

Product Guide

Transceivers, Transponders,
and Active Optical Cables

FINISAR®



Transceivers, Transponders, and Active Optical Cables

SFP (copper and optical; longwave, shortwave and WDM)

DATACOM applications using Fast Ethernet, Gigabit Ethernet, 1x/2x/4x Fibre Channel

TELECOM applications using OC-3/STM-1, OC-12/STM-4, OC-48/STM-16, EPON/GPON and Wireless/CPRI across all reaches

Features

- 3.3 V operating voltage
- Distances from very short links up to 100+ km
- Wide operating temperature range
- Metal enclosure for lower EMI
- Digital diagnostics
- Wireless CPRI compliant



SFP

SFP+/SFP28

(optical; longwave, shortwave, DWDM and tunable)

DATACOM applications using 10G and 25G Ethernet and 2x/4x/8x/16x/32x Fibre Channel (LW and SW)

TELECOM applications using either OC-192/STM-64, 10G Ethernet, or Wireless/CPRI

Features

- 3.3 V operating voltage
- Supports bit rates up to 28.05 Gb/s (LW, SW, and DWDM) and 11.3 Gb/s (Tunable)
- Distances from short links up to 80 km metro (LW, SW, and DWDM) and 80km (Tunable)
- Wide operating temperature range
- Digital diagnostics
- Wireless CPRI compliant (LW and SW)
- Bi-directional SFP+ transceiver available



SFP+/SFP28

CFP/CFP2/CFP4 (optical; longwave and shortwave)

DATACOM applications using 40G and 100G Ethernet

TELECOM applications using OTU3 and OTU4

Features

- Hot-pluggable, MSA-compliant CFP, CFP2 and CFP4 form factors
- Supports 39.8 Gb/s to 112 Gb/s aggregate bit rates
- Maximum link length of 100m on OM3 MMF, 150m on OM4 MMF, 10km on SMF
- 3.3 V operating voltage



CFP/CFP2/CFP4

QSFP+/QSFP28 (optical; longwave and shortwave)

DATACOM applications using 40G and 100G Ethernet, 128G Fibre Channel and high-density 10G and 25G Ethernet

TELECOM applications using OTU3 and OTU4

Features

- Four-channel full-duplex transceiver module
- Hot-pluggable, MSA-compliant QSFP+ and QSFP28 form factors
- Maximum link length of 300m on OM3 MMF, 400m on OM4 MMF, and 40 km on SMF
- 3.3 V operating voltage



QSFP+/QSFP28

CXP (optical; shortwave)

DATACOM applications using 100G Ethernet and chassis interconnections

Features

- Twelve-channel full-duplex transceiver module
- Hot Pluggable CXP form factor
- Maximum link length of 300m on OM3 MMF and 400m on OM4 MMF
- Multirate capability: supports 1.06 Gb/s to 12.5 Gb/s per channel



CXP

Active Optical Cables

SFPwire

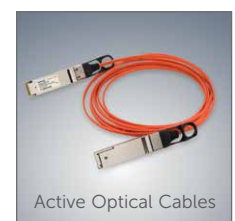
SFP+ Active Optical Cable for 10G and 25G Ethernet. Also available with Connectivity Diagnostics®

quadwire

40 Gb/s to 100 Gb/s Parallel Active Optical Cable for 40GbE and 100GbE, InfiniBand 4xQDR, InfiniBand 4xFDR, InfiniBand 4xEDR and Intel® Omni-Path Architecture. Also available with Connectivity Diagnostics®

C.wire

150 Gb/s Parallel Active Optical Cable for 100GbE and InfiniBand 12xQDR.



Active Optical Cables

Optical Engines (optical; shortwave)

DATACOM applications for inter-chassis connections

Features

- Twelve-channel full-duplex transceiver modules
- Maximum link length of 100m at 10 Gb/s on OM3 MMF or 70m at 25 Gb/s on OM4 MMF
- Multirate capability: supports 1 Gb/s up to 28.05 Gb/s per channel



X2 (optical; longwave and shortwave)

