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QSFP-DD SR4

400GBASE QSFP-DD 100 m Transceiver

Description:

The 400GBASE **QSFP-DD SR4** module is a high-speed optical module based on the QSFP-DD form factor. It fully complies with the QSFP-DD Multi-Source Agreement (MSA), IEEE 802.3bs protocol, and 400GAUI-8-PAM4 standard and is specially designed for 400G Ethernet.
The electrical port of the 400G QSFP-DD SR4 transceiver uses 8x50G PAM4 modulation, and the optical port uses 4x100G PAM4 modulation.
It supports short-range distances up to 100 m over 12 parallel multimode fiber (MMF) OM4.



Features:

- Hot-pluggable QSFP-DD form factor
- Supports 400Gbps data rerate links up to 70m/100m via OM3/OM4, respectively
- Digital Diagnostics Monitoring Interface
- Single MPO-12 APC connector
- Operating case temp commercial: 0°C to 70°C
- Power dissipation less than 8 W
- RoHS compliant
- +3.3.V single power supply

Standards:

- Compliant with IEEE 802.3bs standard
- Compliant with QSFP DD MSA Rev 3.0 (for Memory Map)
- Compliant 400GAUI-8 electrical interface

Aplicatons:

- 400GBASE-SR4 Ethernet
- Data Center
- Application cases: 400G SR4, 2x200G SR2, 4x100G SR

Recommended operating conditions:

Parameter	*Min*	*Typ*	*Max*	*Unit*	*Note*
Storage Temperature	-40		85	°C	
Case operating temperature	0	-	70	°C	Without air flow (Tc)
Relative humidity	5	-	95	%	RH
Power supply voltage	3.13	3.3	3.47	V	VCC
Power Supply Current			2550	mA	ICC
Data rate		425		Gbps	850nm
Link Distance (OM4)		2	100	m	TD
Link Distance (OM3)		2	60	m	FEC required on host system

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Optical characteristics:

Transmitter

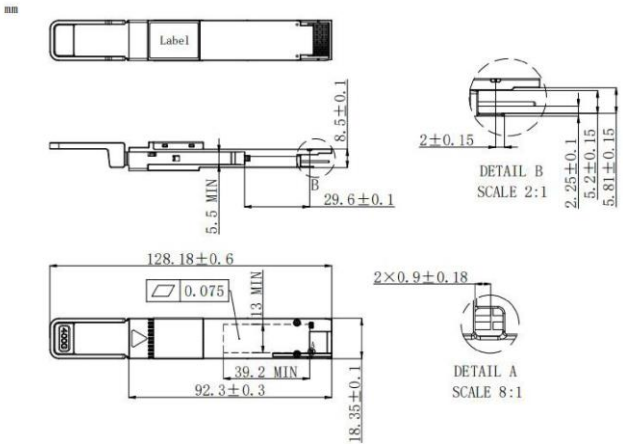
Parameter	*Min*	*Typ*	*Max*	*Unit*	*Note*
Center wavelegth	842	–	948	nm	
Modulation format	–	PAM4			
Extinction ratio, each lane	2.5	–	–	dB	
RMS spectral Width	–	–	0.65	dBm	1
Average launch power per lane	-4.6	–	4.0	dBm	

Note: 1. RMS spectral width is the standard deviation of the spectrum

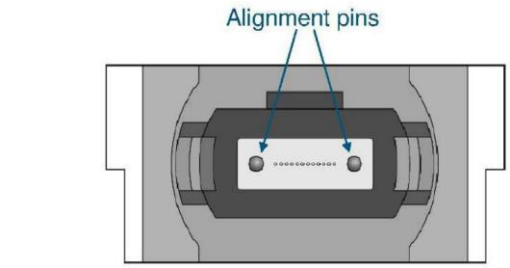
Receiver

Parameter	*Min*	*Typ*	*Max*	*Unit*	*Note*
Average optical power, each lane	3	–	5	dBm	
Receive power (OMA) per lane	–	–	3.5	dBm	BER@2.4E-4
Signaling speed per lane		53.125± 100 ppm		Gbps	
LOS Assert	-15	–	–	dBm	
LOS De-Assert	–	–	-9.2	dBm	
Modulation format	–	PAM4			

Outline Dimension:



Interface arrangement:



Transmit Channels: 1 2 3 4
Unused positions: x x x x
Receive Channels: 4 3 2 1

Laser Safety
The Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.



Ordering code:

Product number	*Description*
M400G-QP-DD-SR4-D-XX	400 Gbps (4x100 Gbps), QSFP-DD, up to 10 km, 0°C to +70°C, MPO-12 connector

Warnings
Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD).
A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

Remark: Full compatibility is conditioned by exact specification of the end device; compatibility of older SFPs is not guaranteed with new devices or updated SW.

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