

## Datasheet

### QSFP+ Optical Transceiver Product Features

- 40GBASE-SR4 40G Ethernet 2.2dB QSFP+
- 150m SR4 QSFP+ for MMF @ 40Gbps
- 850nm VCSEL+PIN Laser 150m QSFP+
- 0°C - 70°C Temperature - Extended/Industrial Available
- 2-Wire Interface Digital Diagnostic Monitoring (SFF-8724)
- Hot-swappable for QSFP+ LC ports
- OptoSpan 1 year standard warranty
- Use with Finisar, Avago, JDSU & networks not requiring OEM compatibility
- Compliant with QSFP+ MSA
- RoHS compliant

\* For OEM Compatibility, use Platinum Series Part# PQSP-40GT85M150

### QSP-40G-M150T85



### Applications

- 40GBASE-SR4 Ethernet
- 40GBE and 10GBE interconnects
- 40G Telecom connections

### Description

OptoSpan QSP-40G-M150T85 is a Duplex 40GBASE-SR4 40G Ethernet QSFP+ transceiver designed for long distance optical communications up to 150m 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-40GT85M150.

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 150m QSFP+ Optical Transceiver

QSP-40G-M150T85	Distance: 150m				Fiber: 850nm MMF	
	Tx Min dBm	Tx Max dBm	Rx Min dBm	Rx Max dBm	Link Attenuation dB	Power Budget dB
Product Specifications	-7.6	2.4	-5.4	2.4		
Optical Calculation Results						2.2



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### General Specifications

Parameter	Unit	Min.	Typ.	Max
<b>Absolute Maximum Ratings</b>				
Maximum Supply Voltage	V	-0.5		3.6
Storage Temperature	°C	-40		+85
Case Operating Temperature	°C	0		+70
<b>Recommended Operating Condition</b>				
Supply Voltage	V	3.15	3.3	3.465
Supply Current	mA			475
Data Rate	Gbps		41.25	

### Electrical Characteristics

Parameter	Unit	Min.	Typ.	Max
<b>Transmitter</b>				
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
<b>Receiver</b>				
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



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## Optical Characteristics

Parameter	Unit	Min.	Typ.	Max
<b>Transmitter</b>				
Output Optical Power	dBm	-7.6		2.4
Optical Extinction Ratio	dB	3		
Optical Wavelength	nm	840	850	860
Spectral Width	nm			
Side Mode Suppression Ratio	dB			
<b>Receiver</b>				
Optical Center Wavelength	nm	840	850	860
Receiver Sensitivity @	dBm	-5.4		2.4
LOS DE-Assert	dBm			-7.5
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

38	GND	
37	TX1n	
36	TX1p	
35	GND	
34	TX3n	
33	TX3p	
32	GND	
31	LPMode	
30	Vcc1	
29	VccTx	
28	IntL	
27	ModPrsL	
26	GND	
25	RX4p	
24	Rx4n	
23	GND	
22	RX2p	
21	RX2n	
20	GND	

Top Side  
Viewed From Top

Module Card Edge

	GND	1
	TX2n	2
	TX2p	3
	GND	4
	TX4n	5
	TX4p	6
	GND	7
	ModselL	8
	ResetL	9
	VccRx	10
	SCL	11
	SDA	12
	GND	13
	RX3p	14
	Rx3n	15
	GND	16
	RX1p	17
	RX1n	18
	GND	19

