SFCxxB18L31D – SFP Dual Fibre CWDM

CWDM / 18dB / 3.072 Gbps

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

SFCxxB18L31D is a high performance transceiver module for 3.072Gbps data links over a single mode fibre pair. The power budget is 18dB end of life (EOL). The transmitter is a CWDM DFB 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
- Supports 3.072Gbps CPRI/OBSAI
- Dual LC connector
- CWDM DFB transmitter
- PIN receiver
- Power budget >18dB
- Operating temperature range -20°C to 85°C
- Low power dissipation (<1W)
- Digital diagnostics monitoring (DDM)

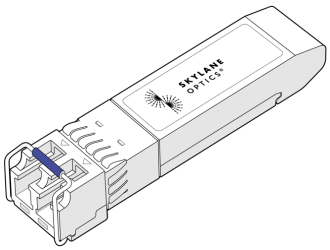

Figure 1. SFP Dual Fiber
(non-binding illustration)

3. Applications

- OBSAI
- CPRI

4. Optical Interface

P/N	Wavelength [nm]	Optical Output Power[2] [dBm]	Optical Receiver Sensitivity[3] [dBm]	Receiver Overload[4] [dBm]	Power Budget[1] [dB]
SFCxxB18L31D	ITU CWDM	0 to 5	≤ -18	-3	≥ 18

1. Only optical budget value is guaranteed, see section 9 for estimated transmission reach
2. EOL, over operating temperature range
3. Measured at 3.072Gbps, PRBS BER 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	-20		85	°C	
Relative Humidity	5		85	%	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**	**Units**	**Notes**
Average Output Power	0		5	dBm	5
Centre Wavelength	λ_C -6	λ_C	λ_C +7.5	nm	
Spectral Width (-20dB)			1	nm	
Extinction Ratio	3.5			dB	

5. Output power coupled into a 9/125 µm single-mode fibre
6. ITU-T G.694.2 CWDM. For available wavelengths, see section **Erreur ! Source du renvoi introuvable.**

5.3. Receiver Optical Specifications					
Parameter	**Min**	**Typ**	**Max**	**Units**	**Notes**
Receiver Sensitivity			-18	dBm	7
Receiver Overload	-3			dBm	7
Receiver Operating Range	1260		1630	nm	

7. Measured at 1.25Gbps, PRBS BER 2^7-1, ER=9dB, BER≤10^{-12}

6. Transceiver Electrical Pad Layout

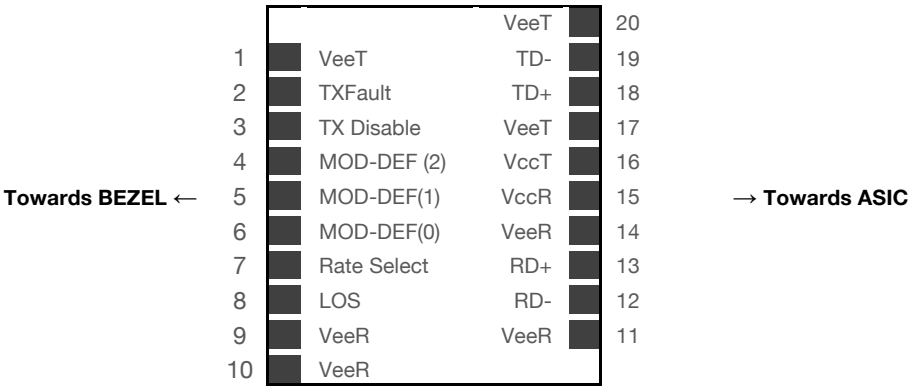

Figure 2. Transceiver Electrical Pad Layout

7. Module Electrical Pin Definition

SFP MSA [INF-8074i]

