

Datasheet

QSFP+ Optical Transceiver Product Features

- 40GBASE-LR4 40G Ethernet 4.5dB QSFP+
- 10 km LR4 QSFP+ for SMF @ 40Gbps
- 1310nm DFB+PIN Laser 10 km QSFP+
- 0°C - 70°C Temperature - Extended/Industrial Available
- 2-Wire Interface Digital Diagnostic Monitoring (SFF-8724)
- Hot-swappable for QSFP+ LC ports
- Tx/Rx @ CWDM 1271nm/1291nm/1311nm/1331nm
- Use with Finisar, Avago, JDSU & networks not requiring OEM compatibility
- Compliant with QSFP+ MSA
- RoHS compliant

* For OEM Compatibility, use Platinum Series Part# PQSP-40GT31K010

QSP-40G-K010T31



Applications

- 40GBASE-LR4 Ethernet
- Infiniband QDR and DDR
- 40G Telecom connections

Description

OptoSpan QSP-40G-K010T31 is a Duplex 40GBASE-LR4 40G Ethernet QSFP+ transceiver designed for long distance optical communications up to 10 km with signaling rates up to 40Gbps.

OptoSpan 40Gb Standard 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# PQSP-40GT31K010.

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

Optical Budget Calculation for 10 km QSFP+ Optical Transceiver

QSP-40G-K010T31	Distance: 10 km				Fiber: 1310nm SMF	
	Tx Min dBm	Tx Max dBm	Rx Min dBm	Rx Max dBm	Link Attenuation dB	Power Budget dB
Product Specifications	-7	2.3	-11.5	2.3		
Optical Calculation Results			-10.7	-1.4	3.7	4.5



QSFP+ 10 km transceiver | 40G LR4 Ethernet

General Specifications

Parameter	Unit	Min.	Typ.	Max
Absolute Maximum Ratings				
Maximum Supply Voltage	V	-0.5		3.6
Storage Temperature	°C	-40		+75
Case Operating Temperature	°C	-10		+70
Recommended Operating Condition				
Supply Voltage	V	3.15	3.3	3.465
Supply Current	mA			1000
Data Rate	Gbps		41.25	

Electrical Characteristics

Parameter	Unit	Min.	Typ.	Max
Transmitter				
Differential Input Voltage Swing	mVpp			
Input Differential Impedance	ohm	85	100	115
Transmit Disable Voltage - High	V	2.0		Vcc+0.3
Transmit Disable Voltage - Low	V	0		0.8
Transmit Fault Voltage - High	V	2.4		Vcc+0.3
Transmit Fault Voltage - Low	V	0		0.8
Receiver				
Differential Output Voltage Swing	mVpp			
Differential Output Impedance	ohms	85	100	115
LOS Output Voltage - High	V	2.4		Vcc+0.3
LOS Output Voltage - Low	V	0		0.8



QSFP+ 10 km transceiver | 40G LR4 Ethernet

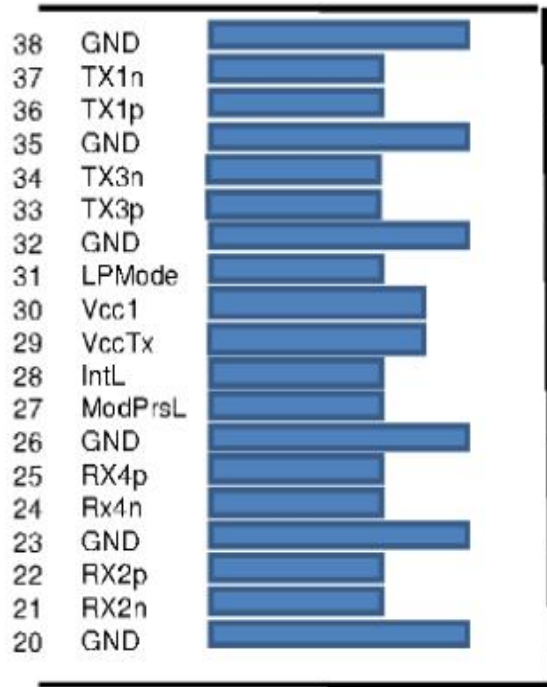
Optical Characteristics

Parameter	Unit	Min.	Typ.	Max
Transmitter				
Output Optical Power	dBm	-7		2.3
Optical Extinction Ratio	dB	3.5		
Optical Wavelength	nm	Var		Var
Spectral Width	nm			
Side Mode Suppression Ratio	dB	30		
Receiver				
Optical Center Wavelength	nm	Var		Var
Receiver Sensitivity @	dBm	-11.5		2.3
LOS DE-Assert	dBm			-11.5
LOS Assert	dBm	-20		

Laser Safety

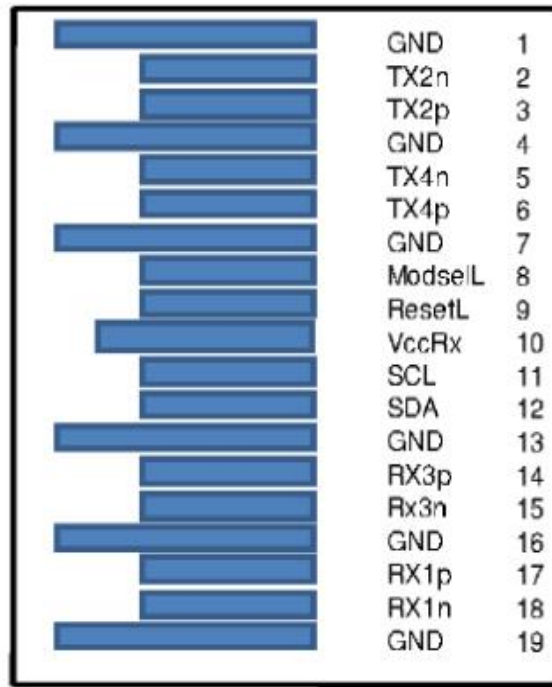
This is a class 1 Laser Product according to IEC 60825-1:1993:+A1:1997+A2:2001. This product complies with 21 CFR 1040.10 and 1040 except for deviations pursuant to Laser Notice No. 50, dated July 26, 2001.

