SFP Optical Transceivers

perle.com/products/sfp-optical-transceiver.shtml

Small Form Pluggable Optical Modules



- Multimode and single-mode fiber
- Gigabit Ethernet, Fast Ethernet, Fiber channel, ATM/SONET, SDH
- Hot-pluggable with durable metal enclosure
- Can be installed in any Cisco or MSA SFF-8472 compliant port
- Enhanced digital diagnostic information
- CWDM modules available supporting standard wavelengths defined by ITU-T G.694.2
- 32F to 158F (0C to 70C) and -40F to 185F (-40C to+85C) SFP case operating temperatures

Perle SFP Optical Transceivers are hot-swappable, compact media connectors that provide instant fiber connectivity for your networking gear. They are a cost effective way to connect a single network device to a wide variety of fiber cable distances and types.

By eliminating the need to maintain surplus units/ devices of various fiber types for network repairs or upgrades Small Form Pluggable Optical Transceivers reduce network equipment inventories. SFPs allow one product the flexibility to expand by speed (Fast Ethernet and 1, 10, or 40 Gigabit), and/or distance (220 m to 80 km).

Network upgrades are also made easier because SFPs are interchangeable fiber connectors that can adapt to any existing network. For example, by simply replacing the pluggable optical transceiver, a media converter that was originally used in a multimode network can be re-configured to operate over a CWDM network.

Perle SFP Optical Transceivers can be used and interchanged on a wide variety of Cisco or MSA compliant SFP products. They can be intermixed in combinations of 1000BASE-SX, 1000BASE-LX/LH, 1000BASE-EX, 1000BASE-ZX, or 1000BASE-BX10-D/U on a port-by-port basis.

Perle SFP Optical Transceivers are designed for use with Perle SFP Media Converters, Industrial Ethernet Switches and third party equipment that supports SFP transceivers. Select the appropriate tab above to view Duplex, Simplex(BiDi), CWDM or 10 Gigabit SFP+ and XFP Models.

Perle SFP Transceiver Features

Broad range of Fiber applications	Popular networking protocols such as Ethernet, Fibre Channel, ATM/SONET OC-X, SDH STM-X can be used with these modules
Cisco IOS Compatible	All Perle SFPs can be installed in all Cisco SFP-based routers and switches and are fully compatible with Cisco's IOS software.
MSA SFF-8472 Compliant	All SFPs fully comply with the Multi Sourcing Agreement (MSA).
Enhanced digital diagnostic information (DOM or DMI)	Provides readable digital diagnostic information for managed gear to assist network administrators with network maintenance and management
Industrial Temperature models	Industrial -40F to 185F (-40C to 85C) case temperature models are available for extended temperature environments
CWDM models	CWDM Pluggable Optical Transceivers increase network capacity by transmitting multiple data channels using separate optical wavelengths (1470nm to 1610nm) on the same fiber pair. These wavelengths are compliant to the ITU G.694 CWDM standard.
Laser Safety	Fiber optic transmitters on this device meet Class 1 Laser safety requirements per IEC-60825 FDA/CDRH standards and comply with 21CFR1040.10 and 21CFR1040.11. EN 60825-1:2007
Environmental	Reach, RoHS and WEEE Compliant
Other	ECCN: EAR99 HTSUS Number: 8517.62.0050 Warranty - 2 year return to factory

Select a High Speed Model below to obtain a Part Number -----OR----- Click Here to view Fast Ethernet, SONET OC-3, G.957, SDH STM-1 Models

