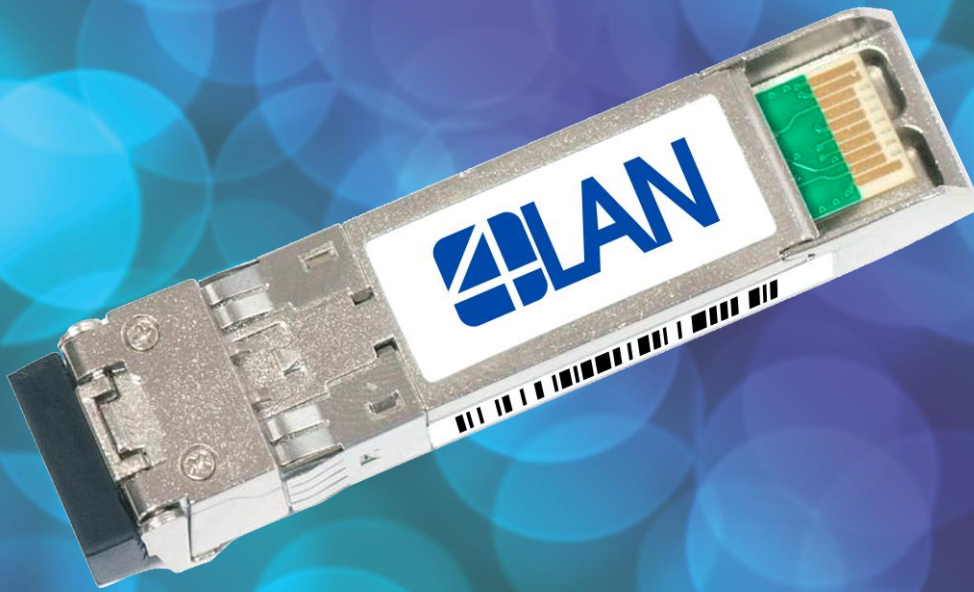


4L-SFD10xx-40D

SFP+ 10GBASE-ER, DWDM, SM, DDM, LC Duplex, 40km



Applications

- Compliant with ITU-T DWDM, 10GBASE-ER and 10GBASE-EW
- Supports 3.1Gb/s to 10.3Gb/s data rates
- 4G, 8G and 10G Fibre Channel
- 100Ghz DWDM
- Single Fiber DWDM
- Dual Fiber DWDM
- Other optical links

Features

- SFP+ 10G Duplex Optical Transceiver
- SFP MSA Compliant
- Up to 40km links on SMF
- EML laser transmitter
- Digital Diagnostic Monitoring
- RoHS and Lead Free
- Operating temperature: 0°C ~ +70°C

Description

The 4L-SFD10Gxx are a multivendor compatible SFP+ DWDM transceivers series for duplex optical data communications 10GBASE-ER and 10GBASE-ZR defined by ITU-T DWDM Grid, with 100Ghz Channel spacing.

This modules are designed to operate with single mode fiber (SMF) and Duplex LC connectors, using the channels C17 up to C61 for up to 80km.

Quick access to other products:

[SFP1G](#) [XFP10G](#) [XFP10G](#) [QXFP40G](#) [SFP2825G](#) [QSFP28100G](#) [DWDM](#)

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General Specifications – Absolute Maximum Ratings

| Parameter | Symbol | Min | Recommended | Max |
|----------------------------|-----------|-------|-------------|-------|
| Max. Link Length | l_{max} | | | 40km |
| Optical Budget | dB | 11dB | | |
| Storage Temperature | T_c | -40°C | | +85°C |
| Operating Case Temperature | T_c | 0°C | | +70°C |
| Supply Voltage | V_{cc} | -0.5V | 3.3V | 3.6V |

Optical Specifications

| Transmitter | | | | |
|----------------------------|-----------|--------|-------------|---------|
| Parameter | Symbol | Min | Recommended | Max |
| Average Output Power | P_{out} | -3dBm | | +3dBm |
| Central Wavelength | nm | 1530nm | 1550nm | 1560nm |
| Receiver | | | | |
| Parameter | Symbol | Min | Recommended | Max |
| Receiver Sensitivity | R_{sen} | -14dBm | | |
| Receiver Overload (Damage) | P_{max} | | | +0.5dBm |
| Central Wavelength | Nm | 1530nm | 1550nm | 1560nm |

