

ONS-XC-10G-41.35-T-OPC

Cisco® ONS-XC-10G-41.35-T Compatible TAA 10GBase-DWDM 100GHz XFP Transceiver (SMF, 1541.35nm, 80km, LC, DOM)

Features

- INF-8077i Compliance
- Duplex LC Connector
- Single-mode Fiber
- Commercial Temperature 0 to 70 Celsius
- Hot Pluggable
- Metal with Lower EMI
- Excellent ESD Protection
- RoHS Compliant and Lead Free



Applications:

- 10x Gigabit Ethernet over DWDM
- 8x/10x Fibre Channel
- Access, Metro and Enterprise

Product Description

This Cisco® compatible XFP transceiver provides 10GBase-DWDM throughput up to 80km over single-mode fiber (SMF) using a wavelength of 1541.35nm via an LC connector. It is guaranteed to be 100% compatible with the equivalent Cisco® transceiver. This easy to install, hot swappable transceiver has been programmed, uniquely serialized and data-traffic and application tested to ensure that it will initialize and perform identically. Digital optical monitoring (DOM) support is also present to allow access to real-time operating parameters. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

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

Regulatory Compliance

- ESD to the Electrical PINs: compatible with MIL-STD-883E Method 3015.4
- ESD to the LC Receptacle: compatible with IEC 61000-4-3
- EMI/EMC compatible with FCC Part 15 Subpart B Rules, EN55022:2010
- Laser Eye Safety compatible with FDA 21CFR, EN60950-1& EN (IEC) 60825-1,2
- RoHS compliant with EU RoHS 2.0 directive 2015/863/EU

Tunable XFP Channel Number and Wavelength

| Channel No. | Frequency (THz) | Center Wavelength | Channel No. | Frequency (THz) | Center Wavelength |
|-------------|-----------------|-------------------|-------------|-----------------|-------------------|
| 1 | 191.35 | 1566.723 | 49 | 193.75 | 1547.316 |
| 2 | 191.40 | 1566.314 | 50 | 193.80 | 1546.917 |
| 3 | 191.45 | 1565.905 | 51 | 193.85 | 1546.518 |
| 4 | 191.50 | 1565.496 | 52 | 193.90 | 1546.119 |
| 5 | 191.55 | 1565.087 | 53 | 193.95 | 1545.720 |
| 6 | 191.60 | 1564.679 | 54 | 194.00 | 1545.322 |
| 7 | 191.65 | 1564.271 | 55 | 194.05 | 1544.924 |
| 8 | 191.70 | 1563.863 | 56 | 194.10 | 1544.526 |
| 9 | 191.75 | 1563.455 | 57 | 194.15 | 1544.128 |
| 10 | 191.80 | 1563.047 | 58 | 194.20 | 1543.730 |
| 11 | 191.85 | 1562.640 | 59 | 194.25 | 1543.333 |
| 12 | 191.90 | 1562.233 | 60 | 194.30 | 1542.936 |
| 13 | 191.95 | 1561.826 | 61 | 194.35 | 1542.539 |
| 14 | 192.00 | 1561.419 | 62 | 194.40 | 1542.142 |
| 15 | 192.05 | 1561.013 | 63 | 194.45 | 1541.746 |
| 16 | 192.10 | 1560.606 | 64 | 194.50 | 1541.349 |
| 17 | 192.15 | 1560.200 | 65 | 194.55 | 1540.953 |
| 18 | 192.20 | 1559.794 | 66 | 194.60 | 1540.557 |
| 19 | 192.25 | 1559.389 | 67 | 194.65 | 1540.162 |
| 20 | 192.30 | 1558.983 | 68 | 194.70 | 1539.766 |
| 21 | 192.35 | 1558.578 | 69 | 194.75 | 1539.371 |
| 22 | 192.40 | 1558.173 | 70 | 194.80 | 1538.976 |
| 23 | 192.45 | 1557.768 | 71 | 194.85 | 1538.581 |
| 24 | 192.50 | 1557.363 | 72 | 194.90 | 1538.186 |
| 25 | 192.55 | 1556.959 | 73 | 194.95 | 1537.792 |
| 26 | 192.60 | 1556.555 | 74 | 195.00 | 1537.397 |
| 27 | 192.65 | 1556.151 | 75 | 195.05 | 1537.003 |

