



### **QSFP-H40G-ACU8M-OPC**

Cisco® QSFP-H40G-ACU8M Compatible TAA Compliant 40GBase-CU QSFP+ Direct Attach Cable (Active Twinax, 8m)

#### **Features**

- Support for multi-gigabit data rates up to 10Gbps
- Data rates backward compatible to 1Gbps
- Hot-Pluggable SFP 20PIN footprint
- Improved Pluggable from Factor (IPF) compliant for enhanced EMI/EMC performance
- Low Power Consumption 0.2W
- Power Supply 3.3V
- MSA Compatible
- Operating Temperature: 0 to 70 Celsius
- RoHS Compliant and Lead-Free



#### **Applications:**

- Data Center: Switches, Storage, Servers and Routers
- High density connections between networking equipment

#### **Product Description**

This is a Cisco® QSFP-H40G-ACU8M compatible 40GBase-CU QSFP+ to QSFP+ direct attach cable that operates over active copper with a maximum reach of 8.0m (26.2ft). It has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. This direct attach cable is TAA (Trade Agreements Act) compliant, and is built to comply with MSA (Multi-Source Agreement) standards. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

OptioConnect's transceivers are RoHS compliant and lead-free.

## General Specifications

| Parameter                             | Symbol            | Min.    | Typ. | Max.             | Unit  | Notes |
|---------------------------------------|-------------------|---------|------|------------------|-------|-------|
| Storage Temperature                   | Tstg              | -40     |      | 85               | °C    |       |
| Operating Case Temperature            | Tc                | 0       |      | 70               | °C    |       |
| Power Supply Voltage                  | Vcc               | 3.14    | 3.3  | 3.47             | V     |       |
| Power Dissipation                     | P <sub>DISS</sub> |         |      | 0.2              | W     |       |
| Differential Input Impedance          | ZIN               | 90      | 100  | 110              | Ω     | 2     |
| Differential Output Impedance         | ZOUT              | 90      | 100  | 110              | Ω     | 3     |
| Differential Input Voltage Amplitude  | ΔVIN              | 300     |      | 1100             | mVp-p |       |
| Differential Output Voltage Amplitude | ΔVOUT             | 500     |      | 800              | mVp-p |       |
| Skew                                  | Sw                |         |      | 300              | ps    |       |
| Bit Error Rate                        | BR                |         |      | E <sup>-12</sup> |       |       |
| Input Logic Level - High              | VIH               | 2.0     |      | Vcc              | V     |       |
| Input Logic Level - Low               | VIL               | 0       |      | 0.8              | V     |       |
| Output Logic Level - High             | VOH               | Vcc-0.5 |      | Vcc              | V     |       |
| Output Logic Level - Low              | VOL               | 0       |      | 0.4              | V     |       |

### Notes:

1. BER=10<sup>-12</sup> and PRBS 2<sup>31</sup>-1 @10.3125Gbps.
2. Differential input voltage amplitude is measured between Tx#+ and Tx#-.
3. Differential output voltage amplitude is measured between Rx#+ and Rx#-.

## Systems

| Parameter                                                                     | Media                                                                            | Operating Parameters                                           |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------|
| 10Gbps Line Speed, Full Duplex Bit Error Rate: Better Than 10E <sup>-12</sup> | Hot-Pluggable, Industry-Standard Small Form-Factor Pluggable (SFP+) Copper Cable | Supply Voltage: 3.3V<br>Power Consumption (Per End): Max. 0.2W |

