SFP Single Fiber 5 km transceiver | 4G LX Fiber Channel

Datasheet

SFP Optical Transceiver Product Features

SFP-41D-K005B31

- **4GFC Fibre Channel 8dB SFP**
- **5 km LX SFP for SMF @ 4.25Gbps**
- **1310Tx-1550Rx FP+PIN Laser 5 km SFP**
- **0°C - 70°C Temperature - Extended/Industrial Available**
- **2-Wire Interface Digital Diagnostic Monitoring (SFF-8724)**
- **Hot-swappable for SFP LC ports**
- **OptoSpan 1 year standard warranty**
- **Use with Finisar, Avago, JDSU & networks not requiring OEM compatibility**
- **SFP MSA / IEEE Std 802.3**
- **RoHS compliant**

*** For OEM Compatibility, use Platinum Series Part# PSFP-41DB31K005**

Applications

- **1.25Gbps Gigabit Ethernet**
- **Fibre Channel 4x**
- **Other Optical Links**

Description

OptoSpan SFP-41D-K005B31 is a Single Fiber BiDirectional 4GFC Fibre Channel SFP transceiver designed for long distance optical communications up to 5 km with signaling rates up to 4.25Gbps.

OptoSpan 4Gb Single Fiber optical transceivers are compatible with many brands such as Finisar, Avago, JDSU and network environments that do not require any special compatibility. For networks that require special OEM compatibility, such as CISCO, BROCADE, JUNIPER, ALCATEL, HP, NORTEL, EMC, QLOGIC and other OEMs, consider OptoSpan Platinum OEM Series transceiver model# PSFP-41DB31K005.

All OptoSpan long-reach SFP s are ROHS compliant, allow for real-time diagnostic monitoring as per SFF-8472 and designed to meet Multi-Source Agreement (MSA) standards for Single Fiber BiDirectional (BiDi) transceivers with LC interface.

Optical Budget Calculation for 5 km SFP Optical Transceiver

SFP-41D-K005B31	Distance: 5 km				Fiber: 1310Tx-1550Rx SMF	
	Tx Min dBm	Tx Max dBm	Rx Min dBm	Rx Max dBm	Link Attenuation dB	Power Budget dB
Product Specifications	-8	-3	-16	0		
Optical Calculation Results			-11.25	-6.25	3.25	8

General Specifications

Parameter	Unit	Min.	Typ.	Max
Absolute Maximum Ratings				
Maximum Supply Voltage	V	0.5		3.6
Storage Temperature	°C	-40		+85
Case Operating Temperature	°C	0		+70
Recommended Operating Condition				
Supply Voltage	V	3.15	3.3	3.45
Supply Current	mA		200	300
Data Rate	Gbps	1	4.25	

Electrical Characteristics

Parameter	Unit	Min.	Typ.	Max
Transmitter				
Differential Input Voltage Swing	mVpp	400		2000
Input Differential Impedance	ohm	85	100	115
Transmit Disable Voltage - High	V	2		Vcc+0.3
Transmit Disable Voltage - Low	V	0		0.8
Transmit Fault Voltage - High	V	2		Vcc+0.3
Transmit Fault Voltage - Low	V	0		0.5
Receiver				
Differential Output Voltage Swing	mVpp	400	800	2000
Differential Output Impedance	ohms	85	100	115
LOS Output Voltage - High	V	2		Vcc+0.3
LOS Output Voltage - Low	V	0		0.8

