

100 Gb/s 10 km QSFP28 LR4 Transceiver



QSFP Series (OA)

Ascent's 100G QSFP28 LR4 Optical Transceiver offers service providers, network operators 100 Gigabit Ethernet connectivity options for data center networking, enterprise core aggregation, and service provider transport applications. It integrates receiver and transmitter path on one module.

In the transmit side, four lanes of serial data streams are recovered, retimed, and passed to four laser drivers. The laser drivers control 4 × Distributed Feedback Laser (DFB) with center wavelengths of 1296 nm, 1300 nm, 1305 nm, and 1309 nm. The optical signals are multiplexed to a single-mode fiber through an industry standard LC connector. In the receive side, the four lanes of optical data streams are optically de-multiplexed by the integrated optical de-multiplexer. Each data stream is recovered by a PIN photo-detector and trans-impedance amplifier, retimed. This module features a hot-pluggable electrical interface, low power consumption and MDIO management interface.

This product is designed with form factor, optical/electrical connections, and digital diagnostic interface according to the QSFP28 Multi-Source Agreement (MSA) and compliant to IEEE 802.3bm.

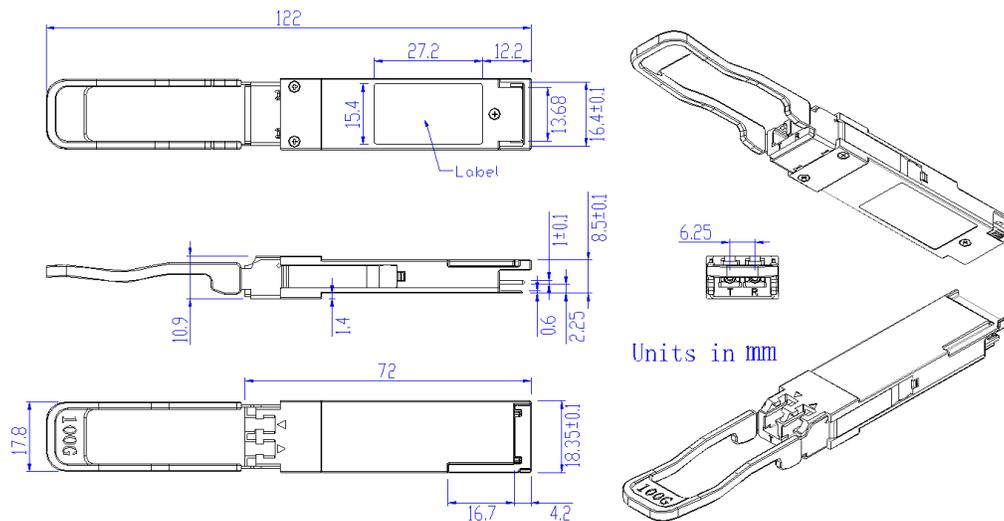
Key Features

- Compliant with 100GBASE-LR4
- Support line rates up to 103.125 Gbps
- Integrated LAN WDM TOSA / ROSA for up to 10 km reach over SMF
- Digital Diagnostics Monitoring Interface
- Duplex LC optical receptacle
- No external reference clock
- Electrically hot-pluggable
- Compliant with QSFP28 MSA with LC connector, SONET OC-192, SDH STM-64
- Power consumption < 4 W
- RoHS compliant

Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Operating Case Temperature	Tcase	0	-	70	°C	QSFP-28-100G-LP-10
		-10	-	85	°C	QSFP-28-100G-LP-10A
Power Supply Voltage	V _{CC}	3.13	3.3	3.47	V	
Power Supply Current	I _{CC}			1010	mA	QSFP-28-100G-LP-10
				1150	mA	QSFP-28-100G-LP-10A
Data Rate	BR		25.78125		Gbps	Each channel
Transmission Distance	TD		-	10	km	
Signaling Speed per Lane			25.78125 ±		Gbps	
Wavelength Assignment	λ ₀	1294.53	1295.56	1296.59	nm	
	λ ₁	1299.02	1300.05	1301.09	nm	
	λ ₂	1303.54	1304.58	1305.63	nm	
	λ ₃	1308.09	1309.14	1310.19	nm	
Total Output Power	P _{OUT}			10.5	dBm	
Average Launch Power per Lane		-4.3		4.5	dBm	
Average launch Power off per Lane	P _{off}			-30	dBm	
Receive Power (OMA) per Lane	ROMA			4.5	dBm	
Average Input Power per Channel	RXP _x	-10.6		4.5	dBm	
Differential Data Input Swing	V _{in, pp}	180		1000	mV	
Differential Data Output Swing	V _{out, pp}	300		850	mV	

Outline Diagram



Ordering Information

Product Name	Product Description
Q28OA-100G-LP10	QSFP28 plug-in, 100GBASE-LR4 1295 nm, 1300 nm, 1304 nm, 1309 nm, 10 km optical transceiver, LC, DOM
J28OA-100G-LP10	QSFP28 plug-in, 100GBASE-LR4 1295 nm, 1300 nm, 1304 nm, 1309 nm, 10 km optical transceiver, LC, DOM, Juniper Compatible



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