DATACOM applications using 10G Ethernet

Features

- Supports bit rates up to 10.5 Gb/s
- Distances up to 10 km
- Digital diagnostics



Coherent (optical; longwave)

TELECOM 100Gb/s and 200Gb/s applications

Features

- Pluggable CFP2-ACO analog coherent optics module
 - Highest density coherent interface
 - Enables “pay-as-you-grow” deployment of coherent optics
 - Analog interface is compatible with any external DSP
 - Modulation format independent, supports data rates > 200Gb/s



Endurance Compact Transceivers (optical; longwave and shortwave)

Features

- Compact form-factor for high-density solutions
- Data rate flexibility including 1G and 10G Ethernet, Fast Ethernet, and 1x/2x/4x/8x/16x Fibre Channel
- Board-mounted for an edge optical interface or internal mounting
- Designed for rugged applications



XFP (optical; longwave, shortwave, DWDM, and tunable)

DATACOM applications using 10G Ethernet and 10x Fibre Channel

TELECOM applications using OC-192/STM-64

Features

- Supports bit rates up to 11.3 Gb/s
- Distances up to 200 km (LW, SW, and DWDM) and 80 km (Tunable)
- Digital diagnostics
- Wide operating temperature range versions available



SFF (optical; longwave and shortwave)

DATACOM applications using Gigabit Ethernet, 1x/2x/4x Fibre Channel

TELECOM applications using OC-3/STM-1, OC-12/STM-4 and OC-48/STM-16 across all reaches

Features

- Distances from very short links up to 80 km
- Wide operating temperature range
- Available in 2x5, 2x7 or 2x10. 2x7 and 2x10 incorporate digital diagnostics



Finisar’s Digital Diagnostics

Finisar’s transceivers feature a microprocessor and diagnostics interface that provide performance information on the data link. Users can remotely monitor—in real-time—received optical power, transmitted optical power, laser bias current, transceiver input voltage and transceiver temperature of any transceiver in the network. These patented digital diagnostic functions provide network managers with a highly accurate, cost-effective tool for implementing reliable performance monitoring.

Finisar’s Connectivity Diagnostics

Several of Finisar’s products feature the Connectivity Diagnostics® suite of tools, which helps data center technicians quickly and intuitively find specific modules in a sea of sockets using a visual indicator. LynkFind™ allows an operator to light up the pull-tab of the module at the far-end of a link by pressing the pull-tab of the near-end module. LynkGuardian™ lights up a module experiencing a fault and sends alarms and warnings. LynkCommander™ allows a network operations center to light up a module for easy identification on the data center floor. Together, these patented tools bring the intelligence normally available through data center monitoring software to a simple and intuitive visual indicator. The benefits to the data center operator enable faster installation and maintenance, easier troubleshooting, and simplified operations.

Technology Innovator.
Broad Product Portfolio.
Trusted Partner.

FINISAR[®]