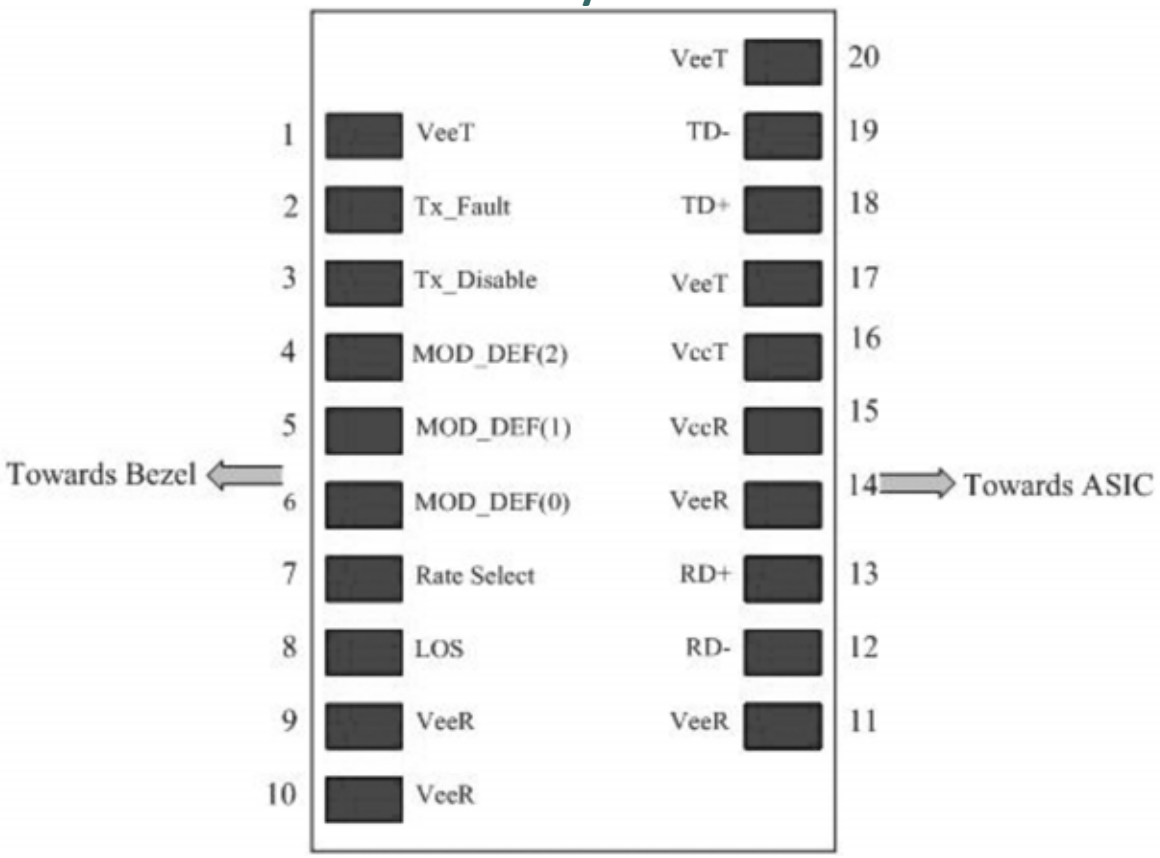
Optical Characteristics

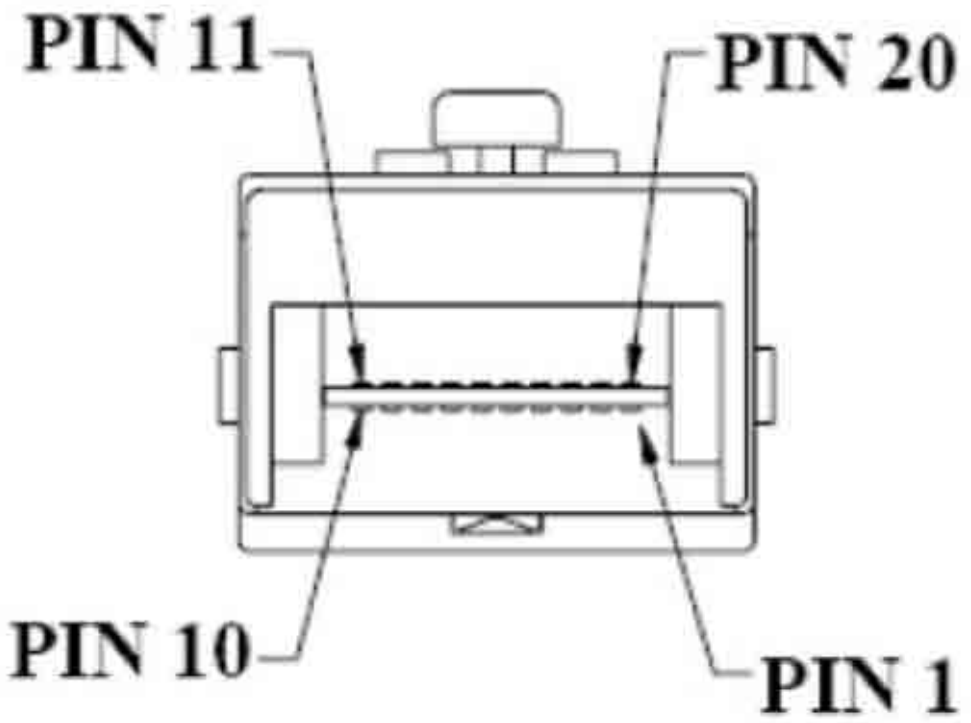
Parameter	Unit	Min.	Typ.	Max
Transmitter				
Output Optical Power	dBm	-8		-3
Optical Extinction Ratio	dB			
Optical Wavelength	nm	1270	1310	1360
Spectral Width	nm		2	
Side Mode Suppression Ratio	dB			
Receiver				
Optical Center Wavelength	nm	1500	1550	1600
Receiver Sensitivity @ 4.25Gbps	dBm	-16		0
LOS DE-Assert	dBm			-17
LOS Assert	dBm	-30		

Laser Safety

This is a class 1 Laser Product according to IEC 60825-1:1993:+A1:1997+A2:2001. This product complies with 21 CFR 1040.10 and 1040 except for deviations pursuant to Laser Notice No. 50, dated July 26, 2001.

PIN Layout


VeeT 20
1 VeeT
TD- 19
2 Tx_Fault
TD+ 18
3 Tx_Disable
VeeT 17
4 MOD_DEF(2)
VccT 16
5 MOD_DEF(1)
VccR 15
Towards Bezel
6 MOD_DEF(0)
VeeR 14
Towards ASIC
7 Rate Select
RD+ 13
8 LOS
RD- 12
9 VeeR
VeeR 11
10 VeeR


PIN 11
PIN 20
PIN 10
PIN 1

PIN Functions

Pin #	Name - Description
1	Transmitter Ground
2	Transmitter Fault Indication
3	Transmitter Disable
4	Module Definition 2
5	Module Definition 1
6	Module Definition 0
7	Not Connect
8	Loss of Signal
9	Receiver Ground
10	Receiver Ground
11	Receiver Ground
12	Inv. Received Data Out
13	Received Data Out
14	Receiver Ground
15	Receiver Power
16	Transmitter Power
17	Transmitter Ground
18	Transmit Data In
19	Inv. Transmit Data In
20	Transmitter Ground
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	

Mechanical Layouts