



Data-Sheet

QSFP28 100G Base Optical Transceiver

JTOPTICS® 100GBASE-SR4 100m QSFP28 optical transceiver, 100G QSFP28 SR4 (JT-100G-QSFP28-MPO-SR4) is designed for use in 100-Gigabit Ethernet links up to 100m over Multi-Mode Fiber (MMF). It is compliant with the QSFP28 MSA and IEEE 802.3bm 100GBASE-SR4. It integrates 4 data lanes in each direction with 4×25.78125Gb/s bandwidth. The electrical interface uses a 38-contact edge type connector. The optical interface uses a 12-fiber MTP/MPO connector.

- Hot-pluggable QSFP28 form factor
- 4 channels full-duplex transceiver module
- Supports 103.1Gb/s aggregate bit rate.
- Max. link length of 70m on OM3 & 100m on OM4 (MMF)
- 4x25Gb/s 850nm VCSEL-based transmitter
- 4 channels PIN photo-detect.
- Internal CDR circuits (receiver and transmitter channels)
- Support CDR bypass
- Data rate up to 25.78125Gbps or 28.05Gbps per channel.
- Supports MPO/MTP-12 Connector
- 3.5 W maximum power dissipation
- Single 3.3V power supply
- Comply with IEEE 802.3bm 100GBASE-SR4 and CAUI-4 standard.
- RoHS-6 compliant



100G QSFP28 Transceiver 100GBASE-SR4, 850nm, MPO-12, MMF
JT-100G-QSFP28-MPO-SR4



100G QSFP28 Transceiver 100GBASE-PSM4 1310nm, 2km, MPO-12, SMF
JT-100G-QSFP28-MPO-PSM4

JTOPTICS® QSFP28 100GBASE-PSM4 is a Four-Channel, Pluggable, Parallel, Fiber-Optic transceiver support InfiniBand DDR/EDR Applications. This transceiver is a high-performance module for data communication and interconnect applications. It integrates four data lanes in each direction with 104 Gbps bandwidth. Each lane can operate at 26Gbps up to 2km over Single mode fiber. These modules are designed to operate over single mode fiber systems using a nominal wavelength of 1310nm. The electrical interface uses a 38-contact edge type connector. The optical interface uses an 12 fiber MTP (MPO) connector.

- Hot-pluggable QSFP28 form factor
- 4 channels full-duplex transceiver module
- Supports 103.1Gb/s aggregate bit rate.
- Max. link length Up to 2km over single mode fiber
- 4 channels 1310nm DFB
- 4 channels PIN photo detector array
- Internal CDR circuits (receiver and transmitter channels)
- Support CDR bypass
- Transmission data rate up to 26Gbps per channel.
- Supports SM MPO/MTP-12 (APC) Connector
- 3.5 W maximum power dissipation
- Single 3.3V power supply
- Comply with IEEE 802.3bm 100G-PSM4 MSA standard.
- RoHS-6 compliant

JTOPTICS® 100Gb/s transceiver module designed for optical communication applications compliant to 100G 4WDM-10 MSA. The module converts 4 input channels of 25Gb/s electrical data to 4 channels of CWDM optical signals and then multiplexes them into a single channel for 100Gb/s optical transmission. Reversely on the receiver side, the module de-multiplexes a 100Gb/s optical input into 4 channels of CWDM optical signals and then converts them to 4 output channels of electrical data. The high performance cooled CWDM DFB transmitters and high sensitivity PIN receivers provide superior performance for 100-Gigabit Ethernet applications up to 10km.

- Hot-pluggable QSFP28 form factor
- Max. link length of 10km over Single mode Fiber.
- 4 x 26Gb/s DFB-based CWDM Cooling transmitter.
- 4 channels PIN ROSA.
- Internal CDR circuits (receiver and transmitter channels)
- Support CDR bypass
- Transmission data rate up to 26Gbps per channel.
- Duplex LC Connector
- Comply with IEEE 802.3ba 100GBASE-LR4, IEEE 802.3bm, SFF-8665 and SFF-8636 standards.
- 4 W maximum power dissipation
- Single 3.3V power supply
- RoHS-6 compliant



100G QSFP28 Transceiver 100GBASE-LR4 1310nm, 10km, LC, SMF
JT-100G-QSFP28-LC-LR4



100G QSFP28 Transceiver 100GBASE-ER4 1310nm, 40km, DOM, LC, SMF
JT-100G-QSFP28-LC-ER4