## Optical Characteristics

| Parameter                                                 | Symbol          | Min.                                | Typ. | Max. | Unit | Notes |
|-----------------------------------------------------------|-----------------|-------------------------------------|------|------|------|-------|
| Transmitter                                               |                 |                                     |      |      |      |       |
| Center Wavelength                                         | $\lambda_C$     | 840                                 | 850  | 860  | nm   |       |
| RMS Spectral Width                                        | $\Delta\lambda$ |                                     |      | 0.65 | nm   |       |
| Average Launch Power Per Channel                          | POUT            | -7.5                                |      | -2.5 | dBm  |       |
| Difference in Launch Power Between Any Two Lanes (OMA)    |                 |                                     |      |      | dB   |       |
| Extinction Ratio                                          | ER              | 3                                   |      |      | dB   |       |
| Peak Power Per Lane                                       |                 |                                     |      | 4    | dBm  |       |
| Transmitter and Dispersion Penalty (TDP) Per Lane         | TDP             |                                     |      | 3.5  | dB   |       |
| Average Launch Power of Off Transmitter Per Lane          |                 |                                     |      | -30  | dB   |       |
| Transmitter Eye Mask Definition: (X1, X2, X3, Y1, Y2, Y3) |                 | (0.23, 0.34, 0.43, 0.27, 0.33, 0.4) |      |      |      | 1     |
| Receiver                                                  |                 |                                     |      |      |      |       |
| Center Wavelength                                         | $\lambda_C$     | 840                                 | 850  | 860  | nm   |       |
| Stressed Receiver Sensitivity in OMA Per Lane             |                 |                                     |      | -5.4 |      | 2     |
| Maximum Average Power at Receiver Input Per Lane          |                 |                                     |      | 2.4  |      |       |
| Receiver Reflectance                                      |                 |                                     |      | -12  |      |       |
| Peak Power Per Lane                                       |                 |                                     |      | 4    |      |       |
| LOS Assert                                                |                 | -30                                 |      |      |      |       |
| LOS De-Assert – OMA                                       |                 |                                     |      | 7.5  |      |       |
| LOS Hysteresis                                            |                 | 0.5                                 |      |      |      |       |