| | | | | | |
|-----------|--------|----------|-----------|--------|----------|
| 28 | 192.70 | 1555.747 | 76 | 195.10 | 1536.609 |
| 29 | 192.75 | 1555.343 | 77 | 195.15 | 1536.216 |
| 30 | 192.80 | 1554.940 | 78 | 195.20 | 1535.822 |
| 31 | 192.85 | 1554.537 | 79 | 195.25 | 1535.429 |
| 32 | 192.90 | 1554.134 | 80 | 195.30 | 1535.036 |
| 33 | 192.95 | 1553.731 | 81 | 195.35 | 1534.643 |
| 34 | 193.00 | 1553.329 | 82 | 195.40 | 1534.250 |
| 35 | 193.05 | 1552.926 | 83 | 195.45 | 1533.858 |
| 36 | 193.10 | 1552.524 | 84 | 195.50 | 1533.465 |
| 37 | 193.15 | 1552.122 | 85 | 195.55 | 1533.073 |
| 38 | 193.20 | 1551.721 | 86 | 195.60 | 1532.681 |
| 39 | 193.25 | 1551.319 | 87 | 195.65 | 1532.290 |
| 40 | 193.30 | 1550.918 | 88 | 195.70 | 1531.898 |
| 41 | 193.35 | 1550.517 | 89 | 195.75 | 1531.507 |
| 42 | 193.40 | 1550.116 | 90 | 195.80 | 1531.116 |
| 43 | 193.45 | 1549.715 | 91 | 195.85 | 1530.725 |
| 44 | 193.50 | 1549.315 | 92 | 195.90 | 1530.334 |
| 45 | 193.55 | 1548.915 | 93 | 195.95 | 1529.944 |
| 46 | 193.60 | 1548.515 | 94 | 196.00 | 1529.553 |
| 47 | 193.65 | 1548.115 | 95 | 196.05 | 1529.163 |
| 48 | 193.70 | 1547.715 | 96 | 196.10 | 1528.773 |

Absolute Maximum Ratings

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|------------------------------|--------|------|------|------|------|---------------------|
| Storage Temperature | Tstg | -40 | | 85 | °C | |
| Case Temperature | | -5 | | 70 | °C | |
| ESD | | 500 | | | V | High Speed i/o pins |
| | | 2000 | | | | All other pins |
| Receiver optical input power | | | | +12 | dBm | |

Electrical Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|-------------------------|--------|------|------|------|-------|----------------------------------|
| 1.8V Supply | Vcc2 | 1.71 | 1.8 | 1.89 | V | VPS not supported |
| 3.3V Supply | Vcc3 | 3.15 | 3.3 | 3.45 | V | |
| 5.0V Supply | Vcc5 | 4.75 | 5.0 | 5.25 | V | |
| Supply Current, 1.8V | | | 160 | 200 | mA | |
| Supply Current, 3.3V | | | 310 | 400 | mA | |
| Supply Current, 5.0V | | | 100 | 200 | mA | |
| Inrush current limit | | | | 100 | mA/μs | |
| Total power consumption | | | | 2.5 | W | Power Level 2 MSA classification |

System Performance

| Parameter | Min | Max | OSNR | BER | Conditions |
|-------------------|-----------|-----------|-------|-------|---|
| Noise Loaded | -400ps/nm | 1500ps/nm | 19dB | 1E-04 | 10.709Gb/s, -10 to -20dBm, 0.25nm filter, optimised RxDTV |
| Unamplified Links | 0ps/nm | 1600ps/nm | >35dB | 1E-12 | 10.709Gb/s, -22dBm, 0.25nm filter, optimised RxDTV |

