Cisco ASR 9000 Transceiver Modules: Line Card Support

This data sheet provides information about transceiver modules supported on Cisco® ASR 9000 Series line cards.

Cisco ASR 9000 Series line cards support the following transceiver modules:

- C Form-Factor Pluggable (CFP) modules for use on 100-Gigabit Ethernet interfaces
- Small Form-Factor Pluggable (SFP) modules for use on Gigabit Ethernet, Optical Carrier, and Synchronous Transport Module (STM) interfaces
- 10-Gigabit Small Form-Factor Pluggable (XFP) modules for use on 10-Gigabit Ethernet interfaces
- SFP Plus (SFP+) modules for use on some 10-Gigabit Ethernet interfaces

Table 1 shows the line card support for Cisco ASR 9000 Series transceiver modules.

Table 1.   Cisco ASR 9000 Series Transceiver Module Support Matrix

Product Description	Part Number	SFP	XFP	SFP+	QSFP	CFP
Cisco ASR 9000 2-Port 100GE Service Edge Optimized Line Card, Requires CFP optics	A9K-2x100GE-SE	No	No	No	No	Yes
Cisco ASR 9000 2-Port 100GE Packet Transport Optimized Line Card, Requires CFP optics	A9K-2x100GE-TR	No	No	No	No	Yes
Cisco ASR 9000 1-Port 100GE Service Edge Optimized Line Card, Requires CFP optics	A9K-1x100GE-SE	No	No	No	No	Yes
Cisco ASR 9000 1-Port 100GE Packet Transport Optimized Line Card, Requires CFP optics	A9K-1x100GE-TR	No	No	No	No	Yes
Cisco ASR 9000 24-Port 10GE Service Edge Optimized Line Card, Requires SFP+ optics	A9K-24x10GE-SE	No	No	Yes	No	No
Cisco ASR 9000 24-Port 10GE Packet Transport Optimized Line Card, Requires SFP+ optics	A9K-24x10GE-TR	No	No	Yes	No	No
Cisco ASR 9000 36-Port 10GE Service Edge Optimized Line Card, Requires SFP+ optics	A9K-36x10GE-SE	No	No	Yes	No	No
Cisco ASR 9000 36-Port 10GE Packet Transport Optimized Line Card, Requires SFP+ optics	A9K-36x10GE-TR	No	No	Yes	No	No
Cisco ASR 9000 20-port 1GE Modular Port Adapter	A9K-MPA-20X1GE	Yes	No	No	No	No
Cisco ASR 9000 4-port 10GE Modular Port Adapter	A9K-MPA-4X10GE	No	Yes	No	No	No
Cisco ASR9000 1-port 40GE Modular Port Adapter	A9K-MPA-1X40GE	No	No	No	Yes	No
Cisco ASR9000 2-port 40GE Modular Port Adapter	A9K-MPA-2X40GE	No	No	No	Yes	No
40-Port GE Low Queue Line Card, Requires SFPs	A9K-40GE-L	Yes	No	No	No	No
40-Port GE Medium Queue Line Card, Requires SFPs	A9K-40GE-B	Yes	No	No	No	No
40-Port GE High Queue Line Card, Requires SFPs	A9K-40GE-E	Yes	No	No	No	No
2-Port 10GE, 20-Port GE Medium Queue Combo Line Card, Requires XFPs for 10GE, SFPs for GE	A9K-2T20GE-B	Yes	Yes	No	No	No
2-Port 10GE, 20-Port GE High Queue Combo Line Card, Requires XFPs for 10GE, SFPs for GE	A9K-2T20GE-E	Yes	Yes	No	No	No
4-Port 10GE Low Queue Line Card, Requires XFPs	A9K-4T-L	No	Yes	No	No	No
4-Port 10GE Medium Queue Line Card, Requires XFPs	A9K-4T-B	No	Yes	No	No	No

Product Description	Part Number	SFP	XFP	SFP+	QSFP	CFP
4-Port 10GE High Queue Line Card, Requires XFPs	A9K-4T-E	No	Yes	No	No	No
8-Port 10GE Low Queue Line Card, Requires XFPs	A9K-8T/4-L	No	Yes	No	No	No
8-Port 10GE Medium Queue Line Card, Requires XFPs	A9K-8T/4-B	No	Yes	No	No	No
8-Port 10GE High Queue Line Card, Requires XFPs	A9K-8T/4-E	No	Yes	No	No	No
8-Port 10GE Low Queue Line Card, Requires XFPs	A9K-8T-L	No	Yes	No	No	No
8-Port 10GE Medium Queue Line Card, Requires XFPs	A9K-8T-B	No	Yes	No	No	No
8-Port 10GE High Queue Line Card, Requires XFPs	A9K-8T-E	No	Yes	No	No	No
16-Port 10GE Medium Queue Line Card, Requires SFP+s	A9K-16T/8-B	No	No	Yes	No	No
Cisco ASR 9000 SPA Interface Processor (SIP)700 Line Card	A9K-SIP-700[1]	Yes	Yes	No	No	No

1. A9K-SIP-700 does not support all SFP and XFP types. Please see the later section, "SIP Line Card Requiring SFP and XFP Modules."