	Transmit	Receive	Modal Band-

SFP Model	Connector	Speed	Type	DOM / DMI	Temp	(dBm)		(dBm)		Power Budget (dB)	Wave-length (nm)	Fiber Type	Core Size (um)	width (MHz Km)	Operating Distance
						Min	Max	Min	Max						
PSFP-1000-M2LC05	Dual LC	1.25 Gbps	1000Base-SX Fibre Channel FICON (Alternate to Cisco: GLC-SX-MM)	No	0 to 70C (32F to 158F)	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
													62.5	200	275 m (902 ft)
													50	400	500 m (1,640 ft)
													50	500	550 m (1,804 ft)
													50	2000	1000 m (3281 ft)
PSFP-1000D-M2LC05	Dual LC	1.25 Gbps	1000Base-SX Fibre Channel FICON (Alternate to Cisco: SFP-GE-S)	Yes	0 to 70C (32F to 158F)	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
													62.5	200	275 m (902 ft)
													50	400	500 m (1,640 ft)
													50	500	550 m (1,804 ft)
													50	2000	1000 m (3281 ft)
PSFP-1000D-M2LC05-XT	Dual LC	1.25 Gbps	1000Base-SX Fibre Channel FICON (Alternate to Cisco: SFP-GE-S)	Yes	-40 to 85C (-40F to 185F)	-9.5	-3.0	-18.0	-3.0	8.5	850	MMF	62.5	160	220 m (722 ft)
													62.5	200	275 m (902 ft)
													50	400	500 m (1,640 ft)
													50	500	550 m (1,804 ft)
													50	2000	1000 m (3281 ft)
PSFP-1000D-M2LC2	Dual LC	1.25 Gbps	1000Base-LX Fibre Channel FICON	Yes	0 to 70C (32F to 158F)	-9.0	-1.0	-19.0	-1.0	10.0	1310	MMF	62.5	160	2 km (1.2 mi)
													50	500	1000 m (3281 ft)
PSFP-1000D-M2LC2-XT	Dual LC	1.25 Gbps	1000Base-LX Fibre Channel FICON	Yes	-40 to 85C (-40F to 185F)	-9.0	-1.0	-19.0	-1.0	10.0	1310	MMF	62.5	160	2 km (1.2 mi)
													50	500	1000 m (3281 ft)
PSFP-2GD-M2LC03	Dual LC	up to 2.67 Gbps	1000Base-SX Fibre Channel FC-2 FICON GR253 SONET OC-48 G.957	Yes	0 to 70C (32F to 158F)	-10	-3	-18	-3	8	850	MMF	50	500	300 m (984 ft)

			SDH STM-16												
PSFP-4GD-M2LC05	Dual LC	Multi-Rate - 1.063 Gbps 2.125 Gbps 4.25 Gbps	1000Base-SX Fibre Channel FC-1,2,4 FICON	Yes	0 to 70C (32F to 158F)	-9	-2.5	-15	0	6	850	MMF	62.5	200	300 m (984 ft)
													50	500	500 m (1640 ft)
PSFP-1000-S2LC10	Dual LC	Dual Rate - 1.25 Gbps, 1.063 Gbps	1000Base-LX / LH Fibre Channel FC-1 FICON SONET OC-24-LR-1 (Alternate to Cisco: GLC-LH-SM)	No	0 to 70C (32F to 158F)	-9.5	-3.0	-21.0	-3.0	11.5	1310	MMF ***	62.5	500	550 m (1,804 ft)
													50	400	550 m (1,804 ft)
													50	400	550 m (1,804 ft)
												SMF	**	-	10 km (6.2 mi)
PSFP-1000D-S2LC10	Dual LC	Dual Rate - 1.25 Gbps, 1.063 Gbps	1000Base-LX / LH Fibre Channel FC-1 FICON SONET OC-24-LR-1 (Alternate to Cisco: SFP-GE-L)	Yes	0 to 70C (32F to 158F)	-9.0	-3.0	-23.0	-3.0	14.0	1310	MMF ***	62.5	500	550 m (1,804 ft)
													50	400	550 m (1,804 ft)
													50	400	550 m (1,804 ft)
												SMF	**	-	10 km (6.2 mi)
PSFP-1000D-S2LC10-XT	Dual LC	Dual Rate - 1.25 Gbps, 1.063 Gbps	1000Base-LX / LH Fibre Channel FC-1 FICON SONET OC-24-LR-1 (Alternate to Cisco: SFP-GE-L)	Yes	-40 to 85C (-40F to 185F)	-9.0	-3.0	-23.0	-3.0	14.0	1310	MMF ***	62.5	500	550 m (1,804 ft)
													50	400	550 m (1,804 ft)
													50	400	550 m (1,804 ft)
												SMF	**	-	10 km (6.2 mi)
PSFP-1000D-S2LC20	Dual LC	1.25 Gbps	1000Base-EX Fibre Channel FICON (Alternate to Cisco: SFP-GE-L-20)	Yes	0 to 70C (32F to 158F)	-9.0	-3.0	-23.0	-3.0	14.0	1310	SMF	**	-	20 km (12.4 mi)
PSFP-1000D-S2LC20-XT	Dual LC	1.25 Gbps	1000Base-EX Fibre Channel FICON (Alternate to Cisco:	Yes	-40 to 85C (-40F to 185F)	-9.0	-3.0	-23.0	-3.0	14.0	1310	SMF	**	-	20 km (12.4 mi)

