

QSFP28-100G-PDAC-xM

100GBase QSFP28 to QSFP28
Passive Copper Cable
Up to 5m Reach

+45 (0)32 72 66 76



info@nexgen.eu



www.nexgen.eu



Features

- Supports 100Gb/s Data Rate
- Up to 5m reach
- Passive copper cable
- Pull-to-release slide latch design
- 26AWG & 30AWG cable available
- Customized cable braid termination limits EMI radiation
- Single +3.3V power supply
- Lowest total system power solution
- RoHS compliant



Applications

- Switches, servers and routers
- Data Center networks
- Storage area networks
- High performance computing
- Telecommunication and wireless infrastructure
- Medical diagnostics and networking
- Test and measurement equipment

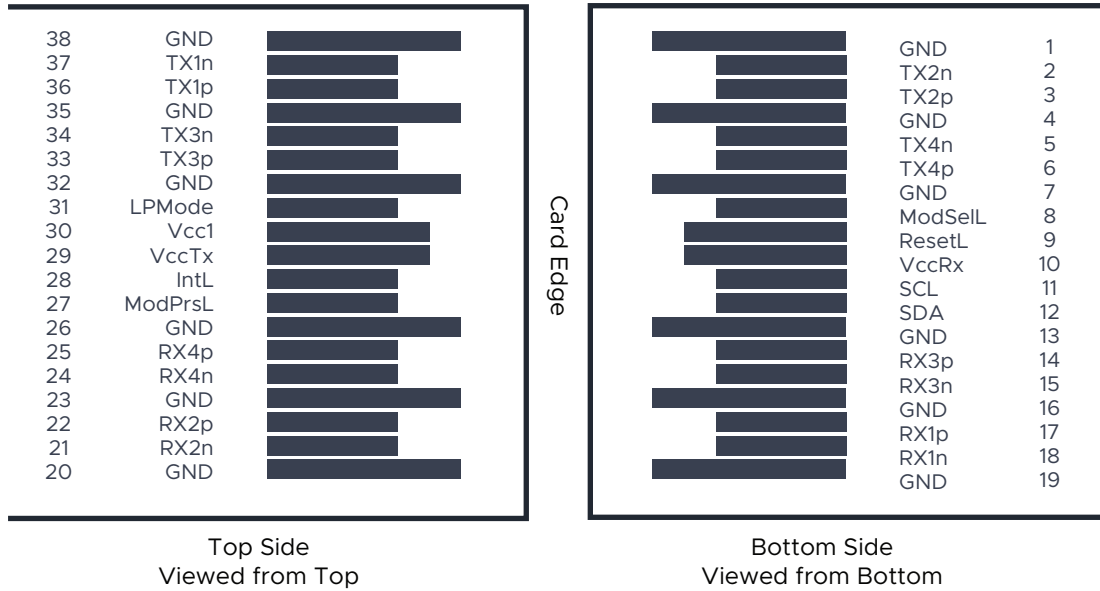
| Part number | Product description |
|---------------------|--|
| QSFP28-100G-PDAC-xM | xm 100GBase QSFP28 to QSFP28 Passive DAC x = value for meters (e.g. 5M = 5 meters length) |

PIN Description

| Pin | | Function/Description | Notes |
|-----|---------|--|-------|
| 1 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 2 | Tx2- | Transmitter Inverted Data Input | |
| 3 | Tx2+ | Transmitter Non-Inverted Data output | |
| 4 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 5 | Tx4- | Transmitter Inverted Data Input | |
| 6 | Tx4+ | Transmitter Non-Inverted Data output | |
| 7 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 8 | ModSelL | Module Select | 2 |
| 9 | ResetL | Module Reset | 2 |
| 10 | VccRx | 3.3V Power Supply Receiver | |
| 11 | SCL | 2-Wire serial Interface Clock | 2 |
| 12 | SDA | 2-Wire serial Interface Data | 2 |
| 13 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 14 | Rx3+ | Receiver Non-Inverted Data Output | |
| 15 | Rx3- | Receiver Inverted Data Output | |
| 16 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 17 | Rx1+ | Receiver Non-Inverted Data Output | |
| 18 | Rx1- | Receiver Inverted Data Output | |
| 19 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 20 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 21 | Rx2- | Receiver Inverted Data Output | |
| 22 | Rx2+ | Receiver Non-Inverted Data Output | |
| 23 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 24 | Rx4- | Receiver Inverted Data Output | 1 |
| 25 | Rx4+ | Receiver Non-Inverted Data Output | |
| 26 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 27 | ModPrsl | Module Present | |
| 28 | IntL | Interrupt | 2 |
| 29 | VccTx | 3.3V power supply transmitter | |
| 30 | Vcc1 | 3.3V power supply | |
| 31 | LPMode | Low Power Mode | 2 |
| 32 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 33 | Tx3+ | Transmitter Non-Inverted Data Input | |
| 34 | Tx3- | Transmitter Inverted Data Output | |
| 35 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 36 | Tx1+ | Transmitter Non-Inverted Data Input | |
| 37 | Tx1- | Transmitter Inverted Data Output | |
| 38 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |

Notes:

1. The module signal grounds are isolated from the module case.
2. This is an open collector/drain output that on the host board requires a 4.7KΩ to 10KΩ pull-up resistor to VccHost.



High Speed Characteristics

| Parameter | Symbol | Min | Typ | Max | Unit | Notes |
|--|--------|------|--------|------|------|--------------------|
| Differential Impedance | Zd | 90 | 100 | 110 | Ω | |
| Differential Input Return Loss | SDDXX | | Note 1 | | dB | [0.01 ; 4.1] GHz |
| Differential Input Return Loss | SDDXX | | Note 2 | | dB | [4.1 ; 19] GHz |
| Common Mode Output Return Loss | SCCXX | | Note 3 | | dB | [0.01 ; 12.89] GHz |
| Common Mode Output Return Loss | SCCXX | - | - | -3 | dB | [12.89 ; 19] GHz |
| Difference Waveform Distortion Penalty | dWDPc | - | - | 6.75 | dB | |
| VMA Loss | L | - | - | 4.4 | dB | |
| VMA Loss to Crosstalk Ratio | VCR | 32.5 | - | - | dB | |

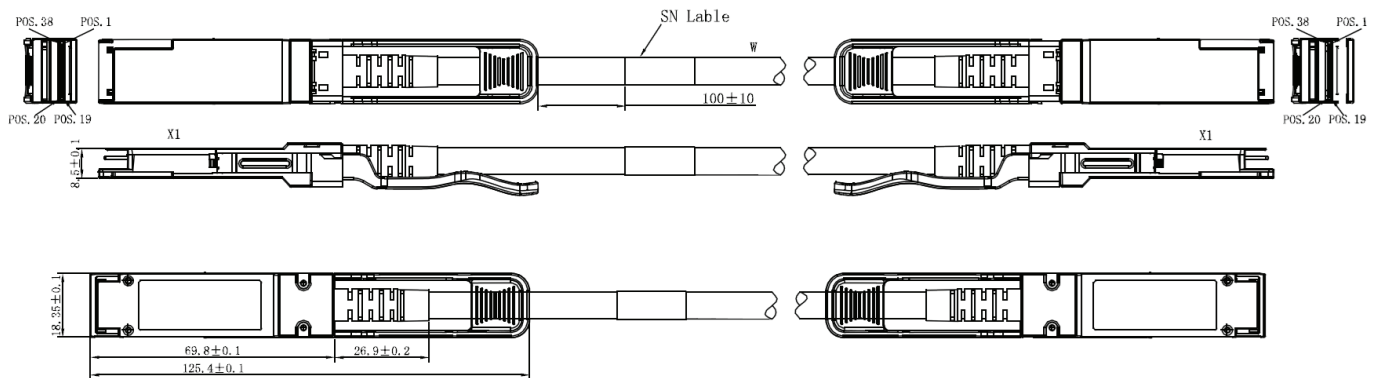
Notes:

1. Reflection Coefficient given by equation $SDDXX(dB) < -12 + 2 \times \text{SQRT}(f)$, with f in GHz
2. Reflection Coefficient given by equation $SDDXX(dB) < -6.3 + 13 \times \text{Log}_{10}(f/5.5)$ with f in GHz
3. Reflection Coefficient given by equation $SCCXX(dB) < -7 + 1.6 \times f$ with f in GHz

Cable AWG Type

| Cable Length | Cable AWG |
|--------------|-----------|
| 1 | 30 |
| 2 | 30 |
| 3 | 26 / 30 |
| 4 | 26 |
| 5 | 26 |

Block Diagram



Revision history

| Revision | Date | Author | Description |
|----------|------------|--------|------------------|
| V1.1 | 05-03-2020 | JGN | Initial Document |

Note : Nexgen A/S reserves the right to change this document without notice.