The remaining sections of this data sheet are as follows:

- Ethernet Line Cards Requiring CFP Modules
- Ethernet Line Cards Requiring QSFP Modules
- Ethernet Line Cards Requiring SFP Modules
- Ethernet Line Cards Requiring XFP Modules
- Ethernet Line Cards Requiring SFP+ Modules
- SIP Line Card Requiring SFP and XFP Modules

Ethernet Line Cards Requiring CFP Modules

The following Cisco ASR 9000 Series Ethernet line cards (described in Table 1) require CFP modules:

- A9K-1x100GE-SE
- A9K-1x100GE-TR
- A9K-2x100GE-SE
- A9K-2x100GE-TR

Table 2 shows the part numbers and descriptions for the Cisco CFP 100 Gigabit Ethernet transceivers.

Table 2. CFP Pluggable Interfaces

Part Number	100 Gigabit Ethernet CFP Optics	Maximum Distance
CFP-100G-LR4	100 Gigabit Ethernet long-reach over 4 WDM lanes (LR4) optics single-mode fiber (SMF)	10 km
CFP-100G-SR10	100 Gigabit Ethernet BASE-SR10 CFP, OM3 MMF	100m

Ethernet Line Cards Requiring QSFP Modules

The following Cisco ASR 9000 Series Ethernet line cards (described in Table 1) require QSFP modules:

- A9K-MPA-1X40GE
- A9K-MPA-2X40GE

Table 3 shows the part numbers and descriptions for the Cisco QSFP 40 Gigabit Ethernet transceivers.

Table 3. QSFP Pluggable Interfaces

Part Number	40 Gigabit Ethernet QSFP Optics	Maximum Distance
QSFP-40G-SR4	40GBASE SR4 QSFP	100m

Part Number	40 Gigabit Ethernet QSFP Optics	Maximum Distance
QSFP-40G-LR4	40GBASE LR4 QSFP	10Km

Ethernet Line Cards Requiring SFP Modules

The following Cisco ASR 9000 Series Ethernet line cards (described in Table 1) require SFP modules:

- A9K-40GE-L
- A9K-40GE-B
- A9K-40GE-E
- A9K-2T20GE-B (20 Gigabit Ethernet ports only)
- A9K-2T20GE-E (20 Gigabit Ethernet ports only)
- A9K-MPA-20X1GE (A9K-MOD80-SE or A9K-MOD80-TR required)

These line cards support the following SFP transceiver modules:

- Cisco 100BASE-FX SFP Fast Ethernet (FE) Interface Converter on Gigabit SFP Ports
- Cisco SFP Modules
- Cisco CWDM SFP Modules
- Cisco DWDM SFP Modules

Table 4 shows the part numbers and descriptions for the Cisco SFP Fast Ethernet 100BASE-FX interface converters on Gigabit SFP ports.

Table 4.   Cisco 100BASE-FX SFP Fast Ethernet Interface Converter on Gigabit SFP Ports

Part Number	Product Description	Product Data Sheet
GLC-GE-100FX=	100BASE-FX SFP, MMF, 2 km	CLICK HERE
GLC-FE-100BX-D=	100BASE-BX10-D SFP, single-strand SMF, 10 km	No Support
GLC-FE-100BX-U=	100BASE-BX10-U SFP, single-strand SMF, 10 km	No Support
GLC-FE-100LX=	100BASE-LX SFP, SMF, 10 km	No Support
GLC-FE-100FX=	100BASE-FX SFP, MMF, 2 km	No Support
GLC-FE-100EX=	100Base-EX SFP, SMF, 40 km	No Support
GLC-FE-100ZX=	100Base-ZX SFP, SMF, 80 km	No Support

Table 5 shows the part numbers and descriptions for the Cisco SFP modules.

Table 5.   Cisco SFP Modules

Part Number	Product Description	Product Data Sheet
SFP-GE-T=	1000BASE-T SFP (NEBS 3), unshielded twisted pair (UTP), 100m	CLICK HERE
SFP-GE-S=	1000BASE-SX SFP (DOM), MMF, 550/220m	
SFP-GE-L=	1000BASE-LX/LH SFP (DOM), SMF 10Km, MMF 550m	
SFP-GE-Z=	1000BASE-ZX Gigabit Ethernet SFP (DOM), SMF, 70 km	
GLC-BX-D=	1000BASE-BX SFP, 1490 nm	
GLC-BX-U=	1000BASE-BX SFP, 1310 nm	
GLC-SX-MMD=	1000BASE-SX SFP transceiver module, MMF, 850nm, 550m/220m, DOM	
GLC-LH-SMD=	1000BASE-LX/LH SFP transceiver module, MMF/SMF, 1310nm, 10km, DOM	
GLC-EX-SMD=	1000BASE-EX SFP transceiver module, SMF, 1310nm, 40km, DOM	

Part Number	Product Description	Product Data Sheet
GLC-ZX-SMD=	1000BASE-ZX SFP transceiver module, SMF, 1550nm, 70km, DOM	

Table 6 shows the part numbers and descriptions for the Cisco coarse wavelength-division multiplexing (CWDM) SFP modules. V01 versions of these modules are not supported on the line cards.

