HQS-70791-xx

40Gb/s 850nm 150m QSFP+ Transceiver

Product Description

The 70791 is an integrated transceiver module designed as a four-channel transmit/receive, pluggable, parallel, transceiver in QSFP+ format. It's compatible with applicable multi-sourcing agreements (MSA) Each channel operates at 10.3125 Gb/s up to 150m on a 12 fiber Multi-mode fiber with MPO/MTP connector.

Features

- 4 channels full-duplex transceiver module
- Up to 10Gbps data links per channel
- Max link length 100m on OM3 MMF
- Max link length 150m on OM4 MMF
- 850nm VCSEL array emitters
- MPO/MTP Connector
- Digital Diagnostic Monitor (DDM)
- Hot-pluggable
- Single 3. 3V power supply
- Power Consumption < 1.5W

Applications

- 40GBASE-SR4 Ethernet
- SDR, DDR and QDR Infiniband

Hexatronic Fiberoptic AB
Maskingatan 16, SE-702 86 Örebro Sweden
+46(0)19-30 40 40
info@hexatronic.se www.hexatronic.se

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Supply Voltage	Vcc	-0.5	3.6	V
Storage Temperature	Ts	-20	85	°C
Operating Case Temperature	Tc	0	70	°C

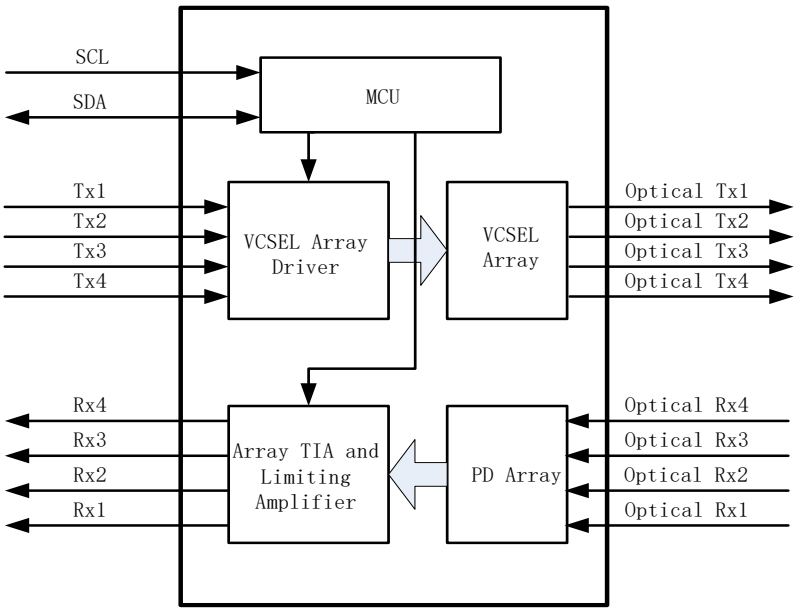
Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Supply Voltage	Vcc	3.15	3.3	3.45	V
Supply Current	Icc			450	mA
Data Rate			10.3		GBps
Max Link Length on 50/125μm OM4 MMF	Lmax			150	m

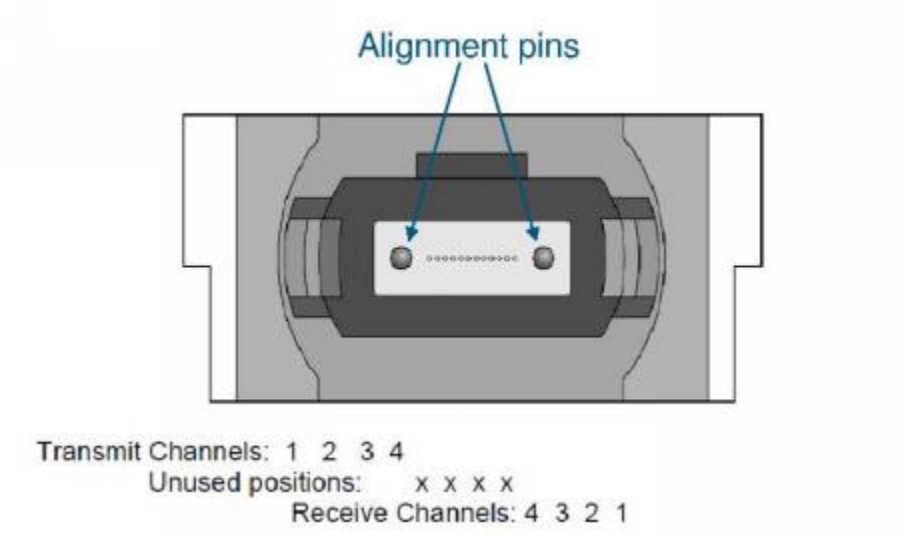
Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
Centre Wavelength	λc	840	850	860	nm
Spectral Width (RMS)	σ			0.65	nm
Average Output Power	Pout	-5		3	dBm
Extinction Ratio	ER	3.5			dB
Average Launch Power of Off Transmitter	Poff			-30	dBm
Receiver					
Centre Wavelength	λc	840		860	nm
Damage threshold	DT	3.4			dBm
Average power at receiver input, per lane	RXP	-9.5		2.4	dBm
Optical Modulation Amplitude (OMA), each lane				3	dBm
Receiver Sensitivity per CH	PIN			-10	dBm
Receiver Overload	Pmax	3.5			dBm
LOS De-Assert	LOSD			-12	dBm
LOS Assert	LOSA	-30			dBm
LOS Hysteresis		0.5			dB

Transceiver Block Diagram



Tx/Rx channel guide



For safety and reliability reasons, please read the following information carefully.

Light Budget is one of the key items for designing fiber optic network. in order to create a product that will meet application requirements. To adequately characterize the budget loss, the following key parameters are generally considered:

- Transmitter: Output power, temperature and aging
- Fiber connections: Active connection and splices
- Fiber Cable: fiber attenuation and temperature effect
- Receiver: Detector sensitivity
- Others: Safety margin and repairs

When one of the above-listed variables fails to meet specifications, the performance of the network can be greatly affected or worse, the degradation can lead to network failure. Unfortunately, not all the variables can be controlled with ease during the deployment of the network or the maintenance stage; however, there exists one component—the connector—that is too-often overlooked, sometimes overused (test jumpers) but that can be controlled using the proper procedure.

This is a Class 1 Laser Product according to IEC 60825-1:2014 compatible with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated (June 24, 2007).

This transceiver is specified as ESD threshold 1kV for SFI pins and 2kV for all others electrical input pins, tested per MIL-STD-883G, Method 3015.4 / JESD22-A114-A (HBM). However, normal ESD precautions are still required during the handling of this module.

The optical ports of the module need to be terminated with an optical connector or with a dust plug in order to avoid contamination. In a study by NTT-Advanced Technology, 98% of installers and 80% of network owners reported that issues with connector contamination were the greatest cause of network failures.

CE EU declaration of conformity

The CE marking is mandatory for this category of products. It is the manufacturer's declaration that the product meets the requirements of the applicable EU directives required to allow free movement and sale of the product throughout the European Economic Area.

Equipment Specific part number extension

-51	Cisco	-59	Alcatel (Nokia)
-52	Ericsson	-60	Combo code
-53	Huawei	-61	H3C (HP)
-54	Juniper	-62	Brocade
-55	Generic (MSA)	-63	Arista Networs
-56	HP	-64	Adva
-57	Extreme	-65	Microsens
-58	3COM (HP)		