400G QSFP112 DR4 500 m Transceiver

ET7512-DR4

Edgecore's ET7512-DR4 is designed for high performance data interconnection. The transceiver provides a 106.25 Gbps data rate (per channel) by PAM4 modulation over single-mode fiber based on a high performance SIP modulator and PD detectors. The device is compliant with 400G Ethernet specifications and the QSFP112 MSA.

Product Features

- Up to 106.25 Gbps data rate per channel by PAM4 modulation
- 4 duplex channels transmitters and receivers
- 4 x 100G SIP modulator
- MPO-12 APC optical interface
- Single +3.3V power supply
- Hot-pluggable QSFP112 form factor (Type 2A)
- Maximum link length of 500 m on SM fiber
- Low Power Dissipation: <9 W
- Operating Temperature Range: 0°C ~ +70°C
- International class 1 laser safety certified
- Compliant with RoHS6.0

Applications

- 400GBASE-DR4 Ethernet
- Switch and Router Connections
- Data Centers
- Other 400G Interconnect Requirements

Ordering Information

Part Number	Package	Output Power	Receiver	OMA Sensitivity	Reach	Case Temp.	DDM	RoHS
ET7512-DR4	QSFP112	-2.9 ~4 dBm	PD	<-4.4 dB@OMA	500 m	0°C ~ 70°C	Available	Compliant

