SFP CWDM 40 km transceiver | 622Mb SONET OC-12 / STM-4

### Datasheet

## **SFP Optical Transceiver**

### **Product Features**

- SONET OC-12 / STM-4 23dB SFP
- 40 km CWDM SFP for SMF @ .622Gbps
- 1270nm 1610nm 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
- \* For OEM Compatibility, use Platinum Series Part# PSFP-622CXXK040

### Description

OptoSpan SFP-622-K040CXX is a CWDM SONET OC-12 / STM-4 SFP transceiver designed for long distance optical communications up to 40 km with signaling rates up to .622Gbps.

OptoSpan 622Mb CWDM 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-622CXXK040.

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 CWDM transceivers with LC interface.

SFP-622-K040CXX	Distance: 40 km				Fiber: 1270nm - 1610nm	
	Tx Min dBm	Tx Max dBm	Rx Min dBm	Rx Max dBm	Link Attenuation dB	Power Budget dB
Product Specifications	-5	0	-28	-8		
<b>Optical Calculation Results</b>			-24	-19	19	23

#### **Optical Budget Calculation for 40 km SFP Optical Transceiver**



SFP-622-K040CXX

- Optical Fast Ethernet
- SONET/SDH

Applications

- SONET OC-12
- Other Optical Links

#### SFP CWDM 40 km transceiver | 622Mb SONET OC-12 / STM-4 General Specifications

Parameter	Unit	Min.	Тур.	Мах
Ab	solute Maximu	m 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			300
Data Rate	Gbps		.622	

#### **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
Transmit Fault Voltage - Low	V	0		0.8
Receiver				
Differential Output Voltage Swing	mVpp	370		2000
Differential Output Impedance	ohms	85	100	115
LOS Output Voltage - High	V	2		Vcc
LOS Output Voltage - Low	V	0		0.8

#### SFP CWDM 40 km transceiver | 622Mb SONET OC-12 / STM-4

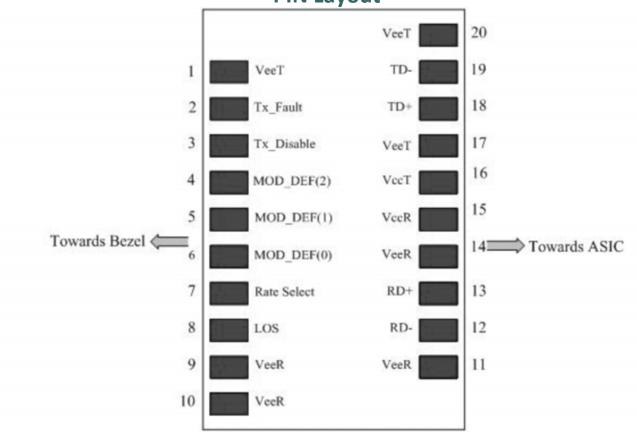
### **Optical Characteristics**

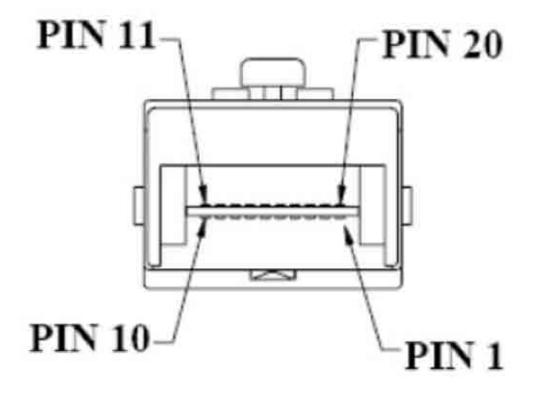
Parameter	Unit	Min.	Тур.	Max	
	Transmitter				
Output Optical Power	dBm	-5		0	
Optical Extinction Ratio	dB	8.2			
Optical Wavelength	nm	⊡λc -6	λc	λc +7.5	
Spectral Width	nm			1	
Side Mode Suppression Ratio	dB	30			
	Receive	r			
Optical Center Wavelength	nm	1100		1650	
Receiver Sensitivity @ .622Gbps	dBm	-28		-8	
Receiver Sensitivity @ .155Gbps	dBm	-29		-8	
Receiver Sensitivity @ 100M	dBm	-30		-8	
LOS DE-Assert	dBm			-29	
LOS Assert	dBm	-42			

### **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 CWDM 40 km transceiver | 622Mb SONET OC-12 / STM-4 PIN Layout

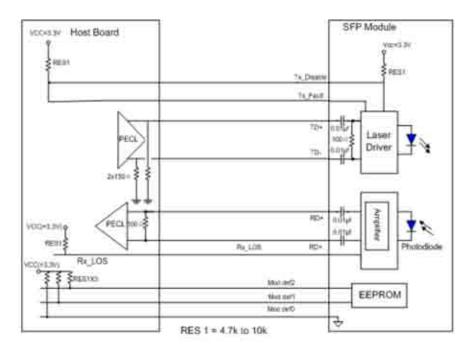


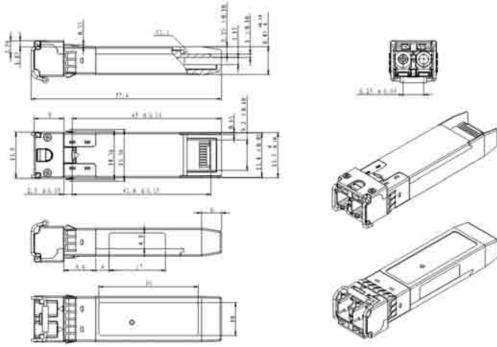


### SFP CWDM 40 km transceiver | 622Mb SONET OC-12 / STM-4 PIN Functions

Pin #   Name - Description     1   Transmitter Ground     2   Transmitter Fault Indication     3   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     19   Inv. Transmit Data In     19   Inv. Transmit Data In     19   Inv. Transmit Data In     20   Transmitter Ground     21   Interface     22   Interface     23   Interface     24   Interface     25   Interface     26   Interface     27   Interface     28   Interface<	Din #	Neme 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 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 Power     18   Transmitter Ground     18   Transmitter Ground     19   Inv. Transmit Data In     19   Inv. Transmit Data In     20   Transmitter Ground     21		
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 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		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     19   Inv. Transmit Data In     20   Transmitter Ground     21	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     20   Transmitter Ground     21   Inv. Transmitter Ground     22   Inv. Transmitter Ground     23   Inv. Transmitter Ground     24   Inv. Transmitter Ground     25   Inv. Transmitter Ground     26   Inv. Transmitter Ground     27   Inv. Transmitter Ground     28   Inv. Transmitter Ground	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	13	Received Data Out
16   Transmitter Power     17   Transmitter Ground     18   Transmit Data In     19   Inv. Transmit Data In     20   Transmitter Ground     21   Image: Comparison of the state	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 CWDM 40 km transceiver | 622Mb SONET OC-12 / STM-4 Mechanical Layouts





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