Optical Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------|---------------------|--------|------|--------|------|--|
| Transmitter | | | | | | |
| Data Rate | | 9.95 | | 11.35 | Gb/s | NRZ |
| Frequency range | | 191.35 | | 196.10 | THz | 50GHz grid, 96 channels |
| Frequency accuracy | | -2.5 | | +2.5 | GHz | EOL |
| Optical transmit power | P _o | | +0.5 | | dBm | SOL, 25°C |
| Optical transmit power | P _o | -1 | | +3.0 | dBm | EOL |
| Shuttered output power | | | -45 | -40 | dBm | |
| Optical power stability | ΔP _{out} | -1.0 | | +1.0 | dB | All channels, SOL |
| Side mode suppression | SMSR | 35 | | | dB | ±2.5nm, modulated |
| Spectral width | Δλ | | 0.3 | 0.5 | nm | -20dB, modulated |
| Extinction ratio | ER | 9.5 | | | dB | Filtered, 10.709Gb/s |
| Eye diagram compliance | GR-253, ITU-T G.691 | | | | | |
| Mask margin | | 10 | | | % | |
| OSNR | | 50 | 55 | | dB | 0.1nm RBW |
| SBS threshold | | 18 | | | dBm | 50km SMF |
| Tuning speed | | | | 50 | ms | |
| Laser enable (turn on) time | | | | 50 | ms | To >90% power |
| Laser disable (turn off) time | | | | 10 | μs | To <10% power |
| Module initialization time | | | | 20 | s | |
| Receiver | | | | | | |
| Data rate | | 9.95 | | 11.35 | Gb/s | NRZ |
| Input operating wavelength | λ | 1525 | | 1575 | nm | |
| Receiver Sensitivity | | | -26 | | dBm | 10.709 Gb/s, IE-12, OSNR>35dB, optimized RxDTV |
| Maximum input power (overload) | P _{in MAX} | -5 | | | dBm | |
| LOS assert | PA | -33 | | -28.5 | dBm | |
| LOS de-assert | PD | -32.5 | | -26.5 | dBm | |
| LOS Hysteresis | PD - PA | 0.5 | | 4 | dB | |
| LOS assert time | T _A | | | 100 | μs | |
| LOS de-assert time | T _D | | | 100 | μs | |

Pin Descriptions

| Pin | Logic | Symbol | Name/Descriptions | Notes |
|-----|------------|------------|--|-------|
| 1 | | GND | Module Ground | 1 |
| 2 | | VEE5 | Optional -5.2V Power Supply | |
| 3 | LVTTTL-I | Mod-Desel | Module De-select, when held low allows the module to respond to 2-wire serial interface commands | |
| 4 | LVTTTL-O | Interrupt | Interrupt; Indicates presence of an important condition which can be read over the serial 2-wire interface | 2 |
| 5 | LVTTTL-I | TX_DIS | Transmitter Disable; Turns off transmitter laser output | |
| 6 | | VCC5 | +5V Power Supply | |
| 7 | | GND | Module Ground | 1 |
| 8 | | VCC3 | +3.3V Power Supply | |
| 9 | | VCC3 | +3.3V Power Supply | |
| 10 | LVTTTL-I/O | SCL | 2-wire Serial interface clock | 2 |
| 11 | LVTTTL-I/O | SDA | 2-wire Serial interface data line | 2 |
| 12 | LVTTTL-O | Mod_Abs | Indicates Module is not present. Grounded in the Module | 2 |
| 13 | LVTTTL-O | Mod_NR | Module Not Ready; Indicating Module Operational Fault | 2 |
| 14 | LVTTTL-O | RX_LOS | Receiver Loss Of Signal Indicator | 2 |
| 15 | | GND | Module Ground | 1 |
| 16 | | GND | Module Ground | 1 |
| 17 | CML-O | RD- | Receiver Inverted Data Output | |
| 18 | CML-O | RD+ | Receiver Non-Inverted Data Output | |
| 19 | | GND | Module Ground | 1 |
| 20 | | VCC2 | +1.8V Power Supply | 3 |
| 21 | LVTTTL-I | P_Down/RST | Power down; When high, requires the module to limit power consumption to 1.5W or below. 2-Wire serial interface must be functional in the low power mode. Reset; The falling edge initiates a complete reset of the module including the 2-wire serial interface, equivalent to a power cycle | |
| 22 | | VCC2 | +1.8V Power Supply | 3 |
| 23 | | GND | Module Ground | 1 |
| 24 | PECL-I | RefCLK+ | Not required | |
| 25 | PECL-I | RefCLK- | Not required | |
| 26 | | GND | Module Ground | 1 |
| 27 | | GND | Module Ground | 1 |
| 28 | CML-I | TD- | Transmitter Inverted Data Input | |
| 29 | CML-I | TD+ | Transmitter Non-Inverted Data Input | |
| 30 | | GND | Module Ground | 1 |

Notes:

1. Module ground pins (GND) are isolated from the module case and chassis ground within the module.
2. Shall be pulled up with 4.7K-10kOhms to a voltage between 3.15V and 3.45V on the host board.
3. Variable Power Supply (VPS) function is not supported.



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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