

TRA-QSFP-100G-SR4

100G-850nm / 100m / Gigabit Ethernet 100GBASE-SR4

Features

- QSFP28 Multi-Source Agreement compliant
- Hot pluggable QSFP28 footprint
- Supports 103.125 Gbps Data Rate
- 4x 25.781Gbps Serial Electrical Interface (CAUI-4)
- MPO/MTP Optical Connector
- 4x 850nm VCSEL Transmitters
- 4x PIN Receivers
- Up to 100m Point-to-Point Transmission on Single Mode Fibre
- OM4/OM3 Multi Mode Fibre
- Operating temperature range 0°C to 70°C
- Power Dissipation <3.5W
- Single +3.3V Power Supply



Applications

- 100GBASE-SR4

Description

TRansceiver.Asia is a high performance QSFP28 transceiver module for 100 Gigabit Ethernet data links over four multi-mode fibre pairs (ribbon fibre). The maximum reach is 100m (OM4) or 70m (OM3). The four transmitters are 850nm Vertical-Cavity Surface-Emitting Lasers (VCSEL) generating four optical 25Gbps output signals. The four receivers are PIN photodiodes detecting 4x25Gbps optical input signals. This transceiver module is compliant with the QSFP28 Multisource Agreement (MSA) and hot pluggable. Always contact **TRansceiver.Asia** commercial agents for compatibility with different equipment platforms.

Optical Interfaces

P/N	Wavelength	Output Optical	Optical receiver	Optical Receiver	Power Budget
		Power ²	Sensitivity ³	Overload ⁴	[dB]
[nm]	[dBm]	[dBm]	[dBm]	[dBm]	[dB]
TRA-SFP-100G-SR4	850nm	-8.4 to 2.4	≤ -5.2	2.4	≥ 100

Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	Vcc	3.135	3.3	3.465	V	
Power Supply Current	Icc			1000	mA	
Case Operating Temperature	Tc	0		70	°C	
		-40		85	°C	Non-Condensing
Relative Humidity		0		85	%	
Storage Temperature		-40		85	°C	

Transmitter Optical Specifications

Parameter	MIN	TYP	MAX	UNITS	NOTES
Data Rate, each Lane		25.78125		Gbps	5
Aggregated Data Rate		103.125		Gbps	5
Total Average Output Power				dBm	6
Average Output Power, each Lane	-8.4		2.4	dBm	6.7
Launched OMA, each Lane	-6.4		3	dBm	6.8
Launched OMA minus TDP, each lane	-7.3			dBm	6
Centre Wavelength, Optical Lanes 0 to 3	840		860	Nm	
Transmitter and Dispersion Eye Closure (TDEC), each Lane			4.3	dB	
Extinction Ratio, each Lane	2			dB	

Receiver Optical Specification

Parametter	min	Typ	max	unit	note
Operating Wavelength, Optical Lanes 0 to 3	840		860	nm	10
Stressed Receiver Sensitivity (OMA), each Lane			-5.2	dBm	11
Average Receive Power, each Lane	-10.3		2.4	dBm	9

Pin Function Definition

Pin	Symbol	Description	Pin	Symbol	Description
1	GND	Ground	20	GND	Ground
2	TX2n	Transmitter Inverted Data Input	21	RX2n	Receiver Inverted Data Output
3	TX2p	Transmitter Non-Inverted Data Input	22	RX2p	Receiver Non-Inverted Data Output
4	GND	Ground	23	GND	Ground
5	TX4n	Transmitter Inverted Data Input	24	RX4n	Receiver Inverted Data Output
6	TX4p	Transmitter Non-Inverted Data Input	25	RX4p	Receiver Non-Inverted Data Output
7	GND	Ground	26	GND	Ground
8	ModSelL	Module Select	27	ModPrsL	Module Present
9	ResetL	Module Reset	28	IntL	Interrupt
10	VccRx	+3.3V Power Supply Receiver	29	VccTx	+3.3V Power supply transmitter
11	SCL	2-wire serial interface clock	30	Vcc1	+3.3V Power supply
12	SDA	2-wire serial interface data	31	LPMode	Low Power Mode
13	GND	Ground	32	GND	Ground
14	RX3p	Receiver Non-Inverted Data Output	33	TX3p	Transmitter Non-Inverted Data Input
15	RX3n	Receiver Inverted Data Output	34	TX3n	Transmitter Inverted Data Input
16	GND	Ground	35	GND	Ground
17	RX1p	Receiver Non-Inverted Data Output	36	TX1p	Transmitter Non-Inverted Data Input
18	RX1n	Receiver Inverted Data Output	37	TX1n	Transmitter Inverted Data Input
19	GND	Ground	38	GND	Ground

Ordering information

Part Number	Description
TRA-SFP-100G-SR4	QSFP28 SR4, 850nm, Tx (VCSEL), Rx (PIN), maximum distance 100m/70m on OM4/OM3 MMF, 100 Gigabit Ethernet, MPO connector, 0°C to 70°C, DDM

Warnings

Process plug

The transceiver optics is supplied with a dust cover. This plug protects the transceiver optics during standard manufacturing processes by preventing contamination from air borne particles. It is recommended that the dust cover remain in the transceiver whenever an optical fiber connector is not inserted.

Handling Precautions

The transceiver optics 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.

Laser Safety

The transceiver optics is a Class 1 laser product per international standard IEC 60825-1. Radiation emitted by laser