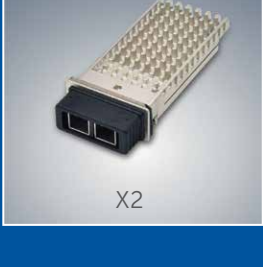
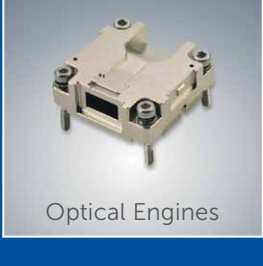
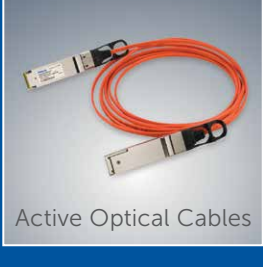
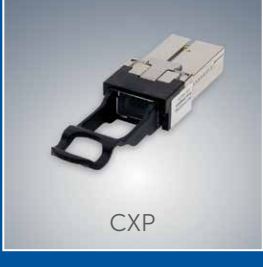
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Part Number	Part Name	Module Type	Wavelength (nm)	Transmitter	Receiver	Data Rate (Gb/s)	Reach	Case Temperature Range (°C)	Max Supply (V)	Optical Input Channel	Optical Output Channel	1:1 Fiber Channel	2:1 Fiber Channel	4:1 Fiber Channel	8:1 Fiber Channel	16:1 Fiber Channel	32:1 Fiber Channel	SFP1/CFP1	SFP2/CFP2	SFP3/CFP3	SFP4/CFP4	Other	Compliant	Compatible	Module Type	RoHS Status		
FTLF852P28TL		Copper	N/A	N/A	N/A	1.25 Gb/s	100 m	-40 to 85	3.3																LC	Pluggable	Digital	
FTLF8519P3xTL		Duplex MMF	850nm Band	VCSEL	PIN	2.125 Gb/s	550 m	-20 to 85	3.3																	LC	Pluggable	Digital
FTLF8519P3xTL		Duplex MMF	850nm Band	VCSEL	PIN	2.125 Gb/s	550 m	-40 to 85	3.3																	LC	Pluggable	Digital
FTLF1217P2xTL		Duplex MMF	1310nm Band	LED	PIN	200 Mb/s	2 km	-40 to 85	3.3																	LC	Pluggable	Digital
FTLF1318P3xTL		Duplex SMF	1310nm Band	Fabry-Perot Laser	PIN	1.25 Gb/s	10 km	-40 to 85	3.3																	LC	Pluggable	Digital
FTLF1419P1xTL		Duplex SMF	1310nm Band	DFB Laser	PIN	2.125 Gb/s	55 km	-10 to 70	3.3																	LC	Pluggable	Digital
FTLF1518P1xTL		Duplex SMF	1550nm	DFB Laser	PIN	1.25 Gb/s	90 km	-40 to 85	3.3																	LC	Pluggable	Digital
FTLF1519P1xTL		Duplex SMF	1550nm	DFB Laser	PIN	2.125 Gb/s	90 km	-10 to 70	3.3																	LC	Pluggable	Digital
FTLF1519P1xTL		Duplex SMF	1550nm	DFB Laser	PIN	2.125 Gb/s	90 km	-10 to 70	3.3																	LC	Pluggable	Digital
FTLF1323P1xTL		Duplex SMF	1310nm Band	Fabry-Perot Laser	PIN	155 Mb/s	15 km	-40 to 85	3.3																	LC	Pluggable	Digital
FTLF1323P1xTL		Duplex SMF	1310nm Band	Fabry-Perot Laser	PIN	155 Mb/s	40 km	-40 to 85	3.3																	LC	Pluggable	Digital
FTLF1523P1xTL		Duplex SMF	1550nm	DFB Laser	PIN	155 Mb/s	80 km	-40 to 85	3.3																	LC	Pluggable	Digital
FTLF1322P1xTL		Duplex SMF	1310nm Band	Fabry-Perot Laser	PIN	622 Mb/s	15 km	-40 to 85	3.3																	LC	Pluggable	Digital
FTLF1422P1xTL		Duplex SMF	1310nm Band	DFB Laser	PIN	622 Mb/s	40 km	-40 to 85	3.3																	LC	Pluggable	Digital
FTLF1522P1xTL		Duplex SMF	1550nm	DFB Laser	PIN	622 Mb/s	80 km	-40 to 85	3.3																	LC	Pluggable	Digital
FTLF1321P1xTL		Duplex SMF	1310nm Band	Fabry-Perot Laser	PIN	2.67 Gb/s	2 km	-40 to 85	3.3																	LC	Pluggable	Digital
FTLF1421P1xTL		Duplex SMF	1310nm Band	DFB Laser	PIN	2.67 Gb/s	15 km	-10 to 70	3.3																	LC	Pluggable	Digital
FTLF1421P1xTL		Duplex SMF	1310nm Band	DFB Laser	PIN	2.67 Gb/s	15 km	-40 to 85	3.3																	LC	Pluggable	Digital
FTLF1421P1xTL		Duplex SMF	1310nm Band	DFB Laser	PIN	2.67 Gb/s	15 km	-40 to 85	3.3																	LC	Pluggable	Digital
FTLF1421P1xTL		Duplex SMF	1310nm Band	DFB Laser	PIN	3.07 Gb/s	15 km	-40 to 85	3.3																	LC	Pluggable	Digital
FTLF1521P1xTL		Duplex SMF	1550nm	DFB Laser	PIN	2.67 Gb/s	15 km	0 to 70	3.3																	LC	Pluggable	Digital
FTLF1721P1xTL		Duplex SMF	1310nm Band	DFB Laser	APD	2.67 Gb/s	40 km	-10 to 70	3.3																	LC	Pluggable	Digital
