AT A GLANCE

E.C.I. NETWORKS' 100G Optical transceiver series include a QSFP28 Bidi optical transceiver that integrates the transmit and receive path onto one module.

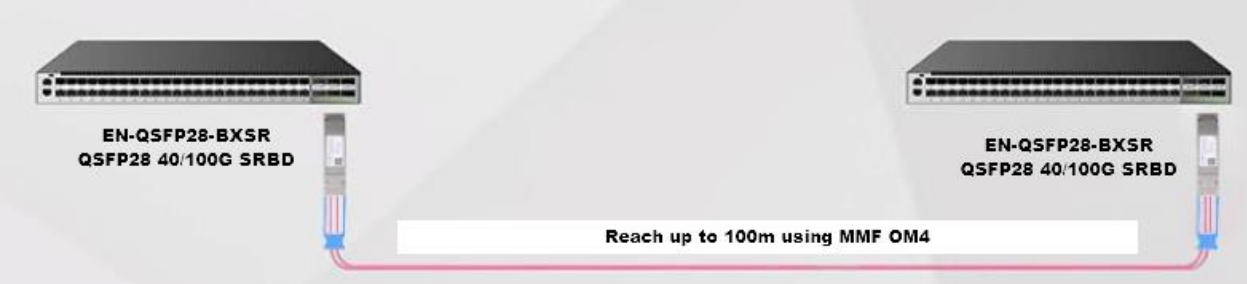
EN-QSFP28-BXSR is a Four-Channel, Pluggable, LC Duplex, Fiber-Optic QSFP28 Transceiver for 100 Gigabit Ethernet Applications. The transceiver internally multiplexes an XLPPI 4x25G interface into two 50Gb/s electrical channels, transmitting and receiving each optically over one simplex LC fibre using bi-directional optics. It integrates four electrical data lanes in each direction into transmission over a single LC duplex fiber optic cable. Each electrical lane operates at 25.78125 Gbps and conforms to the 100GE XLPPI interface, resulting in an aggregate bandwidth of 100Gbps into a duplex LC cable.

PRODUCT FEATURES

- Aggregate bandwidth of > 100Gbps
- Dual-wavelength VCSEL bi-directional optical interface, PAM4 2 × 50-Gb/s 850 nm/900 nm
- Duplex LC receptacle optical interface
- over 70m transmission on OM3 Multimode Fiber (MMF)and 100m on OM4 MMF
- Compliant to the 100GbE XLPPI electrical specification per IEEE 802.3bm
- Compliant to QSFP28 SFF-8636 Specification
- Single +3.3V power supply
- Low power dissipation (Max:3.5W)
- Without digital diagnostic function
- Operating case temperature range:0℃ to 70℃

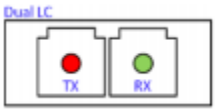
APPLICATIONS EXAMPLES

Usually used DCI within data centers. EN-QSFP28-BXSR allows reuse of the installed LC duplex cabling infrastructure for 100GbE application. Link distances up to 70 m using OM3 and 100m using OM4 optical fibre are supported. These modules are designed to operate over multimode fibre systems using a nominal wavelength of 850nm and 900nm on the other. The electrical interface uses a 38 contact QSFP28 type edge connector.



EN-QSFP28-BXSR Direct Connectivity

The 40G/100G-BXSR modules use duplex LC fibre connectors – the same connectors used on existing 10G and 40G QSFPs use duplex MMF (e.g. 10G-SR).



Ordering Information

Part Number	Description	Data Rate	Wavelength	Distance	Connector
QSFP28 (100G)					
EN-QSFP28-BXSR-xx	100GBASE QSFP28 Bi-Directional 100G, Link Distances up to 70m OM3, 100m OM4, 150m OM5. PAM4 2x50Gbps 850nm/900nm By Default Cisco Compatible	100G	850/900nm	70m/OM3 100M/OM4	LC

Product Selection

xx: Refers to vendor compatibility
I: I refers to Industrial Temperature where applicable
Per example:
EN-SFP10G-LR-EZ refers to Commercial Temperature and is compatible with Evertz, EN-SFP10GIDL-JREX refers to Industrial Temperature, and compatible with Juniper EX Series
** Please note that pricing is the same for most NEMs, including Cisco, Juniper, F5, and Fortinet, except HP and Evertz. There is an additional charge

Compatibility; Tested and Proven

- Proven Compatibility and Interoperability with; TBD

Compliance

All our products come with Built-in digital diagnostic functions DDM Compliant with SFF-8472 Rev12 and Compliant with the MSA SFF SPECIFICATIONS.

ABSOLUTE MAXIMUM RATING

Stresses over the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions above those given in the operational sections of the datasheet. Exposure to absolute maximum ratings for extended periods can adversely affect device reliability.

