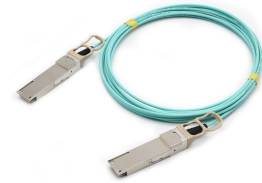


## 50G QSFP28 AOC

### GQQ-MDO500-xxxC

### Features

- ✓ Four-channel full-duplex active optical cable
- ✓ Up to 28.05Gb/s per channel with integrated CDR
- ✓ Hot-pluggable QSFP28 MSA-compliant high-density connectors
- ✓ 1.5W maximum power dissipation per end
- ✓ Built-in digital diagnostic functions
- ✓ Commercial operating case temperature range: 0 to 70°C
- ✓ RoHS-6 compliant (lead free)



### Applications

- ✓ High performance computing interconnect
- ✓ InfiniBand FDR/EDR interconnect
- ✓ 25G Ethernet interconnect
- ✓ 32G Fibre Channel interconnect

### Description

The Gigalight 50G QSFP28 AOC is designed for use in optical interconnection links up to 100m on Multi-Mode Fiber (MMF). Based on vertically integrated VCSEL array technology and designed with QSFP28 MSA-compliant high-density connectors, the Gigalight 50G QSFP28 AOC assemblies are compact, lightweight, and low power.

### Ordering Information

| Product Description      | Part Number                  |
|--------------------------|------------------------------|
| 1-Meter 50G QSFP28 AOC   | GQQ-MDO500-001C              |
| 2-Meter 50G QSFP28 AOC   | GQQ-MDO500-002C              |
| 3-Meter 50G QSFP28 AOC   | GQQ-MDO500-003C              |
| ...                      | ...                          |
| 50G QSFP28 AOC           | GQQ-MDO500-xxxC <sup>1</sup> |
| 100-Meter 50G QSFP28 AOC | GQQ-MDO500-100C              |

**Notes:**

1. The fiber type and cable length can be customized. For details, please contact Gigalight.

### General Product Characteristics

| Parameter                                     | Value  |
|---|--|
| Module Form Factor <sup>1</sup>               | QSFP28   |
| Number of Lanes                               | 2 Tx and 2 Rx                                  |
| Maximum Aggregate Data Rate                   | 56.1Gb/s                                       |
| Maximum Data Rate per Lane                    | 28.05Gb/s                                      |
| Cable Lengths <sup>2</sup>                    | Up to 70m using OM3 MMF and 100m using OM4 MMF |
| Protocols Supported                           | 25G Ethernet, 32G Fibre Channel                |
| Electrical Interface and Pin-out <sup>1</sup> | 38-pin edge connector                          |
| Cable Type <sup>3</sup>                       | Multimode round fiber cable, plenum-rated      |
| Maximum Power Consumption per End             | 1.5W   |
| Management Interface <sup>4</sup>             | Serial, I <sup>2</sup> C-based                 |

**Notes:**

1. As defined by QSFP28 MSA, "SFF-8661 Rev 2.4", "SFF-8679 Rev 1.7".
2. Customized lengths available upon request.
3. OFNP, Low Smoke Zero Halogen (LSZH), round fiber cable also available.
4. As defined by "SFF-8636 Rev 2.6".

### Absolute Maximum Ratings

| Parameter                      | Symbol          | Min   | Max  |
|--------------------------------|-----------------|-------|------|
| Supply Voltage                 | V <sub>cc</sub> | -0.3V | 3.6V |
| Storage Temperature            | T <sub>s</sub>  | -20°C | 85°C |
| Case Operating Temperature     | T <sub>c</sub>  | 0°C   | 70°C |
| Relative Humidity <sup>1</sup> | RH              | 5%    | 95%  |

**Notes:**

1. Non-condensing.

### Electrical Specifications ( $T_c= 0$ to $70^\circ\text{C}$ , $V_{cc}=3.3\pm 5\%V$ )

| Parameter  | Symbol           | Min          | Typical     | Max         |
|--|------------------|--------------|-------------|-------------|
| Differential Input Impedance                       | $Z_{in}$         | $90\Omega$   | $100\Omega$ | $110\Omega$ |
| Differential Output Impedance                      | $Z_{out}$        | $90\Omega$   | $100\Omega$ | $110\Omega$ |
| Differential Input Voltage Amplitude <sup>1</sup>  | $\Delta V_{in}$  | 300mV        |             | 1100mV      |
| Differential Output Voltage Amplitude <sup>2</sup> | $\Delta V_{out}$ | 500mV        |             | 800mV       |
| Skew   | Sw               |              |             | 300ps       |
| Bit Error Rate                                     | BER              |              |             | $10^{-12}$  |
| Input Logic Level High                             | $V_{IH}$         | 2.0V         |             | $V_{cc}$    |
| Input Logic Level Low                              | $V_{IL}$         | 0V           |             | 0.8V        |
| Output Logic Level High                            | $V_{OH}$         | $V_{cc}-0.5$ |             | $V_{cc}$    |
| Output Logic Level Low                             | $V_{OL}$         | 0V           |             | 0.4V        |

**Notes:**

1. Measured between TxnP and TxnN.
2. Measured between RxnP and RxnN.

### Mechanical Dimensions