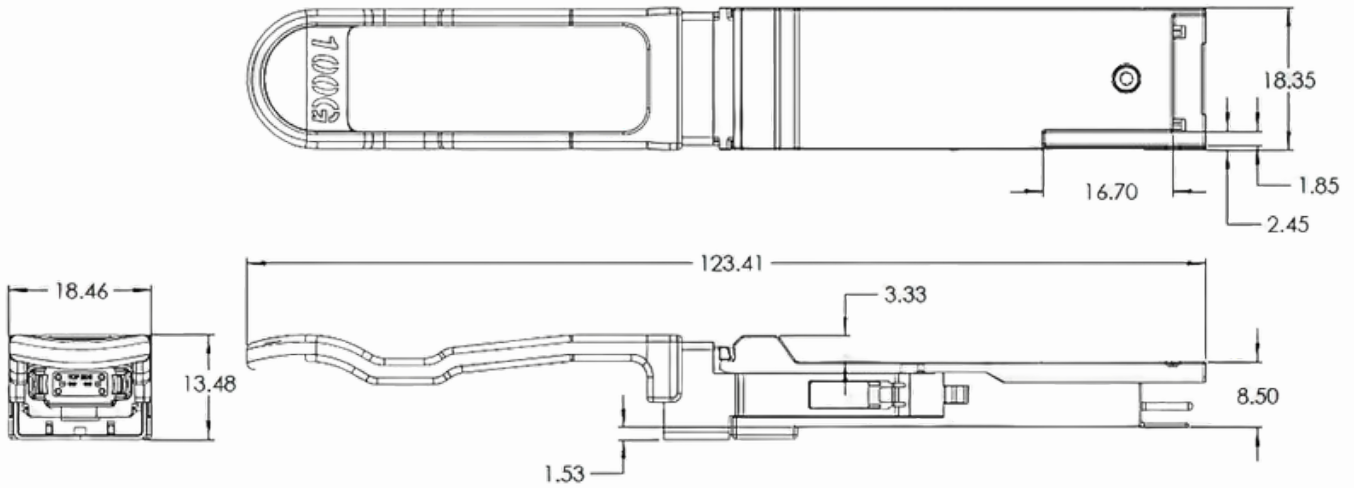
JTOPTICS® 100Gbps transceiver module designed for optical communication applications compliant to 100GBASE-ER4. The module converts 4 input channels of 25Gb/s electrical data to 4 channels of LAN WDM optical signals and then multiplexes them into a single channel for 100Gb/s optical transmission. Reversely on the receiver side, the module de-multiplexes a 100Gb/s optical input into 4 channels of LAN WDM optical signals and then converts them to 4 output channels of electrical data. The high-performance cooled LAN WDM EML transmitters and high sensitivity PIN+SOA receivers provide superior performance for 100Gigabit Ethernet applications up to 40km links and compliant to optical interface with IEEE802.3ba 100GBASE-ER4 requirements

- Hot-pluggable QSFP28 form factor
- 4 channels full-duplex transceiver module.
- Max. link length of 10km over Single mode Fiber.
- 4 X 25/28G LAN-WDM EML Integrated TOSA.
- 4 x PIN+SOA Receiver.
- Internal CDR circuits (receiver and transmitter channels)
- Support CDR bypass
- Transmission data rate up to 26Gbps per channel.
- Duplex LC Connector
- 6 W maximum power dissipation
- Single 3.3V power supply
- Comply with IEEE 802.3ba 100GBASE-ER4 Lite standard.
- RoHS-6 compliant