Parameter	Symbol	Min.	Max.	Unit	Note
Supply Voltage	Vcc	-0.5	3.6	V	
Storage Temperature	T_S	-40	85	°C	
Relative Humidity	R_H	0	85	%	
Rx Damage Threshold, per Lane	PRdmg	5.5		dBm	

Recommended Operating Conditions

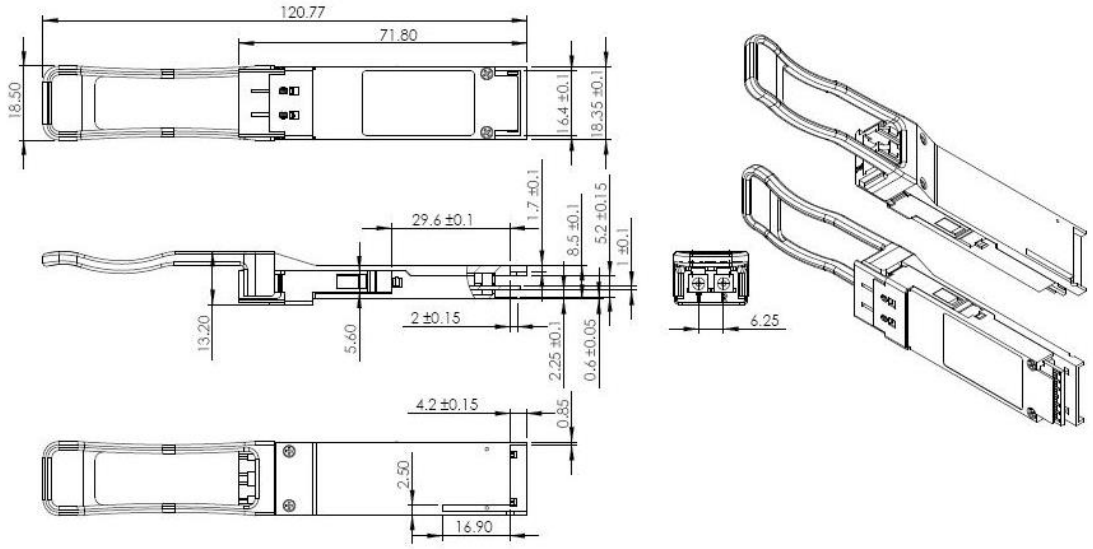
Parameter	**Symbol**	**Min.**	**Typ**	**Max.**	**Unit**	**Note**
Data Rate	DR		25.78125/10.3125		Gb/s	
Supply Voltage	Vcc	3.14	3.3	3.47	V	
Supply Current	Icc			1.00	A	
Operating Case Temp.	**T_c**	**0**		**70**	**°C**	

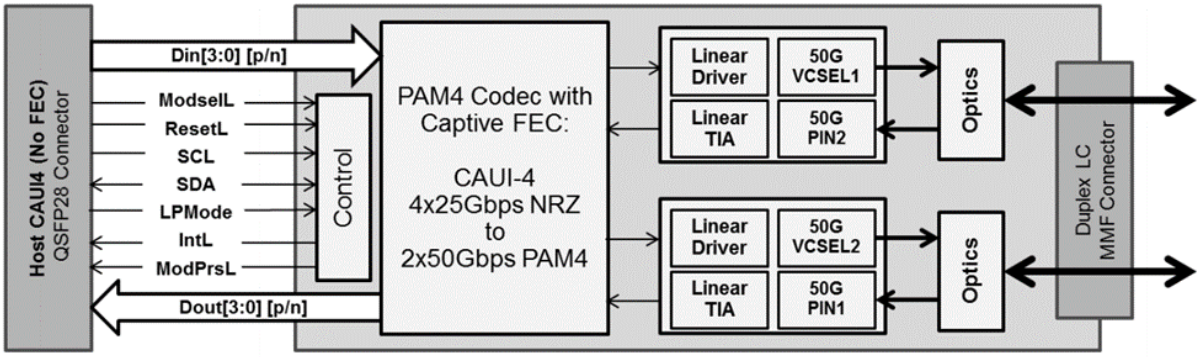
Optical Characteristics (Top=0~70℃, Vcc=3.14~3.47V)

(Tested under recommended operating conditions, unless otherwise noted)

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Transmitter						
Optical Wavelength CH1	λ	832	850	868	nm	
Optical Wavelength CH2	λ	882	900	918	nm	
RMS Spectral Width	Pm		0.5	0.65	nm	
Average Optical Power per Channel	Pavg	-6	-1	+4.0	dBm	
Laser Off Power Per Channel	Poff			-30	dBm	
Optical Extinction Ratio	ER	3.0			dB	
Relative Intensity Noise	Rin			-128	dB/HZ	1
Optical Return Loss Tolerance				12	dB	
Receiver						
Optical Center Wavelength CH1	λ	882	900	918	nm	
Optical Center Wavelength CH2	λ	832	850	868	nm	
Receiver Sensitivity per Channel	R			-8	dBm	
Maximum Input Power	P_{MAX}	+0.5			dBm	
Receiver Reflectance	Rrx			-15	dB	
LOS De-Assert	LOS_D			-10	dBm	
LOS Assert	LOS_A	-30			dBm	
LOS Hysteresis	LOS_H	0.5			dB	

Mechanical specifications





Regulatory Compliance

Feature	Reference	Performance
Electrostatic discharge（ESD）	IEC/EN 61000-4-2	Compatible with standards
Electromagnetic Interference (EMI)	FCC Part 15 Class B EN 55022 Class B (CISPR 22A)	Compatible with standards
Laser Eye Safety	FDA 21CFR 1040.10, 1040.11 IEC/EN 60825-1, 2	Class 1 laser product
Component Recognition	IEC/EN 60950, UL	Compatible with standards

ROHS	2002/95/EC	Compatible with standards
EMC	EN61000-3	Compatible with standards

Notice:

ECI Networks reserves the right to make changes to or discontinue any optical link product or service identified in this publication, without notice, in order to improve design and/or performance. Applications that are described herein for any of the optical link products are for illustrative purposes only.

For further information

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