Pin Number	Name	Function
1	VeeT	Transmitter Ground
2	TX Fault	Transmitter Fault Indication
3	TX_ Disable	Transmitter Disable
4	MOD-DEF2	2-Wire Serial Interface Data
5	MOD-DEF1	2-Wire Serial Interface Clock
6	MOD-DEF0	Grounded in Module
7	Rate Select	Not Used
8	LOS	Loss of Signal
9	VeeR	Receiver Ground
10	VeeR	Receiver Ground
11	VeeR	Receiver Ground
12	RD-	Inverted Received Data Out
13	RD+	Received Data Out
14	VeeR	Receiver Ground
15	VccR	Receiver Power
16	VccT	Transmitter Power
17	VeeT	Transmitter Ground
18	TD+	Transmit Data In
19	TD-	Inverted Transmit Data In
20	VeeT	Transmitter Ground

8. EEPROM

SFP MSA (INF-8074i)

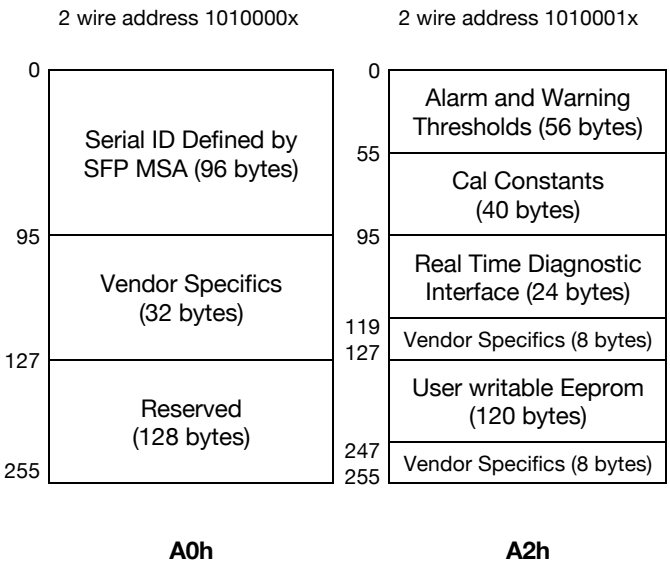

Figure 3. EEPROM of a an SFP

9. Ordering Information

Part Number	Description
SFC27B18L31D	SFP dual fibre CWDM, Tx **1270nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C**, DDM
SFC29B18L31D	SFP dual fibre CWDM, Tx **1290nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C**, DDM
SFC31B18L31D	SFP dual fibre CWDM, Tx **1310nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C,** DDM
SFC33B18L31D	SFP dual fibre CWDM, Tx **1330nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C,** DDM
SFC35B18L31D	SFP dual fibre CWDM, Tx **1350nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C**, DDM
SFC37B18L31D	SFP dual fibre CWDM, Tx **1370nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C,** DDM
SFC39B18L31D	SFP dual fibre CWDM, Tx **1390nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C,** DDM
SFC41B18L31D	SFP dual fibre CWDM, Tx **1410nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C,** DDM
SFC43B18L31D	SFP dual fibre CWDM, Tx **1430nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C**, DDM
SFC45B18L31D	SFP dual fibre CWDM, Tx **1450nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C**, DDM
SFC47B18L31D	SFP dual fibre CWDM, Tx **1470nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C,** DDM
SFC49B18L31D	SFP dual fibre CWDM, Tx **1490nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C**, DDM
SFC51B18L31D	SFP dual fibre CWDM, Tx **1510nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C**, DDM
SFC53B18L31D	SFP dual fibre CWDM, Tx **1530nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C,** DDM
SFC55B18L31D	SFP dual fibre CWDM, Tx **1550nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C**, DDM
SFC57B18L31D	SFP dual fibre CWDM, Tx **1570nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C**, DDM
SFC59B18L31D	SFP dual fibre CWDM, Tx **1590nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°C to 85°C**, DDM
SFC61B18L31D	SFP dual fibre CWDM, Tx **1610nm** (CWDM DFB) , Rx (PIN), power budget 18dB, 3.072Gbps, LC connector, **-20°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