

100 Gb/s 100 m QSFP28 SR4 Transceiver

QSFP Series



Ascent's QSFP28-100G-SR01 is a 100Gb/s transceiver module designed for optical communication applications compliant to IEEE 802.3bm standards.

The optical transmitter portion of the transceiver incorporates a 4-channel VCSEL (Vertical Cavity Surface Emitting Laser) array, a 4-channel input buffer and laser driver, diagnostic monitors, control and bias blocks. For module control, the control interface incorporates a Two Wire Serial interface of clock and data signals. Diagnostic monitors for VCSEL bias, module temperature, transmitted optical power, received optical power and supply voltage are implemented and results are available through the TWS interface.

The optical receiver portion of the transceiver incorporates a 4-channel PIN photodiode array, a 4-channel TIA array, a 4-channel output buffer, diagnostic monitors, and control and bias blocks. Diagnostic monitors for optical input power are implemented and results are available through the TWS interface.

The product is designed with form factor, optical/electrical connection and digital diagnostic interface according to the QSFP+ Multi-Source Agreement (MSA). It has been designed to meet the harshest external operating conditions including temperature, humidity and EMI interference.

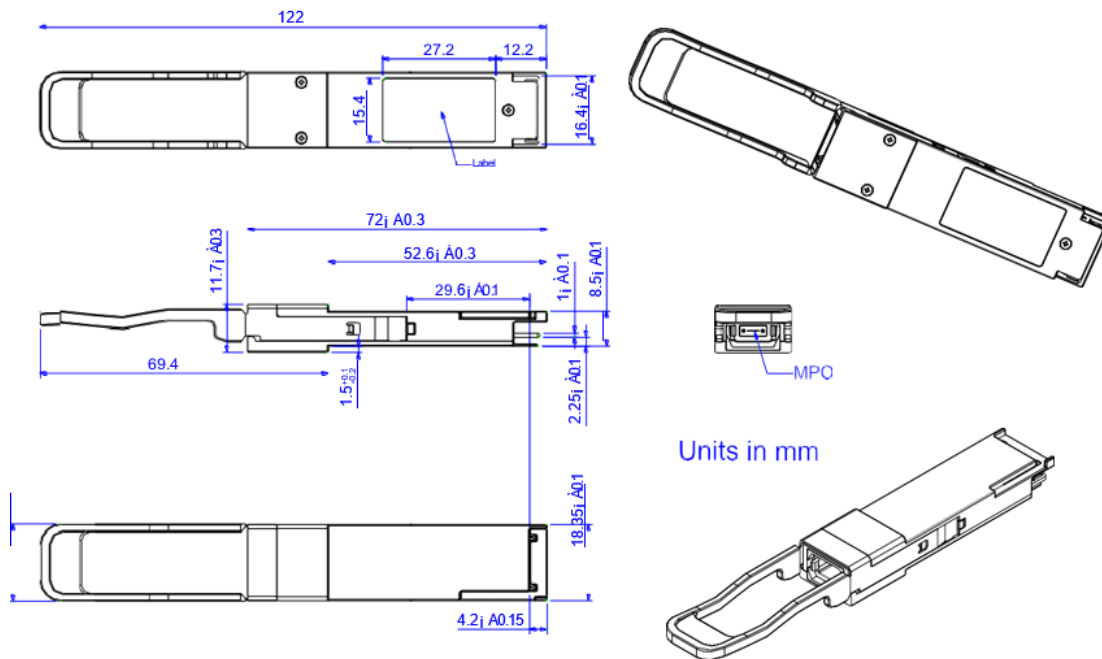
Key Features

- Support 103.1Gb/s aggregate bit rate
- QSFP28 MSA compliant
- Up to 100km reach with OM4 multimode fiber
- Up to 70km reach with OM3 multimode fiber
- Low power supply consumption(2.0W)
- Wide operating temperature: 0°C~70°C
- RoHS and FCC compliant

Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Operating Case Temperature	T_{case}	0	-	+70	°C	Without air flow
Power Supply Voltage	V_{CC}	3.15	3.3	3.45	V	
Power Supply Current	I_{CC}	-		600	mA	
Data Rate	BR	25.78125			Gbps	Each channel
Transmission Distance	TD	-		100	m	OM4
	TD	-		70	m	OM3
Center Wavelength	λ_0	840		860	nm	
Average Launch Power each Lane		-8.4		2.4	dBm	
Receiver Wavelength	λ_{in}	840		860	nm	
Rx Sensitivity per Lane	RSENS			-10.3	dBm	
Average Launch Power each Lane	P_{avg}	-9.4		2.0	dBm	
Average Launch Power of OFF Transmitter each Lane				-30	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
QSFP28-100G-SR01	QSFP28 Plug-in, 100GBASE-SR4 850nm, 100m on OM4, MPO-12 Male, DOM
JQ28-100G-SR01	QSFP28 Plug-in, 100GBASE-SR4 850nm, 100m on OM4, MPO-12 Male, DOM, Compatible with Juniper



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