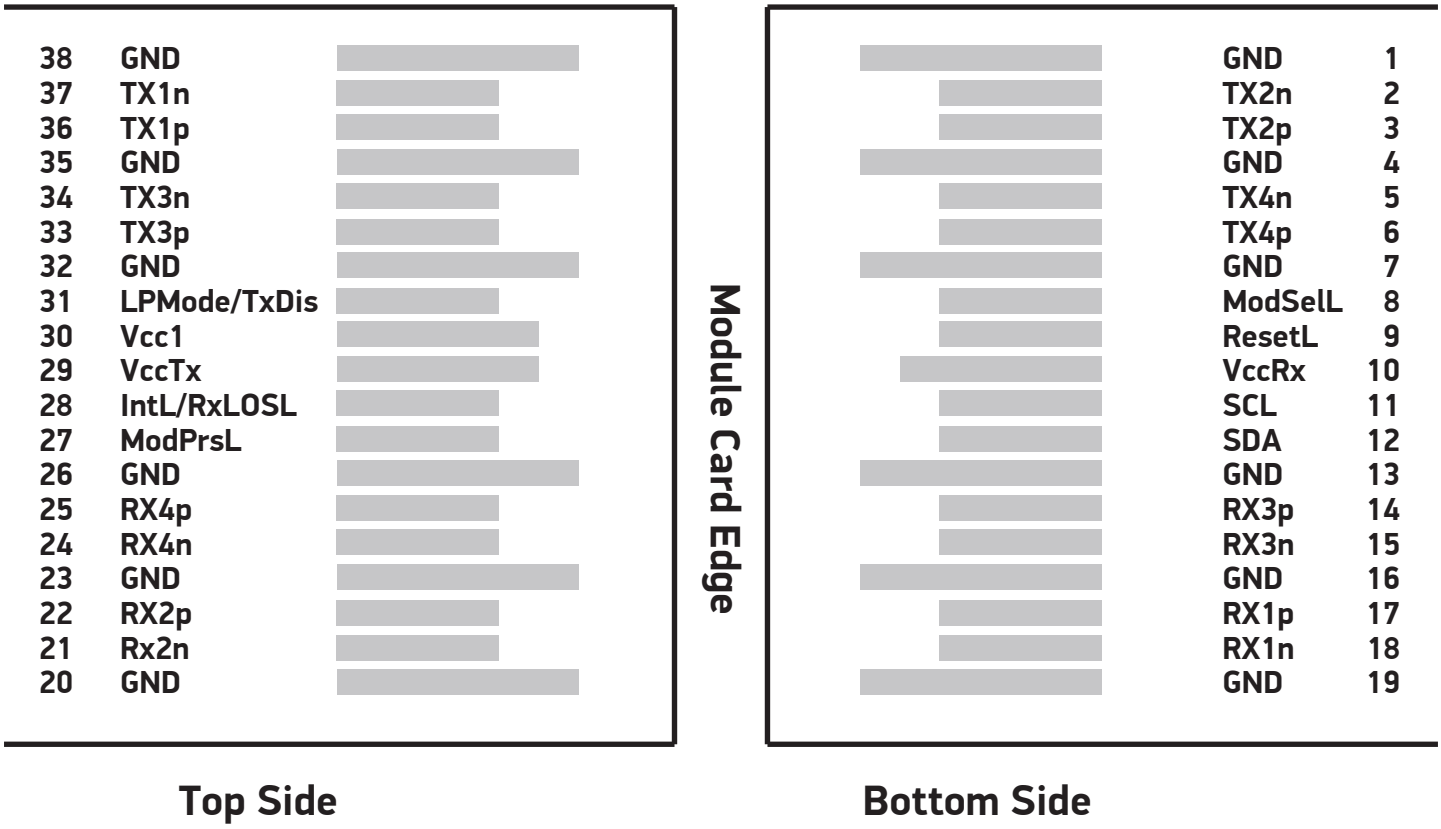
Pin Description

Pin	Name	Function/Description	Plug Sequence	Notes
1	GND	Transmitter Ground (Common with Receiver Ground)	1	1
2	Tx2n	Transmitter Inverted Data Input	3	
3	Tx2p	Transmitter Non-Inverted Data Input	3	
4	GND	Transmitter Ground (Common with Receiver Ground)	1	1
5	Tx4n	Transmitter Inverted Data Input	3	
6	Tx4p	Transmitter Non-Inverted Data Input	3	
7	GND	Transmitter Ground (Common with Receiver Ground)	1	1
8	ModSelL	Module Select	3	
9	ResetL	Module Reset	3	
10	VccRx	+3.3V Power Supply Receiver	2	3
11	SCL	2-wire Serial Interface Clock	3	
12	SDA	2-wire Serial Interface Data	3	
13	GND	Transmitter Ground (Common with Receiver Ground)	1	1
14	Rx3p	Receiver Non-Inverted Data Output	3	
15	Rx3n	Receiver Inverted Data Output	3	
16	GND	Transmitter Ground (Common with Receiver Ground)	1	1
17	Rx1p	Receiver Non-Inverted Data Output	3	
18	Rx1n	Receiver Inverted Data Output	3	
19	GND	Transmitter Ground (Common with Receiver Ground)	1	1
20	GND	Transmitter Ground (Common with Receiver Ground)	1	1
21	Rx2n	Receiver Inverted Data Output	3	
22	Rx2p	Receiver Non-Inverted Data Output	3	
23	GND	Transmitter Ground (Common with Receiver Ground)	1	1
24	Rx4n	Receiver Inverted Data Output	3	
25	Rx4p	Receiver Non-Inverted Data Output	3	
26	GND	Transmitter Ground (Common with Receiver Ground)	1	1
27	ModPrsL	Module Present	3	
28	IntL/RxLOS	Interrupt	3	2
29	VccTx	+3.3 V Power Supply Transmitter	2	3
30	Vcc1	+3.3 V Power Supply	2	3
31	LPMode/TxDis	Low Power Mode	3	
32	GND	Transmitter Ground (Common with Receiver Ground)	1	1
33	Tx3p	Transmitter Non-Inverted Data Input	3	
34	Tx3n	Transmitter Inverted Data Input	3	
35	GND	Transmitter Ground (Common with Receiver Ground)	1	1
36	Tx1p	Transmitter Non-Inverted Data Input	3	
37	Tx1n	Transmitter Inverted Data Input	3	
38	GND	Transmitter Ground (Common with Receiver Ground)	1	1

Notes:

1. QSFP112 uses common ground (GND) for all signals and supply (power). All are common within the QSFP module and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal-common ground plane. Each connector GND contact is rated for a maximum current of 500 mA.
2. This is an open collector/drain output that on the host board requires a 4.7KΩ to 10KΩ pull-up resistor to VccHostup.
3. VccRx, Vcc1, and VccTx shall be applied concurrently. For power classes 4 and above the module differential loading of input voltage pads must not result in exceeding contact current limits. Each connector Vcc contact is rated for a maximum current of 1500 mA.