FTLF1621P1xTL		Duplex SMF	1550nm	DFB Laser	APD	2.67 Gb/s	80 km	-10 to 70	3.3																	LC	Pluggable	Digital
FWL1523P1N51 (OSC)		Duplex SMF	1511nm	DFB Laser	PIN	155 Mb/s	80 km	-20 to 70	3.3																	LC	Pluggable	Digital
FWL1523P1N51 (OSC)		Duplex SMF	1511nm	DFB Laser	PIN	155 Mb/s	80 km	-20 to 85	3.3																	LC	Pluggable	Digital
FWL1519Dxx ⁽²⁾		Duplex SMF	1550nm CWDM	CWDM DFB Laser	PIN	1.25 Gb/s	80 km	0 to 70	3.3																	LC	Pluggable	Digital
FWL1619Dxx ⁽²⁾		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	1.25 Gb/s	100 km	0 to 70	3.3																	LC	Pluggable	Digital
FWL1512Dxx ⁽²⁾		Duplex SMF	1550nm CWDM	CWDM DFB Laser	PIN	2.67 Gb/s	50 km	0 to 70	3.3																	LC	Pluggable	Digital
FWL1612Dxx ⁽²⁾		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	2.67 Gb/s	80 km	0 to 70	3.3																	LC	Pluggable	Digital
FWL1612P2xx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	2.67 Gb/s	80 km	-40 to 85	3.3																	LC	Pluggable	Digital
FWL1524P2Vxx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	4.25 Gb/s	40 km	-5 to 75	3.3																	LC	Pluggable	Digital
FWL1625P2Vxx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	4.25 Gb/s	80 km	-5 to 75	3.3																	LC	Pluggable	Digital
FWL1625P2Vxx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	4.25 Gb/s	80 km	-5 to 75	3.3																	LC	Pluggable	Digital
FWL1625P2Vxx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	4.25 Gb/s	80 km	-5 to 75	3.3																	LC	Pluggable	Digital
FWL1625P2Vxx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	4.25 Gb/s	80 km	-5 to 75	3.3																	LC	Pluggable	Digital
FWL1625P2Vxx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	4.25 Gb/s	80 km	-5 to 75	3.3																	LC	Pluggable	Digital
FWL1625P2Vxx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	4.25 Gb/s	80 km	-5 to 75	3.3																	LC	Pluggable	Digital
FWL1625P2Vxx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	4.25 Gb/s	80 km	-5 to 75	3.3																	LC	Pluggable	Digital
FWL1625P2Vxx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	4.25 Gb/s	80 km	-5 to 75	3.3																	LC	Pluggable	Digital
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FWL1625P2Vxx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	4.25 Gb/s	80 km	-5 to 75	3.3																	LC	Pluggable	Digital
FWL1625P2Vxx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	4.25 Gb/s	80 km	-5 to 75	3.3																	LC	Pluggable	Digital
FWL1625P2Vxx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	4.25 Gb/s	80 km	-5 to 75	3.3																	LC	Pluggable	Digital
FWL1625P2Vxx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	4.25 Gb/s	80 km	-5 to 75	3.3																	LC	Pluggable	Digital
FWL1625P2Vxx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	4.25 Gb/s	80 km	-5 to 75	3.3																	LC	Pluggable	Digital
FWL1625P2Vxx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	4.25 Gb/s	80 km	-5 to 75	3.3																	LC	Pluggable	Digital
FWL1625P2Vxx		Duplex SMF	1550nm CWDM	CWDM DFB Laser	APD	4.25 Gb/s	80 km	-5 to 75	3.3																	LC	Pluggable	Digital
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