Technical Specifications

Part No	JT-100G-QSFP28-MPO-SR4	JT-100G-QSFP28-MPO-PSM4	JT-100G-QSFP28-LC-LR4	JT-100G-QSFP28-LC-CWDM4	JT-100G-QSFP28-LC-ER4
Description	100GBASE-SR4 QSFP28 850nm 100m	100GBASE-PSM4 QSFP28 1310nm 2km	100GBASE-LR4 QSFP28 1310nm 10km	100GBASE-CWDM4 QSFP28 1310nm 2km	100GBASE-ER4 QSFP28 1310nm 40km
Form Factor	QSFP28	QSFP28	QSFP28	QSFP28	QSFP28
Max Data Rate	103.125Gbps (4x 25.78Gbps)	103.125Gbps (4x 25.78Gbps)	103.125Gbps (4x 25.78Gbps)	103.125Gbps (4x 25.78Gbps)	103.125Gbps (4x 25.78Gbps)
Connector	MTP/MPO-12	MTP/MPO-12	Duplex LC	Duplex LC	Duplex LC
Wavelength	850nm	1310nm	1310nm	1310nm	1310nm
Transceiver Type	VCSEL	4 x DFB	4 x LAN WDM EML	4 x CWDM DML (DFB)	4 x EML
Receiver Type	PIN	PIN	PIN	PIN	APD
Tx Power (Average)	-8.4 ~ +2.4	-9.4 ~ 2dBm	-4.3 ~ 4.5dBm	-6.5 ~ +2.5	-2.9 ~ 4.5dBm
Receiver Sensitivity (Average)	≤ -10.3	≤ -12.66dBm	≤ -10.6dBm	≤ -11.5dBm	≤ -20.9dBm
Operating Temperature	0 to 70°C (32 to 158°F)	0 to 70°C (32 to 158°F)	0 to 70°C (32 to 158°F)	0 to 70°C (32 to 158°F)	0 to 70°C (32 to 158°F)
Power Consumption	≤3.5W	≤3.5W	≤3.5W	≤3.5W	≤4.5W
Modulation Format	NRZ	NRZ	NRZ	NRZ	NRZ
Receiver Overload	2.4dBm	2dBm	4.5dBm	4.5dBm	-4.9dBm
Extinction Ratio	>3.0dB	>3.5dB	>4dB	>3.5dB	>4dB
Protocols	IEEE 802.3bm, QSFP28 MSA, SFF-8665, SFF-8636, RoHS, CPRI, eCPRI	QSFP28 MSA Compliant, SFF-8636	IEEE 802.3ba 100GBASE-LR4, IEEE 802.3bm, QSFP28 MSA, SFF-8665, SFF-8636	IEEE 802.3ba, IEEE 802.3bm, 100G CWDM4 MSA, QSFP28 MSA, SFF-8665, SFF-8636	IEEE 802.3ba 100GBASE-LR4, IEEE 802.3bm, QSFP28 MSA, SFF-8665, SFF-8636
DDM/DOM	Supported	Supported	Supported	Supported	Supported
Media	MMF	SMF	SMF	SMF	SMF
Max Cable Distance	up to 70m @ OM3 up to 100m @ OM4	2km	10km	2km	25km-40km
Applications	100GBASE-SR4 100G Ethernet	Data Center 100GE 2km Parallel Links Enterprise Link	Data Center Interconnect 100G CLR4 Applications	100GE CWDM4 applications	100GBASE-ER4 Ethernet Links Telecom
Warranty	3 years	3 years	3 years	3 years	3 years

Mechanical Dimension



Electrical Pin Configuration

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

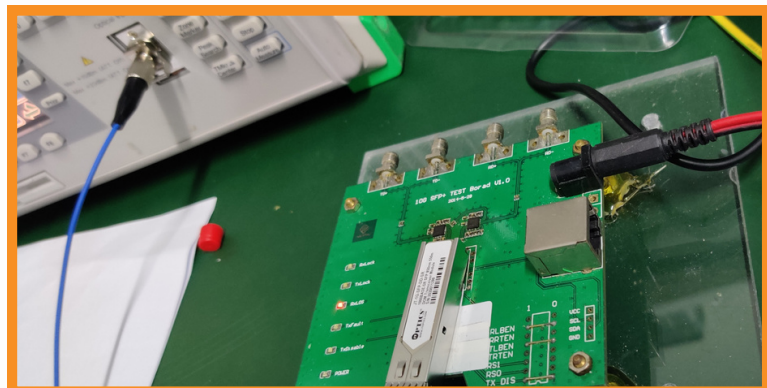
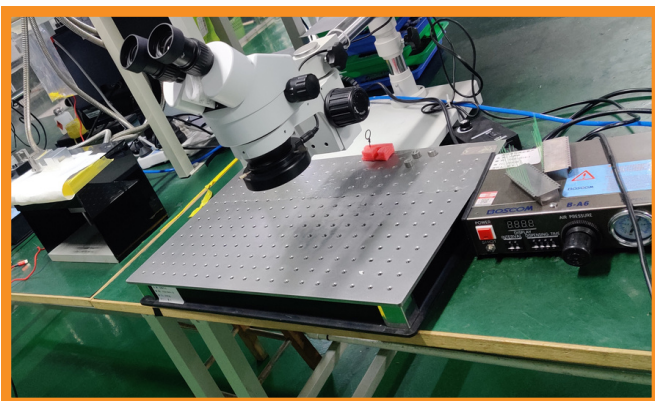
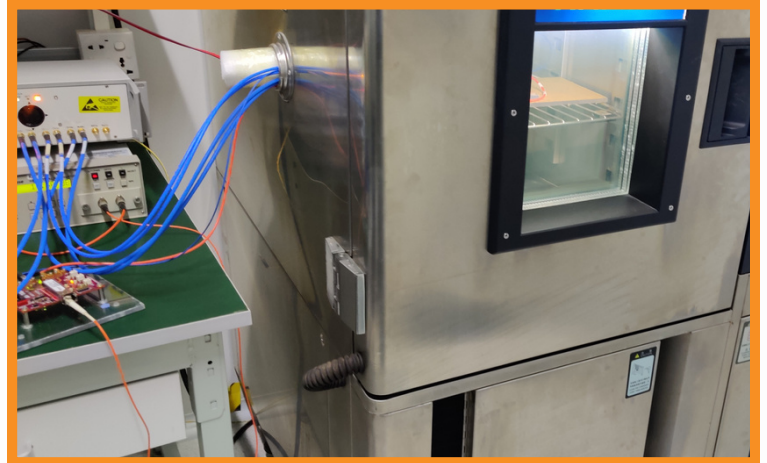
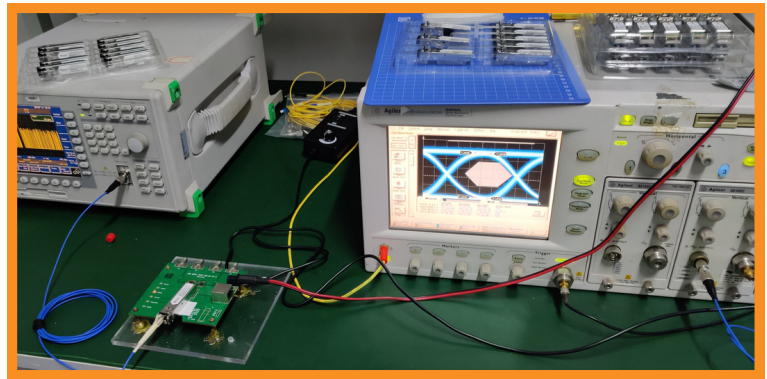
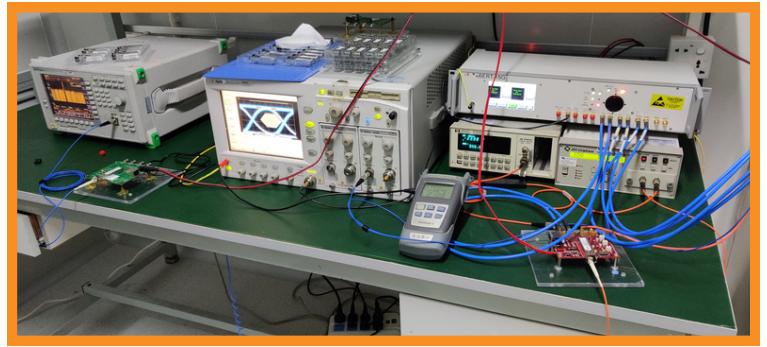
Top Side
Viewed from Top