Pin Map



Top Side **Bottom Side**

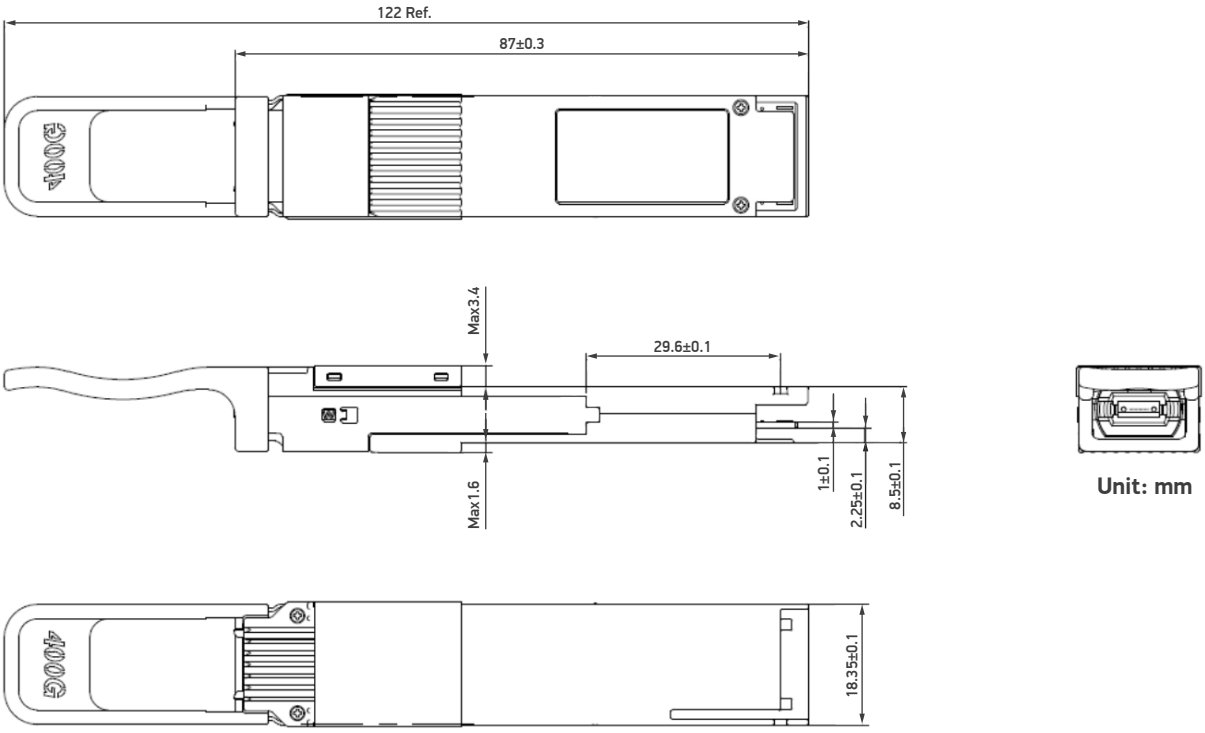
Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Storage Temperature	Ts	-40	85	°C
Relative Humidity	RH	5	95	%
Supply Voltage	Vcc	-0.5	3.6	V

Recommended Operating Conditions

Parameter	Symbol	Minimum	Type	Maximum	Unit
Operating Temperature	Tc	0	40	70	°C
Supply Voltage	Vcc	3.135	3.3	3.465	V
Data Rate			25.78125	-	Gb/s

Mechanical Specifications



Warranty
Please check www.edge-core.com for the warranty terms in your country.

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