			SFP-GE-L-RGD-20)												
PSFP-1000D-S2LC40	Dual LC	1.25 Gbps	1000Base-EX Fibre Channel FICON (Alternate to Cisco: SFP-GE-L-40)	Yes	0 to 70C (32F to 158F)	-5.0	0.0	-23.0	-3.0	18.0	1310	SMF	**	-	40 km (25 mi)
PSFP-1000D-S2LC40-XT	Dual LC	1.25 Gbps	1000Base-EX Fibre Channel FICON (Alternate to Cisco: SFP-GE-L-RGD-40)	Yes	-40 to 85C (-40F to 185F)	-5.0	0.0	-23.0	-3.0	18.0	1310	SMF	**	-	40 km (25 mi)
PSFP-1000D-S2LC80	Dual LC	1.25 Gbps	1000Base-ZX Fibre Channel FICON (Alternate to Cisco: SFP-GE-Z)	Yes	0 to 70C (32F to 158F)	0.0	5.0	-23.0	-3.0	23.0	1550	SMF	**	-	80 km (50 mi)
PSFP-1000D-S2LC80-XT	Dual LC	1.25 Gbps	1000Base-ZX Fibre Channel FICON (Alternate to Cisco: SFP-GE-Z-RGD)	Yes	-40 to 85C (-40F to 185F)	0.0	5.0	-23.0	-3.0	23.0	1550	SMF	**	-	80 km (50 mi)
PSFP-4GD-S2LC10	Dual LC	Multi-Rate - 1.063 Gbps 2.125 Gbps 4.25 Gbps	1000Base-LX / LH Fibre Channel FC-1,2,4 FICON	Yes	0 to 70C (32F to 158F)	-8.0	0.0	-18.0	-3.0	10.0	1310	SMF	**	-	10,000 m (32,821 ft)
PSFP-2GD-S2LC20	Dual LC	up to 2.67 Gbps	1000Base-LX / LH Fibre Channel FC-2 FICON GR253 SONET OC-48 G.957 SDH STM-16	Yes	0 to 70C (32F to 158F)	-5.0	0.0	-18.0	-3.0	13.0	1310	SMF	**	-	20,000 m (65,617 ft)
Protocols: Fast Ethernet, SONET OC-3, G.957, SDH STM-1															
PSFP-	Dual LC	Up to	100Base-	No	0 to	-19.0	-14.0	-32.0	-3.0	13.0	1310	MMF	50.0	500	5km *