Bottom Side  
Viewed From Bottom

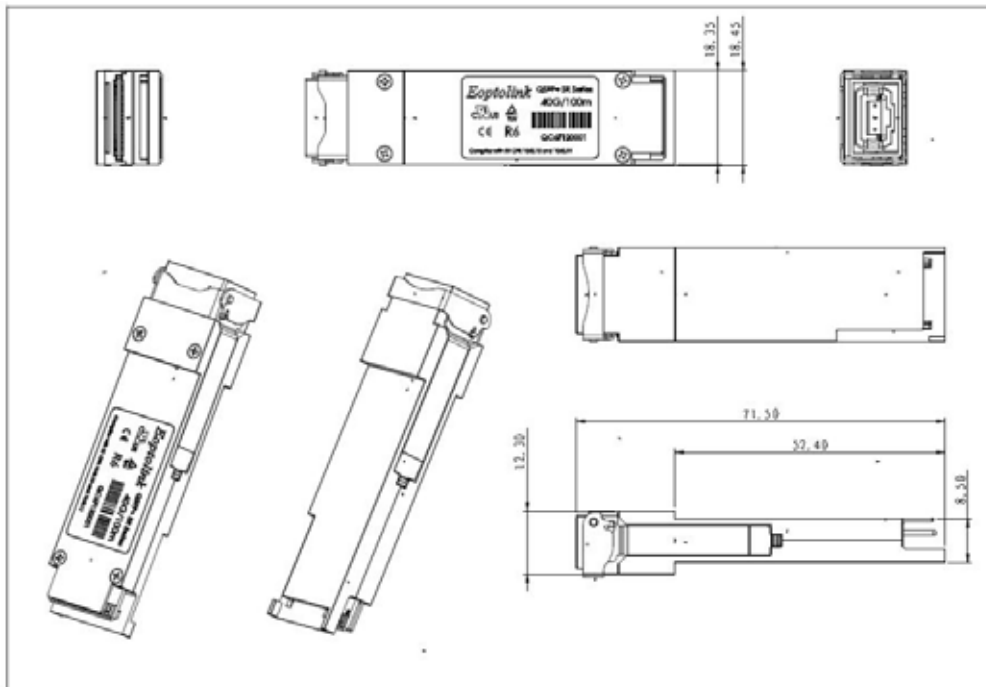
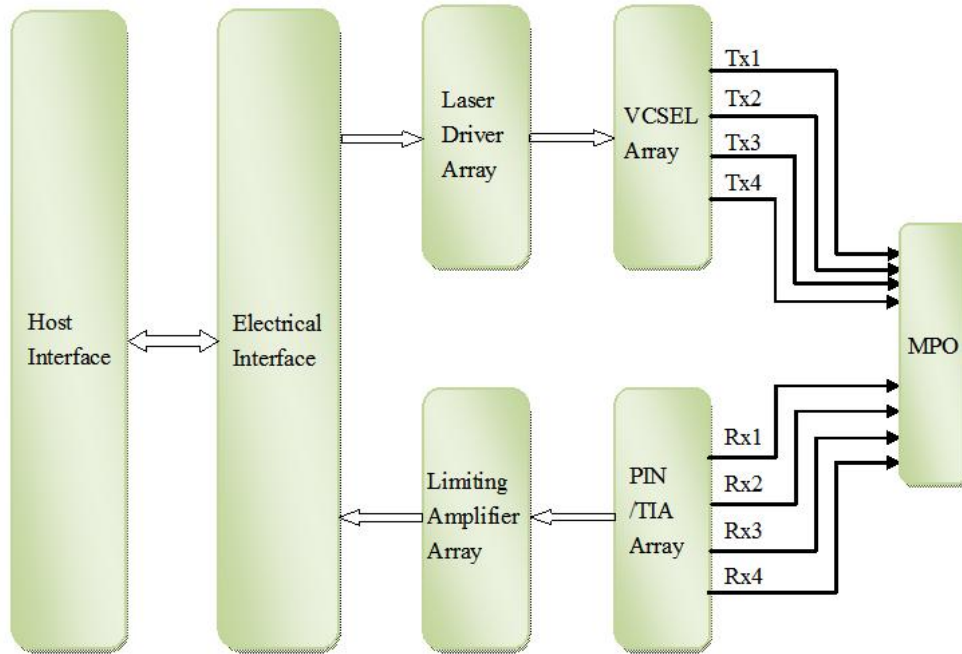


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### PIN Functions

Pin #	Name - Description
1	Contact OptoSpan for detailed pin layout.
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### Mechanical Layouts



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