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

Testing



About JT

In the dynamic realm of technology and innovation, the emergence of **Jayani Technologies Limited** has been nothing short of a saga marked by ingenuity, resilience, and a steadfast commitment to excellence. Originating as Jayani Technologies LLP in 2011 in the vibrant city of Mumbai, India, the company has evolved into a trailblazer in its domain. This narrative unfolds against the backdrop of the company's expansion into Hong Kong, a strategic move signaling its intent to conquer new horizons.

Established in 2011, Jayani Technologies (**JTOPTICS**[®]) was conceived as a response to the evolving technological landscape, recognizing the need for cutting-edge solutions that marry innovation with reliability. The Mumbai headquarters became the crucible for the company's early endeavor, a melting pot of talent and vision that propelled Jayani Technologies into the forefront of its industry and emerged as a leading manufacturer and supplier of cutting-edge solutions in the fields of optical Fiber, data center, networking, and electric vehicle components.

From its inception, the company distinguished itself by its unwavering commitment to client satisfaction, a commitment that became the cornerstone of its success. Jayani Technologies quickly became synonymous with technological prowess and an unwavering dedication to delivering solutions that transcended conventional boundaries.

JTOPTICS[®] has developed and produced many active and passive interconnection and connectivity products suitable for different networks, aiming to become a one-stop device integration solution provider in the open optical network field, products include MPO Cables, AOC cable, passive DAC cable, optical transceivers, optical modules & subsystems, active & passive optical components, and high-density cabling products.

Vision

Our vision is to be recognized by clients as trustful a trusted business partner whose mission is to help our clients by offering state-of-the-art products and services.

Mission

Our mission is to catalyze the success of its clients by providing unparalleled technological solutions. The company envisions itself as a catalyst for positive change, aiming to reshape industries through innovation, integrity, and a relentless pursuit of excellence.



Our Clients

ciena

ADVA[™]
Optical Networking

colt

CISCO

Coriant

MAVENIR



इसरो isro

JUNIPER
NETWORKS

TEJAS[®]
NETWORKS

भारत इलेक्ट्रॉनिक्स
BHARAT ELECTRONICS

HITACHI

एनटीपीसी
NTPC

TATA

LARSEN & TOUBRO



Our Contact



+91-86-9309-9309



info@jtoptics.com



www.jtoptics.com



409-410 Lodha I-Think, B-Block, Palava,
Dombivali (E), Thane, MH 421204

Hongkong

India

Singapore

Malaysia

Qatar

JAYANI TECHNOLOGIES LLP