100-M2LC2		155 Mbps	FX SONET OC-3 SDH STM-1 (Alternate to Cisco: GLC-FE-100FX)		70C (32F to 158F)										(3.1 mi)
														62.5	2km (1.2 mi)
PSFP-100D-M2LC2-XT	Dual LC	Up to 155 Mbps	100Base-FX SONET OC-3 SDH STM-1 (Alternate to Cisco: GLC-FE-100FX-RGD)	Yes	-40 to 85C (-40F to 185F)	-20.0	-14.0	-31.0	-3.0	11.0	1310	MMF	50.0	500	5km * (3.1 mi)
													62.5		2km (1.2 mi)
PSFP-100D-M2LC05	Dual LC	Up to 155 Mbps	100Base-SX SONET OC-3 SDH STM-1	Yes	0 to 70C (32F to 158F)	-8.0	-3.0	-19.0	-3.0	11.0	850	MMF	50.0	500	550 m (1804 ft)
													62.5	200	300 m (990 ft)
PSFP-100D-S2LC10	Dual LC	up to 155 Mbps	100Base-LX SONET OC-3 SDH STM-1 (Alternate to Cisco: GLC-FE-100LX)	Yes	0 to 70C (32F to 158F)	-14.0	-8.0	-32.0	-3.0	18.0	1310	SMF	**	-	10km (6.2 mi)
PSFP-100D-S2LC10-XT	Dual LC	up to 155 Mbps	100Base-LX SONET OC-3 SDH STM-1 (Alternate to Cisco: GLC-FE-100LX-RGD)	Yes	-40 to 85C (-40F to 185F)	-14.0	-8.0	-32.0	-3.0	18.0	1310	SMF	**	-	10km (6.2 mi)
PSFP-100D-S2LC40	Dual LC	up to 155 Mbps	100Base-EX SONET OC-3 SDH STM-1 (Alternate to Cisco: GLC-FE-100EX)	Yes	0 to 70C (32F to 158F)	-5.0	0.0	-34.0	-3.0	29.0	1310	SMF	**	-	40km (25 mi)
PSFP-100D-S2LC80	Dual LC	up to 155 Mbps	100Base-ZX SONET OC-3 SDH STM-1	Yes	0 to 70C (32F to 158F)	-5.0	0.0	-34.0	-3.0	29.0	1550	SMF	**	-	80km (50 mi)

(Alternate to Cisco: GLC-FE-100ZX)

** 1db/km multimode 50/125 micron fiber cable*

*** ITU-T G.652 SMF as specified by the IEEE 802.3z standard.*

**** A mode-conditioning adapter as specified by the IEEE standard, is required regardless of the span length. Note how the mode conditioning adapter for 62.5-um fibers has a different specification from the mode-conditioning adapter for 50-um fibers.*

Select a High Speed Model below to obtain a Part Number -----OR----- Click Here to view Fast Ethernet, SONET OC-3, G.957, SDH STM-1 Models

Single Fiber Models (Recommended use in pairs)

SFP Model	Connector	Speed	Type	DOM / DMI	Case Temp	Transmit (dBm)		Receive (dBm)		Power Budget (dB)	Wave-length (nm)	Fiber Type	Core Size (um)	Modal Band-width (MHz Km)	Operating Distance
						Min	Max	Min	Max						
PSFP-1000-S1LC10U	Single LC	Dual Rate - 1.25 Gbps, 1.063 Gbps	1000Base-BX10-U Fibre Channel FICON SONET OC-24-LR-1 (Alternate to Cisco: GLC-BX-U)	No	0 to 70C (32F to 158F)	-9.0	-3.0	-20.0	-3.0	11.0	1310 / 1490	SMF	**	-	10 km (6.2 mi)
PSFP-1000-S1LC10D	Single LC	Dual Rate - 1.25 Gbps, 1.063 Gbps	1000Base-BX10-D Fibre Channel FICON SONET OC-24-LR-1 (Alternate to Cisco: GLC-BX-D)	No	0 to 70C (32F to 158F)	-9.0	-3.0	-20.0	-3.0	11.0	1490 / 1310	SMF	**	-	10 km (6.2 mi)
PSFP-1000-1LC10U-XT	Single LC	Dual Rate - 1.25 Gbps, 1.063 Gbps	1000Base-BX10-U Fibre Channel FICON SONET OC-24-LR-1	Yes	-40 to 85C (-40F to 185F)	-9.0	0.0	-23.0	-3.0	14.0	1310 / 1490	SMF	**	-	10 km (6.2 mi)
PSFP-1000-1LC10D-XT	Single LC	Dual Rate - 1.25 Gbps, 1.063 Gbps	1000Base-BX10-D Fibre Channel FICON SONET OC-24-LR-1	Yes	-40 to 85C (-40F to 185F)	-9.0	0.0	-23.0	-3.0	14.0	1490 / 1310	SMF	**	-	10 km (6.2 mi)
PSFP-1000D-	Single LC	Dual Rate -	1000Base-BX	Yes	0 to 70C	-5.0	0.0	-23.0	-3.0	18.0	1310 / 1490	SMF	**	-	40 km (25 mi)

