

QSFP28.100G.SR4

QSFP28, 100G, SR4, 70m/100m, MPO



Особенности:

- Supports 103.1Gbps aggregate bit rates
- Single 3.3V Power Supply and Power dissipation < 3.5W
- Up to 70m transmission on MMF OM3 and 100m transmission on MMF OM4
- Hot-Pluggable QSFP28 Footprint
- Compliant with QSFP28 MSA Specification
- I2C interface with integrated Digital Diagnostic Monitoring

Области применения:

- 100GBASE-SR4 Ethernet

| Part No. | Data Rate | Distance | Interface | Temp. | DDMI |
|-----------------|-----------|-------------------------------------|-----------|----------|------|
| QSFP28.100G.SR4 | 103.1Gbps | MMF OM3 for 70m MMF OM4 for 100m | MPO | Standard | Yes |

*The product image only for reference purpose.

Absolute Maximum Ratings^{*note1}

| Parameter | Symbol | Min. | Max. | Unit |
|-----------------------------|--------|------|------|------|
| Storage Temperature | Ts | -40 | +85 | °C |
| Supply Voltage | Vcc | -0.5 | 3.6 | V |
| Operating Relative Humidity | RH | 5 | 85 | % |

Note1: Exceeding any one of these values may destroy the device immediately.

Recommended Operating Conditions

| Parameter | Symbol | | Min. | Typical | Max. | Unit |
|----------------------------|--------|------------------|-------|---------|-------|------|
| Operating Case Temperature | Tc | EOLQ-851HG-02-MO | 0 | | 70 | °C |
| Power Supply Voltage | Vcc | | 3.135 | 3.3 | 3.465 | V |
| Power Consumption | P | | | | 3.5 | W |

Performance Specifications - Electrical

| Parameter | Symbol | Min. | Typ. | Max | Unit | Notes |
|--------------------------------|--------|------|------|------|------|---------------------------------------|
| Transmitter | | | | | | |
| Input Amplitude (Differential) | Vin | 150 | | 1050 | mVpp | AC coupled inputs ^{*(Note6)} |
| Input Impedance (Differential) | Zin | 85 | 100 | 115 | ohms | Rin > 100 kohms @ DC |

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| Receiver | | | | | | |
|---------------------------------|--------------------------------|-----|-----|------|------------------|--|
| Output Amplitude (Differential) | V _{out} | 200 | | 1100 | mV _{pp} | AC coupled outputs ^{*(Note6)} |
| Output Impedance (Differential) | Z _{out} | 85 | 100 | 115 | ohms | |
| Output Rise/Fall Time | t _r /t _f | | 12 | | ps | 20%~80% |

Optical and Electrical Characteristics

| Parameter | Symbol | Min. | Typical | Max. | Unit |
|--|-----------------------|------------------------------|---------|------|------|
| Transmitter | | | | | |
| Signaling Speed per Lane | BR _{AVE} | | 25.78 | | Gbps |
| Data Rate Variation | | -100 | | +100 | ppm |
| Center Wavelength | λ _c | 840 | 850 | 860 | nm |
| Average Launch Power, Each Lane ^{*(note2)} | P _{out/lane} | | | 2.4 | dBm |
| Optical modulation amplitude | P _{oma} | | | 3 | dBm |
| Extinction Ratio ^{*(Note3)} | ER | 2 | | | dB |
| Transmitter eye mask definition {X1, X2, X3, Y1, Y2, Y3} ^{*(Note4)} | | IEEE 802.3bm 100Gbase-SR4 | | | |
| Receiver | | | | | |
| Signaling Speed per Lane | BR _{AVE} | | 25.78 | | Gbps |
| Data Rate Variation | | -100 | | +100 | ppm |
| Center Wavelength | λ _c | 840 | 850 | 860 | nm |
| Average Receive Power per Lane | R _{pow} | | | 2.4 | dBm |
| Receive Sensitivity in OMA per Lane ^{*(Note5)} | P _{min} | | | -5.2 | dBm |
| LOS Assert | LOSA | -13 | | | dBm |
| LOS De-Assert | LOSD | | | -9.5 | dBm |
| LOS Hysteresis ^{*(Note6)} | | 0.5 | | | dB |

Note2: Output is coupled into a 50/125μm multi-mode fiber.

Note3: Filtered, measured with a PRBS 2³¹-1 test pattern @25.78Gbps

Note4: Filtered, measured with a PRBS 2³¹-1 test pattern @25.78Gbps

Note5: Minimum average optical power measured at BER less than 1E-12, with a 2³¹-1 PRBS.

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| | | | | | |
|----|--------------|---------|-------------------------------------|---|---|
| 8 | LVTTL-I | ModSelL | Module Select | 3 | |
| 9 | LVTTL-I | ResetL | Module Reset | 3 | |
| 10 | | VccRx | +3.3V Power Supply Receiver | 2 | 2 |
| 11 | LVC MOS- I/O | SCL | 2-wire serial interface clock | 3 | |
| 12 | LVC MOS- I/O | SDA | 2-wire serial interface data | 3 | |
| 13 | | GND | Ground | 1 | 1 |
| 14 | CML-O | Rx3p | Receiver Non-Inverted Data Output | 3 | |
| 15 | CML-O | Rx3n | Receiver Inverted Data Output | 3 | |
| 16 | | GND | Ground | 1 | 1 |
| 17 | CML-O | Rx1p | Receiver Non-Inverted Data Output | 3 | |
| 18 | CML-O | Rx1n | Receiver Inverted Data Output | 3 | |
| 19 | | GND | Ground | 1 | 1 |
| 20 | | GND | Ground | 1 | 1 |
| 21 | CML-O | Rx2n | Receiver Inverted Data Output | 3 | |
| 22 | CML-O | Rx2p | Receiver Non-Inverted Data Output | 3 | |
| 23 | | GND | Ground | 1 | 1 |
| 24 | CML-O | Rx4n | Receiver Inverted Data Output | 3 | |
| 25 | CML-O | Rx4p | Receiver Non-Inverted Data Output | 3 | |
| 26 | | GND | Ground | 1 | 1 |
| 27 | LVTTL-O | ModPrsL | Module Present | 3 | |
| 28 | LVTTL-O | IntL | Interrupt | 3 | |
| 29 | | VccTx | +3.3V Power supply transmitter | 2 | 2 |
| 30 | | Vcc1 | +3.3V Power supply | 2 | 2 |
| 31 | LVTTL-I | LPMode | Low Power Mode | 3 | |
| 32 | | GND | Ground | 1 | 1 |
| 33 | CML-I | Tx3p | Transmitter Non-Inverted Data Input | 3 | |
| 34 | CML-I | Tx3n | Transmitter Inverted Data Input | 3 | |
| 35 | | GND | Ground | 1 | 1 |
| 36 | CML-I | Tx1p | Transmitter Non-Inverted Data Input | 3 | |
| 37 | CML-I | Tx1n | Transmitter Inverted Data Input | 3 | |
| 38 | | GND | Ground | 1 | 1 |

1: GND is the symbol for signal and supply (power) common for the QSFP28 module. All are common within the QSFP28 module and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal-common ground plane.

2: Vcc Rx, Vcc1 and Vcc Tx are the receiver and transmitter power supplies and shall be applied concurrently. Requirements defined for the host side of the Host Edge Card Connector are listed in Table 6. Recommended host board power supply filtering is shown in Figures 3 and 4. Vcc Rx Vcc1 and Vcc Tx may be internally connected within the QSFP28 Module in any combination. The connector pins are each rated for a maximum current of 500mA.

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Mechanical Specifications

