

SPDTU040100D – SFP+ Dual Fiber DWDM Tunable

DWDM Tunable 50GHz / 40 km / 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 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

SPxTU040100D is a high-performance C-band tunable transceiver module for 9.95 Gbps to 11.3 Gbps data links over a single mode fibre pair. The maximum reach is 40km¹ with 12dB end of life (EOL) power budget. The transmitter is a cooled C-band tunable transmitter (ILMZ), the receiver is a PIN photodiode.

This transceiver module is compliant with the Small Form-factor Pluggable (SFP+) Multisource Agreement (MSA) and hot pluggable. Skylane transceivers have passed all Telcordia GR-468-CORE and GR-63-CORE requirements to ensure standards are met. Always contact Skylane Optics® commercial agents for compatibility with different equipment platforms.

2. Features

- Electrical interface specification as per SFF-8431, rev. 4.1
- Tunable SFP+ Memory Map compliant to SFF-8690, rev. 1.4
- Hot pluggable SFP+ footprint
- Management interface specification as per SFF-8431 and SFF-8472
- Supports Data Rates between 9.95Gbps and 11.3Gbps
- Dual LC connector
- PIN Photodiode receiver with CDR
- C-band tunable (DWDM 50GHz) Laser
- 40km point-to-point transmission on single mode fibre
- Rx DTV optimization functionality
- Operating temperature range 0°C to 70°C
- Power dissipation ($\leq 2W$)
- Digital Diagnostics Monitoring (DDM)

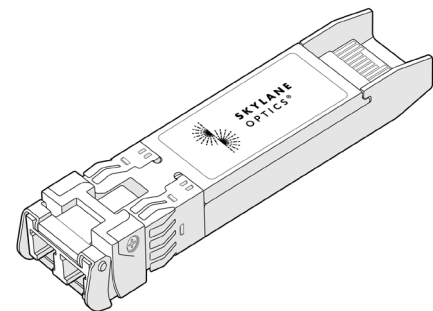


Figure 1. SFP+ Dual Fiber (non-binding illustration)

3. Applications

- 10GBASE-ZR / ZW
- 10× 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]
SPxTU040100D	ITU DWDM 50GHz	-2 to 3	-14	NA	0	12

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 10.709Gbps PRBS 2³¹-1, BER 10⁻¹², OSNR>35dB

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



SFP+ MSA (SFF-8431)

Pin Number	Name	Function
1	VeeT	Module Transmitter Ground
2	Tx_Fault	Module Transmitter Fault
3	Tx_Disable	Transmitter Disable
4	SDA	2-Wire Serial Interface Data
5	SCL	2-Wire Serial Interface Clock
6	Mod_ABS	Module Absent
7	RS0	Not Used
8	Rx_LOS	Receiver Loss of Signal
9	RS1	Not Used
10	VeeR	Module Receiver Ground
11	VeeR	Module Receiver Ground
12	RD-	Receiver Inverted Data Output
13	RD+	Receiver Non-Inverted Data Output
14	VeeR	Module Receiver Ground
15	VccR	Module Receiver 3.3V Supply
16	VccT	Module Transmitter 3.3V Supply
17	VeeT	Module Transmitter Ground
18	TD+	Transmitter Non-Inverted Data Input
19	TD-	Transmitter Inverted Data Input
20	VeeT	Module Transmitter Ground

8. EEPROM

SFP+ MSA (SFF-8472)

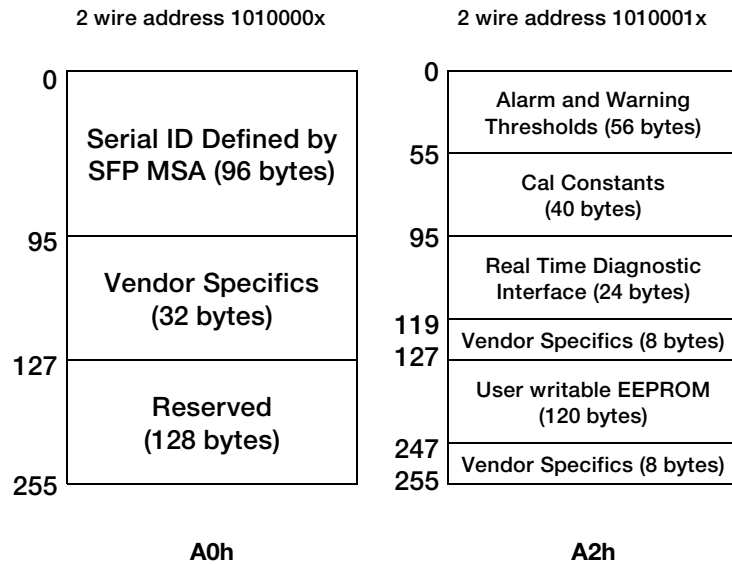


Figure 3. EEPROM of a SFP+

Datasheet

SPDTU040100D_RevA



9. Ordering Information

Part Number	Description
SPDTU040100D	SFP+ DWDM dual fibre, Tx (C-band tunable), Rx (PIN), 40km, power budget 12dB, 9.95 Gbps up to 11.3 Gbps, LC connector, 2.0W, 0°C to 70°C, DDM

10. Document Revision Information

Revision	Description
A	Initial release
B	Added PIN PD CDR Specification to Datasheet

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**