S1LC40U		1.25 Gbps, 1.063 Gbps	Fibre Channel FICON SONET OC-24-LR-1 (Alternate to Cisco: GLC-BX-U-40)		(32F to 158F)										
PSFP-1000D-S1LC40D	Single LC	Dual Rate - 1.25 Gbps, 1.063 Gbps	1000Base-BX Fibre Channel FICON SONET OC-24-LR-1 (Alternate to Cisco: GLC-BX-D-40)	Yes	0 to 70C (32F to 158F)	-5.0	0.0	-23.0	-3.0	18.0	1490 / 1310	SMF	**	-	40 km (25 mi)
PSFP-1000D-S1LC60U	Single LC	Dual Rate - 1.25 Gbps, 1.063 Gbps	1000Base-BX Fibre Channel FICON SONET OC-24-LR-1 GLC-BX-U-60	Yes	0 to 70C (32F to 158F)	-1.0	4.0	-26.0	-3.0	25.0	1490 / 1550	SMF	**	-	60 km (37 mi)
PSFP-1000D-S1LC60D	Single LC	Dual Rate - 1.25 Gbps, 1.063 Gbps	1000Base-BX Fibre Channel FICON SONET OC-24-LR-1 GLC-BX-D-60	Yes	0 to 70C (32F to 158F)	-1.0	4.0	-26.0	-3.0	25.0	1550 / 1490	SMF	**	-	60 km (37 mi)
PSFP-1000D-S1LC80U	Single LC	Dual Rate - 1.25 Gbps, 1.063 Gbps	1000Base-BX Fibre Channel FICON SONET OC-24-LR-1 (Alternate to Cisco: GLC-BX-U-80)	Yes	0 to 70C (32F to 158F)	-1.0	4.0	-26.0	-3.0	25.0	1490 / 1550	SMF	**	-	80 km (50 mi)
PSFP-1000D-S1LC80D	Single LC	Dual Rate - 1.25 Gbps, 1.063 Gbps	1000Base-BX Fibre Channel FICON SONET OC-24-LR-1 (Alternate to Cisco: GLC-BX-D-	Yes	0 to 70C (32F to 158F)	-1.0	4.0	-26.0	-3.0	25.0	1550 / 1490	SMF	**	-	80 km (50 mi)

80)