Wavelength Channel Guide

| Channel | Wavelength (nm) | Frequency (THZ) | Channel | Wavelength (nm) | Frequency (THZ) |
|---------|--------------------------------------|-----------------|---------|-----------------|-----------------|
| C13 | 1567.13 | 191.30 | C37 | 1547.72 | 193.70 |
| C14 | 1566.31 | 191.40 | C38 | 1546.92 | 193.80 |
| C15 | 1565.50 | 191.50 | C39 | 1546.12 | 193.90 |
| C16 | 1564.68 | 191.60 | C40 | 1545.32 | 194.00 |
| C17 | 1563.86 | 191.70 | C41 | 1544.53 | 194.10 |
| C18 | 1563.05 | 191.80 | C42 | 1543.73 | 194.20 |
| C19 | 1562.23 | 191.90 | C43 | 1542.94 | 194.30 |
| C20 | 1561.42 | 192.00 | C44 | 1542.14 | 194.40 |
| C21 | 1560.61 | 192.10 | C45 | 1541.35 | 194.50 |
| C22 | 1559.79 | 192.20 | C46 | 1540.56 | 194.60 |
| C23 | 1558.98 | 192.30 | C47 | 1539.77 | 194.70 |
| C24 | 1558.17 | 192.40 | C48 | 1538.98 | 194.80 |
| C25 | 1557.36 | 192.50 | C49 | 1538.19 | 194.90 |
| C26 | 1556.55 | 192.60 | C50 | 1537.40 | 195.00 |
| C27 | 1555.75 | 192.70 | C51 | 1536.61 | 195.10 |
| C28 | 1554.94 | 192.80 | C52 | 1535.82 | 195.20 |
| C29 | 1554.13 | 192.90 | C53 | 1535.04 | 195.30 |
| C30 | 1553.33 | 193.00 | C54 | 1534.25 | 195.40 |
| C31 | 1552.52 | 193.10 | C55 | 1533.47 | 195.50 |
| C32 | 1551.72 | 193.20 | C56 | 1532.68 | 195.60 |
| C33 | 1550.92 | 193.30 | C57 | 1531.90 | 195.70 |
| C34 | 1550.12 | 193.40 | C58 | 1531.12 | 195.80 |
| C35 | 1549.32 | 193.50 | C59 | 1530.33 | 195.90 |
| C36 | 1548.51 | 193.60 | C60 | 1529.55 | 196.00 |
| Non-ITU | Peak wavelength between 1528.77 nm - | | C61 | 1528.77 | 196.10 |

The “xx” on the part number 4L-SFD10Gxx-40D represents the fixed wavelength that the transceiver is set to work.

Quick access to other products:

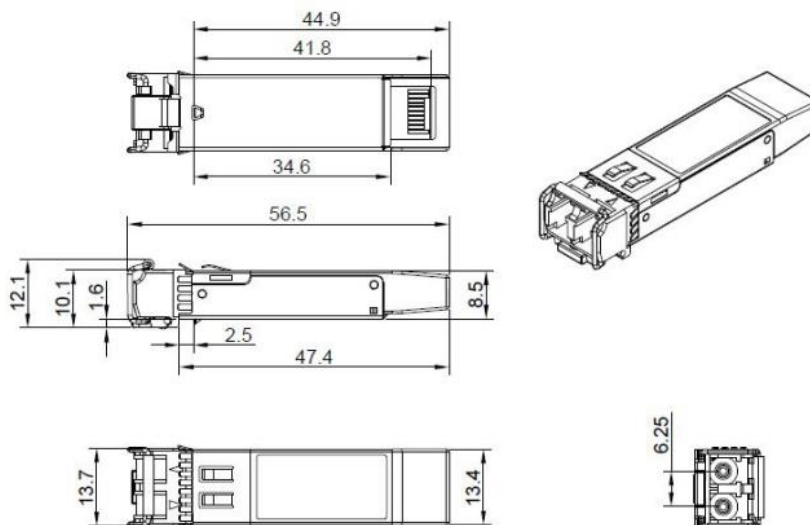
[SFP 1G](#) [XFP 10G](#) [XFP 10G](#) [QXFP 40G](#) [SFP 28 25G](#) [QSFP 28 100G](#) [DWDM](#)

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Electrical Specifications

| Parameter | Symbol | Min. | Typical | Max | Unit | Ref. |
|--------------------------------|------------------|------|---------|----------------|----------|------|
| Supply Voltage | V_{CC} | 3.00 | | 3.60 | V | 1 |
| Supply Current | I_{CC} | | 200 | 300 | mA | 1 |
| Transmitter | | | | | | |
| Input differential impedance | R_{in} | | 100 | | Ω | 2 |
| Single ended data input swing | $V_{in,pp}$ | 150 | | 1200 | mVpp | |
| Transmit Disable Voltage | V_D | 2 | | V_{CC} | V | |
| Transmit Enable Voltage | V_{EN} | Vee | | Vee+0.8 | V | 3 |
| Receiver | | | | | | |
| Output differential impedance | R_{out} | | 100 | | Ω | 2 |
| Single ended data output swing | $V_{out,pp}$ | 300 | | 700 | mV | 4 |
| LOS Fault | $V_{LOS\ fault}$ | 2 | | $V_{CC\ HOST}$ | V | 5 |
| LOS Normal | $V_{LOS\ norm}$ | Vee | | Vee+0.8 | V | 5 |

Mechanical Specifications



Quick access to other products:

[SFP 1G](#) [XFP10G](#) [XFP 10G](#) [QXFP40G](#) [SFP28 25G](#) [QSFP28 100G](#) [DWDM](#)

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Ordering Information

| Part Number | Description |
|----------------|---|
| 4L-SFD10xx-40D | SFP+ 10GBASE-ER, DWDM, SM, DDM, LC Duplex, 40Km |
| 4L-SFD10xx-80D | SFP+ 10GBASE-ZR, DWDM, SM, DDM, LC Duplex, 80Km |

The “xx” on the part number 4L-SFD10Gxx-40D represents the fixed wavelength that the transceiver is set to work.

Note

This modules have been tested by 4LAN on equipments like Cisco, Juniper, Dell, HP, Mikrotik, Huawei, and other brands. The equipment brand must be informed before shipping the order, so the transceivers are reprogrammed to the corresponding brand.

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Quick access to other products:

[SFP 1G](#) [SFP10G](#) [XFP 10G](#) [QSFP40G](#) [SFP28 25G](#) [QSFP28 100G](#) [DWDM](#)

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