### Notes:

1. Hit Ratio =  $5 \times 10^{-5}$ .
2. Measured with conformance test signal at TP3 for BER =  $10e^{-12}$ .

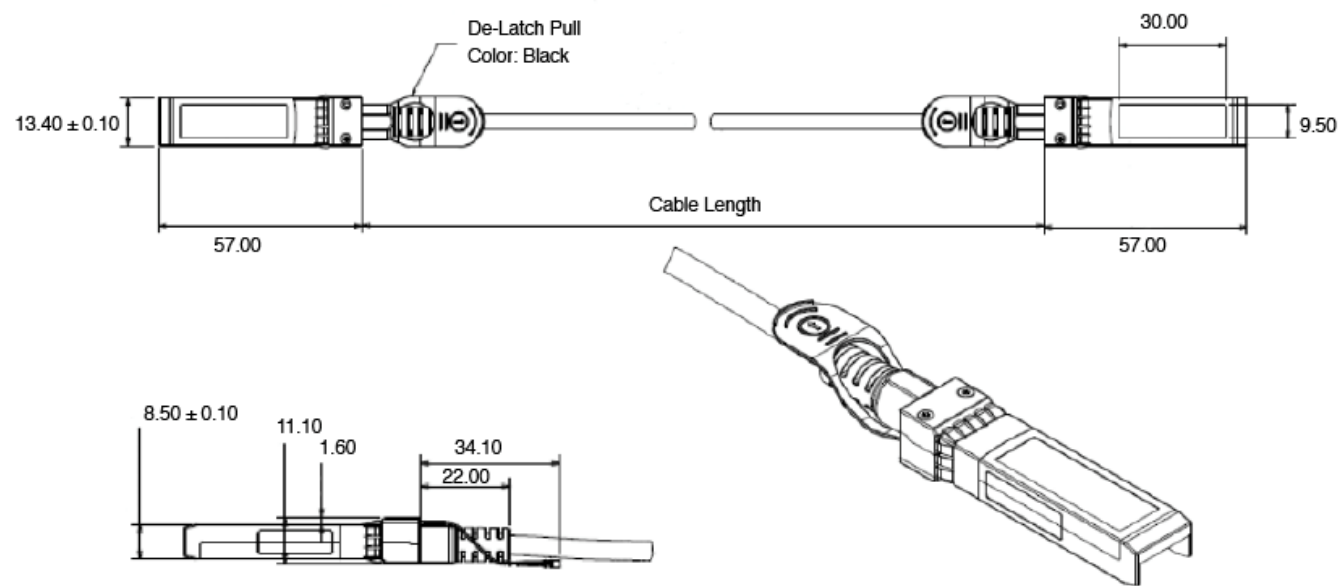
## Pin Descriptions

| Pin | Logic     | Symbol     | Name/Description                       | Notes |
|-----|-----------|------------|----------------------------------------|-------|
| 1   |           | VeeT       | Transmitter Ground.                    |       |
| 2   | LVTTL-O   | Tx_Fault   | N/A.                                   | 1     |
| 3   | LVTTL-I   | Tx_Disable | Transmitter Disable.                   |       |
| 4   | LVTTL-I/O | SDA        | 2-Wire Serial Data.                    |       |
| 5   | LVTTL-I   | SCL        | 2-Wire Serial Clock.                   |       |
| 6   |           | MOD_DEF0   | Module Present. Connected to the VeeT. |       |
| 7   | LVTTL-I   | RS0        | N/A.                                   | 1     |
| 8   | LVTTL-O   | LOS        | Loss of Signal.                        |       |
| 9   | LVTTL-I   | RS1        | N/A.                                   | 1     |
| 10  |           | VeeR       | Receiver Ground.                       |       |
| 11  |           | VeeR       | Receiver Ground.                       |       |
| 12  | CML-O     | RD-        | Receiver Data Inverted.                |       |
| 13  | CML-O     | RD+        | Receiver Data Non-Inverted.            |       |
| 14  |           | VeeR       | Receiver Ground.                       |       |
| 15  |           | VccR       | +3.3V Receiver Supply.                 |       |
| 16  |           | VccT       | +3.3V Transmitter Supply.              |       |
| 17  |           | VeeT       | Transmitter Ground.                    |       |
| 18  | CML-I     | TD+        | Transmitter Data Non-Inverted.         |       |
| 19  | CML-I     | TD-        | Transmitter Data Inverted.             |       |
| 20  |           | VeeT       | Transmitter Ground.                    |       |

### Notes:

1. Signals not supported in SFP+ Copper pulled-down to the VeeT with a 30kΩ resistor.

Mechanical Specifications



## **OptioConnect**

### **Innovation for the Future of High-Speed Networking**

#### **Who We Are**

OptioConnect is reshaping the landscape of communication and high-speed networking through intelligent technology. With a core focus on cutting edge technology, we deliver smarter fiber optic solutions for enterprise networks, data centers, and next-gen telecom infrastructures.

#### **What We Do**

At OptioConnect, we fuse advanced engineering with intelligent automation to drive the future of networking. Our AI-integrated solutions are designed to optimize performance and streamline operations with:

- Superior Performance
- Network and traffic optimization
- Intelligent energy management
- Seamless OEM compatibility
- Scalable cost-efficiency

#### **Smarter Networks by Design**

Innovation isn't just a goal—it's our process. We embed AI and machine learning across our R&D and product lines, enabling adaptive performance, automated tuning, and faster deployment cycles. The result? Networks that don't just work—they learn, evolve, and outperform.

#### **Our Team**

Our engineers, data scientists, and network architects bring decades of experience and a future-focused mindset. We provide hands-on support with intelligent insights that turn complex challenges into simple solutions.

#### **Our Mission**

To deliver AI-enhanced connectivity that reduces cost, increases speed, and maximizes efficiency—empowering our partners to operate at the forefront of a rapidly evolving digital world.

#### **Let's Connect**

Discover how OptioConnect's intelligent infrastructure solutions can power your network's next leap forward.

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