Protocols: Fast Ethernet, SONET OC-3, SDH STM-1

PSFP-100D-S1LC10U	Single LC	Up to 155 Mbps	100Base-BX SONET OC-3 SDH STM-1 (Alternate to Cisco: GLC-FE-100BX-U)	Yes	0 to 70C (32F to 158F)	-14.0	-8.0	-32.0	-3.0	18.0	1310 / 1550	SMF	**	-	10 km (6.2 mi)
PSFP-100D-S1LC10U-XT	Single LC	Up to 155 Mbps	100Base-BX SONET OC-3 SDH STM-1 (Alternate to Cisco: GLC-FE-100BX-U-RGD)	Yes	-40 to 85C (-40F to 185F)	-14.0	-8.0	-32.0	-3.0	18.0	1310 / 1550	SMF	**	-	10 km (6.2 mi)
PSFP-100D-S1LC10D	Single LC	Up to 155 Mbps	100Base-BX SONET OC-3 SDH STM-1 (Alternate to Cisco: GLC-FE-100BX-D)	Yes	0 to 70C (32F to 158F)	-14.0	-8.0	-32.0	-3.0	18.0	1550 / 1310	SMF	**	-	10 km (6.2 mi)
PSFP-100D-S1LC10D-XT	Single LC	Up to 155 Mbps	100Base-BX SONET OC-3 SDH STM-1 (Alternate to Cisco: GLC-FE-100BX-D-RGD)	Yes	-40 to 85C (-40F to 185F)	-14.0	-8.0	-32.0	-3.0	18.0	1550 / 1310	SMF	**	-	10 km (6.2 mi)
PSFP-100D-S1LC20U	Single LC	Up to 155 Mbps	100Base-BX SONET OC-3 SDH STM-1 (Alternate to Cisco: GLC-FE-100BX-U)	Yes	0 to 70C (32F to 158F)	-14.0	-8.0	-32.0	-3.0	18.0	1310 / 1550	SMF	**	-	20 km (12.4 mi)
PSFP-100D-S1LC20D	Single LC	Up to 155 Mbps	100Base-BX SONET OC-3 SDH STM-	Yes	0 to 70C (32F to 158F	-14.0	-8.0	-32.0	-3.0	18.0	1550 / 1310	SMF	**	-	20 km (12.4 mi)

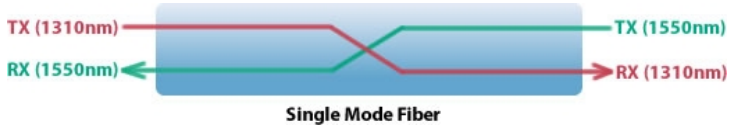
			1 (Alternate to Cisco: GLC-FE-100BX-D)		)										
PSFP-100D-S1LC40U	Single LC	Up to 155 Mbps	100Base-BX SONET OC-3 SDH STM-1 (Alternate to Cisco: GLC-FE-100BX-U)	Yes	0 to 70C (32F to 158F)	-5.0	0.0	-32.0	-3.0	27.0	1310 / 1550	SMF	**	-	40 km (25 mi)
PSFP-100D-S1LC40D	Single LC	Up to 155 Mbps	100Base-BX SONET OC-3 SDH STM-1 (Alternate to Cisco: GLC-FE-100BX-D)	Yes	0 to 70C (32F to 158F)	-5.0	0.0	-32.0	-3.0	27.0	1550 / 1310	SMF	**	-	40 km (25 mi)
PSFP-100D-S1LC80U	Single LC	Up to 155 Mbps	100Base-BX SONET OC-3 SDH STM-1 (Alternate to Cisco: GLC-FE-100BX-U)	Yes	0 to 70C (32F to 158F)	-5.0	0.0	-32.0	-3.0	27.0	1490 / 1550	SMF	**	-	80 km (50 mi)
PSFP-100D-S1LC80D	Single LC	Up to 155 Mbps	100Base-BX SONET OC-3 SDH STM-1 (Alternate to Cisco: GLC-FE-100BX-D)	Yes	0 to 70C (32F to 158F)	-5.0	0.0	-32.0	-3.0	27.0	1550 / 1490	SMF	**	-	80 km (50 mi)

** 1db/km multimode 50/125 micron fiber cable*

***ITU-T G.652 SMF as specified by the IEEE 802.3z standard.*

Single Mode / Single Fiber

Connect copper ports over a single fiber strand (also referred to as "Bi-Directional" BiDi)
When Single Strand fiber is used, a pair of Single Fiber Media Converters is needed for the copper to fiber conversion. Perle Single Fiber Media Converters are also referred to as "Up/Down" models. For example the PSFP-1000-S1LC10**U** ("Up") and PSFP-1000-S1LC10**D** ("Down"), shown below, must be used in pairs. An "**U**p" must be matched with a "**D**own" peer to deal with transmit and receive frequencies separately.