PIN Layout



Top Side
Viewed From Top

Module Card Edge



Bottom Side
Viewed From Bottom

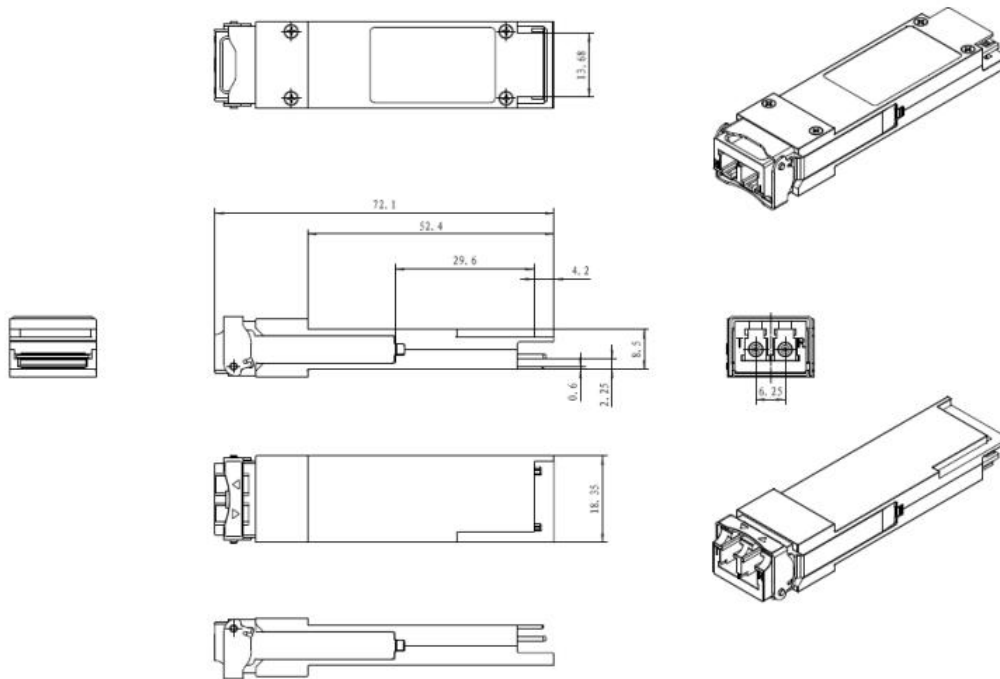
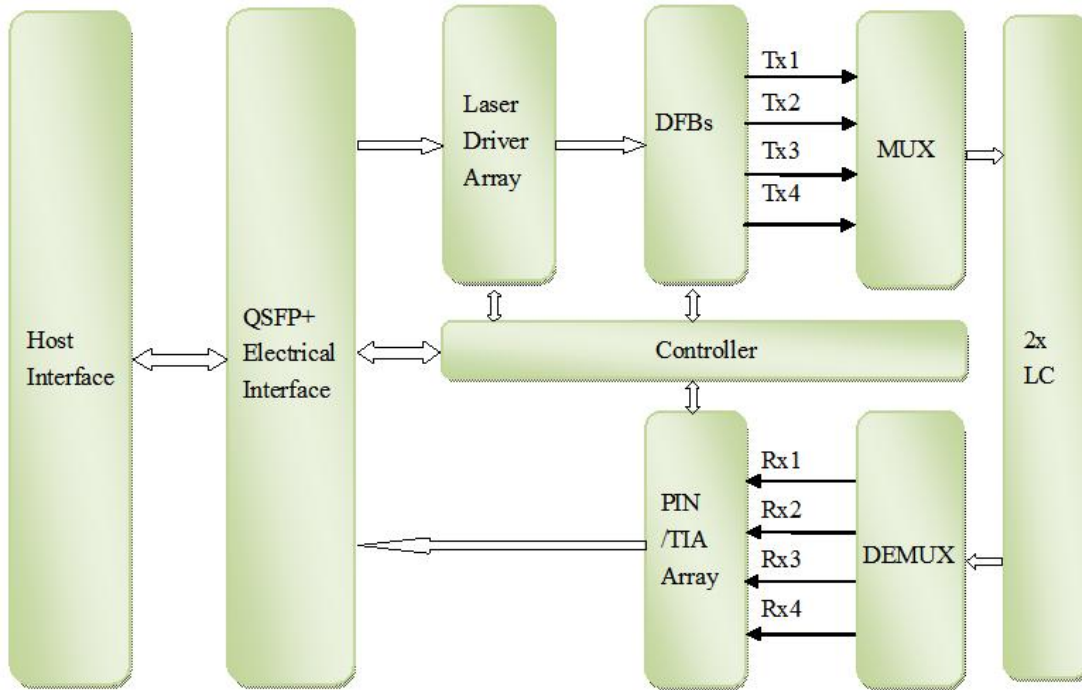


QSFP+ 10 km transceiver | 40G LR4 Ethernet

PIN Functions

Pin #	Name - Description
1	Contact OptoSpan for detailed pin layout.
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	

Mechanical Layouts



OptoSpan reserves the right to make changes or to discontinue any optical product or service without any notice. Applications and features described herein are for illustrative purposes only. OptoSpan makes no representation of warranty that such applications or features will be suitable for any specific use or compatibility without further testing or modifications. Not responsible for typographical errors.