Specifications					
Parameter	**Min**	**Typ**	**Max**	**Unit**	**Notes**
Sensitivity			-11.1	dBm	6
Receiver Overload	-1			dBm	6
Wavelength of Operation	840		860	nm	

6. Measured at 10 Gigabit Ethernet

6. Transceiver Electrical Pad Layout

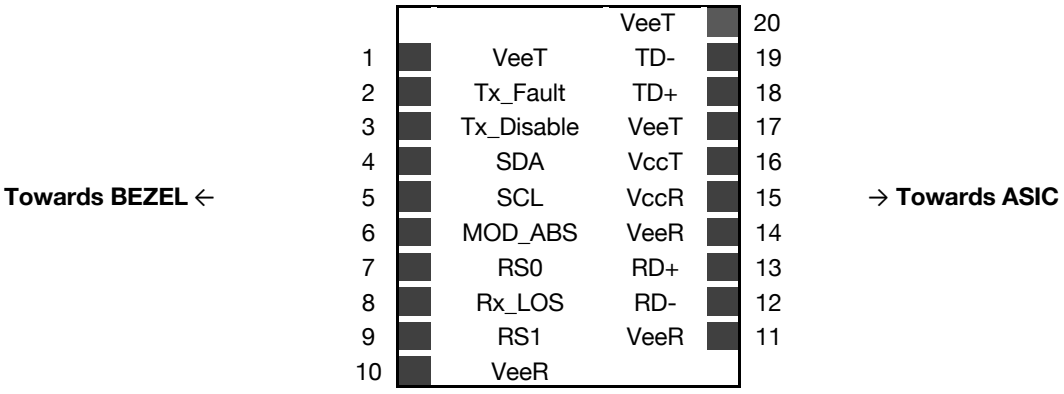

Figure 2. Transceiver Electrical Pad Layout

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	Module Absence
7	RS0	Receiver Rate Select.
8	Rx_LOS	Loss of signal
9	RS1	Transmitter Rate Select.
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 (SFF-8431)

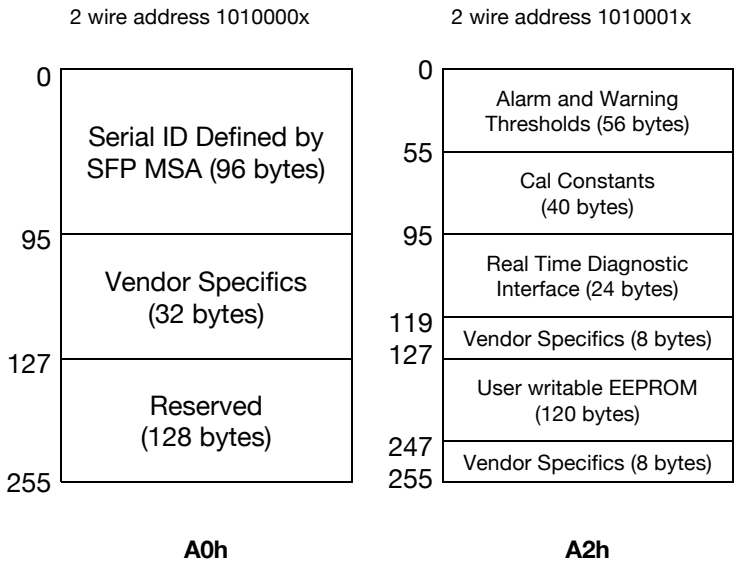

Figure 3. EEPROM of a SFP+

9. Ordering Information

Part Number	Description
SPP85P300H0C	SFP+ Dual Fibre, Tx 850nm (VCSEL), Rx (PIN), maximum distance 300m, power budget 5.1dB, OC-192 Multirate (9.95 to 11.3Gbps) , LC connector, 0°C to 70°C, DDM, CDR

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