PSFP-1000-S1LC10UPSFP-1000-S1LC10D

The majority of installations for single mode fiber media converters are of the “dual connector” or “dual fiber” type where one fiber connection is used for transmit, the other for receive. These are physically “crossed” to match up the Transmit/Receive links.

However, to reduce costs, or where there are limits on available fiber, WDM technology may be utilized. WDM uses separate transmit and receive frequencies to communicate on a single fiber strand. WDM technology relies on the fact that optical fibers can carry many wavelengths of light simultaneously without interaction between each wavelength. Thus, a single fiber can carry many separate wavelength signals or channels simultaneously.

So remember, if Single Strand fiber is used, you will need an “**Up**” Media Converter on one side and a “**Down**” Media Converter on the other for copper to fiber conversion.

Perle offers a wide variety of Single Fiber (“**U**p/**D**own”) Media Converters to connect 10BaseT, Fast Ethernet and Gigabit to single fiber. Whether you need Managed or Unmanaged, Standalone or Modular Chassis Based, 20km or 120km, Perle has the right model to meet your fiber conversion requirement.

Select a Model to obtain a Part Number

CWDM (coarse wavelength division multiplexing) Models

SFP Model	Connector	Speed	Type	DOM / DMI	Case Temp	Transmit (dBm)		Receive (dBm)		Power Budget (dB)	Wave-length (nm)	Fiber Type	Core Size (um)	Modal Band-width (MHz Km)	Operating Distance
						Min	Max	Min	Max						
PSFP-CWDM-SFP-1470	Dual LC	up to 2.67 Gbps	1000Base-CWDM Fibre Channel	Yes	0 to 70C (32F to 158F)	0.0	5.0	-28.0	-9.0	28.0	1470	SMF	**	-	80 km (50 mi)
PSFP-CWDM-SFP-1490	Dual LC	up to 2.67 Gbps	1000Base-CWDM Fibre Channel	Yes	0 to 70C (32F to 158F)	0.0	5.0	-28.0	-9.0	28.0	1490	SMF	**	-	80 km (50 mi)
PSFP-CWDM-SFP-1510	Dual LC	up to 2.67 Gbps	1000Base-CWDM Fibre Channel	Yes	0 to 70C (32F to 158F)	0.0	5.0	-28.0	-9.0	28.0	1510	SMF	**	-	80 km (50 mi)
PSFP-CWDM-SFP-1530	Dual LC	up to 2.67 Gbps	1000Base-CWDM Fibre Channel	Yes	0 to 70C (32F to 158F)	0.0	5.0	-28.0	-9.0	28.0	1530	SMF	**	-	80 km (50 mi)
PSFP-CWDM-SFP-1550	Dual LC	up to 2.67 Gbps	1000Base-CWDM Fibre Channel	Yes	0 to 70C (32F to 158F)	0.0	5.0	-28.0	-9.0	28.0	1550	SMF	**	-	80 km (50 mi)
PSFP-CWDM-SFP-1570	Dual LC	up to 2.67 Gbps	1000Base-CWDM Fibre Channel	Yes	0 to 70C (32F to 158F)	0.0	5.0	-28.0	-9.0	28.0	1570	SMF	**	-	80 km (50 mi)
PSFP-CWDM-SFP-1590	Dual LC	up to 2.67 Gbps	1000Base-CWDM Fibre Channel	Yes	0 to 70C (32F to 158F)	0.0	5.0	-28.0	-9.0	28.0	1590	SMF	**	-	80 km (50 mi)
PSFP-CWDM-SFP-1610	Dual LC	up to 2.67 Gbps	1000Base-CWDM Fibre Channel	Yes	0 to 70C (32F to 158F)	0.0	5.0	-28.0	-9.0	28.0	1610	SMF	**	-	80 km (50 mi)

** 1db/km multimode 50/125 micron fiber cable*

***ITU-T G.652 SMF as specified by the IEEE 802.3z standard.*