SFP Single Fiber 40 km transceiver | 2G LX SONET OC-48 / STM-16

Datasheet

SFP Optical Transceiver

Product Features

- SONET OC-48 / STM-16 17dB SFP
- 40 km LX SFP for SMF @ 2.67Gbps
- 1310Tx-1550Rx DFB+PIN Laser 40 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
- Applications * For OEM Compatibility, use Platinum Series Part# PSFP-MR2B31K040

SFP-MR2-K040B31



- 1.25Gbps Gigabit Ethernet
- Fibre Channel 2x
- SONET/SDH
- Router/Server Interface
- Other Optical Links

Description

OptoSpan SFP-MR2-K040B31 is a Single Fiber BiDirectional SONET OC-48 / STM-16 SFP transceiver designed for long distance optical communications up to 40 km with signaling rates up to 2.67Gbps.

OptoSpan 2Gb 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-MR2B31K040.

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 40 km SFP Optical Transceiver

SFP-MR2-K040B31	Distance: 40 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	-3	2	-20	-3		
Optical Calculation Results			-16.5	-11.5	14.5	17

SFP Single Fiber 40 km transceiver | 2G LX SONET OC-48 / STM-16 General Specifications

Parameter	Unit	Min.	Тур.	Max
Ab	solute Maximu	m Ratings		
Maximum Supply Voltage	V	-0.5		3.6
Storage Temperature	٥C	-40		+85
Case Operating Temperature	٥C	0		+70
Recommended Operating Condition				
Supply Voltage	V	3.15	3.3	3.45
Supply Current	mA			300
Data Rate	Gbps		2.5	

Electrical Characteristics

Parameter	Unit	Min.	Тур.	Max
	Transmitt	er		
Differential Input Voltage Swing	mVpp	400		2000
Input Differential Impedance	ohm	85	100	115
Transmit Disable Voltage - High	V	2		Vcc
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		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

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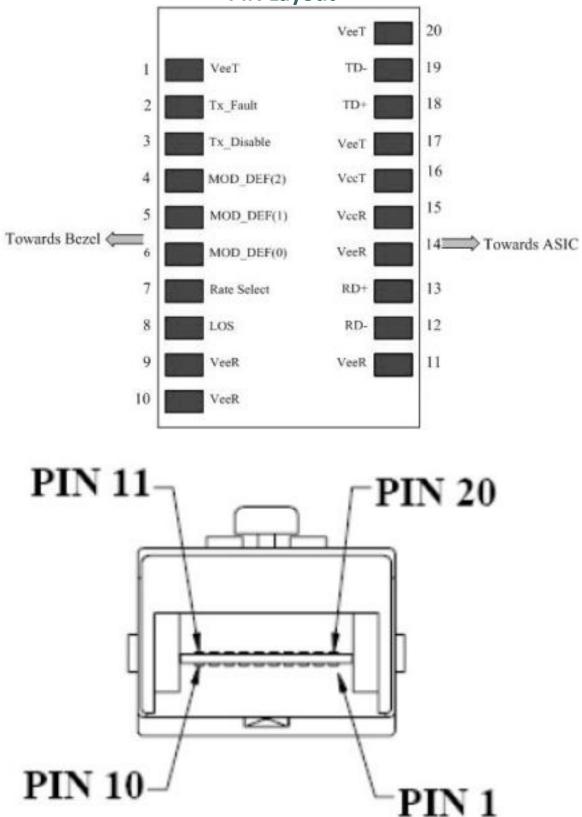
Optical Characteristics

Parameter	Unit	Min.	Тур.	Max
	Transmitt	er		
Output Optical Power	dBm	-3		2
Optical Extinction Ratio	dB	8.2		
Optical Wavelength	nm	1260	1310	1360
Spectral Width	nm			1
Side Mode Suppression Ratio	dB	30		
	Receive	r		
Optical Center Wavelength	nm	1500	1550	1580
Receiver Sensitivity @ 1.25Gbps	dBm	-20		-3
LOS DE-Assert	dBm			-21
LOS Assert	dBm	-45		

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.

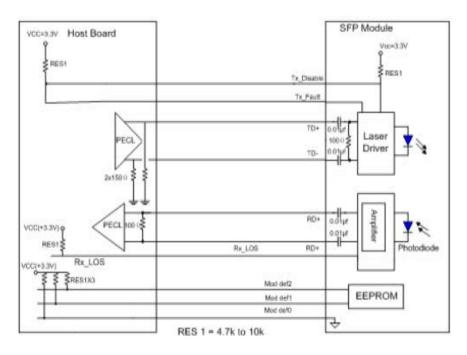
SFP Single Fiber 40 km transceiver | 2G LX SONET OC-48 / STM-16 PIN Layout

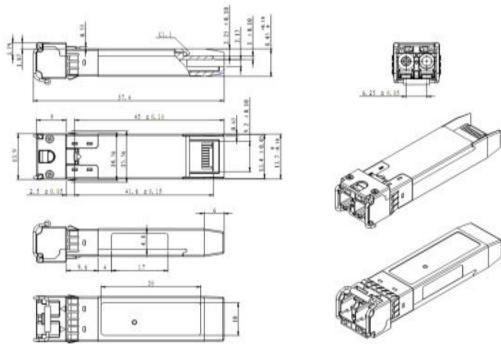


SFP Single Fiber 40 km transceiver | 2G LX SONET OC-48 / STM-16 PIN Functions

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

SFP Single Fiber 40 km transceiver | 2G LX SONET OC-48 / STM-16 Mechanical Layouts





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