Table 6.   Cisco CWDM SFP Modules

Part Number	Product Description	Product Data Sheet
CWDM-SFP-1470=	Cisco CWDM SFP 1470 nm; Gigabit Ethernet and 1G/2G FC	CLICK HERE
CWDM-SFP-1490=	Cisco CWDM SFP 1490 nm; Gigabit Ethernet and 1G/2G FC	
CWDM-SFP-1510=	Cisco CWDM SFP 1510 nm; Gigabit Ethernet and 1G/2G FC	
CWDM-SFP-1530=	Cisco CWDM SFP 1530 nm; Gigabit Ethernet and 1G/2G FC	
CWDM-SFP-1550=	Cisco CWDM SFP 1550 nm; Gigabit Ethernet and 1G/2G FC	
CWDM-SFP-1570=	Cisco CWDM SFP 1570 nm; Gigabit Ethernet and 1G/2G FC	
CWDM-SFP-1590=	Cisco CWDM SFP 1590 nm; Gigabit Ethernet and 1G/2G FC	
CWDM-SFP-1610=	Cisco CWDM SFP 1610 nm; Gigabit Ethernet and 1G/2G FC	

Table 7 shows the part numbers and descriptions for the Cisco dense wavelength-division multiplexing (DWDM) SFP modules.

Table 7.   Cisco DWDM SFP Modules

Part Number	Product Description	Product Data Sheet
DWDM-SFP-6141=	1000BASE-DWDM 1561.42 nm SFP (100-GHz ITU grid)	CLICK HERE
DWDM-SFP-6061=	1000BASE-DWDM 1560.61 nm SFP (100-GHz ITU grid)	
DWDM-SFP-5979=	1000BASE-DWDM 1559.79 nm SFP (100-GHz ITU grid)	
DWDM-SFP-5898=	1000BASE-DWDM 1558.98 nm SFP (100-GHz ITU grid)	
DWDM-SFP-5817=	1000BASE-DWDM 1558.17 nm SFP (100-GHz ITU grid)	
DWDM-SFP-5736=	1000BASE-DWDM 1557.36 nm SFP (100-GHz ITU grid)	
DWDM-SFP-5655=	1000BASE-DWDM 1556.55 nm SFP (100-GHz ITU grid)	
DWDM-SFP-5575=	1000BASE-DWDM 1555.75 nm SFP (100-GHz ITU grid)	
DWDM-SFP-5494=	1000BASE-DWDM 1554.94 nm SFP (100-GHz ITU grid)	
DWDM-SFP-5413=	1000BASE-DWDM 1554.13 nm SFP (100-GHz ITU grid)	
DWDM-SFP-5332=	1000BASE-DWDM 1553.33 nm SFP (100-GHz ITU grid)	
DWDM-SFP-5252=	1000BASE-DWDM 1552.52 nm SFP (100-GHz ITU grid)	
DWDM-SFP-5172=	1000BASE-DWDM 1551.72 nm SFP (100-GHz ITU grid)	
DWDM-SFP-5092=	1000BASE-DWDM 1550.92 nm SFP (100-GHz ITU grid)	
DWDM-SFP-5012=	1000BASE-DWDM 1550.12 nm SFP (100-GHz ITU grid)	
DWDM-SFP-4931=	1000BASE-DWDM 1549.32 nm SFP (100-GHz ITU grid)	
DWDM-SFP-4851=	1000BASE-DWDM 1548.51 nm SFP (100-GHz ITU grid)	
DWDM-SFP-4772=	1000BASE-DWDM 1547.72 nm SFP (100-GHz ITU grid)	
DWDM-SFP-4692=	1000BASE-DWDM 1546.92 nm SFP (100-GHz ITU grid)	
DWDM-SFP-4612=	1000BASE-DWDM 1546.12 nm SFP (100-GHz ITU grid)	
DWDM-SFP-4532=	1000BASE-DWDM 1545.32 nm SFP (100-GHz ITU grid)	
DWDM-SFP-4453=	1000BASE-DWDM 1544.53 nm SFP (100-GHz ITU grid)	
DWDM-SFP-4373=	1000BASE-DWDM 1543.73 nm SFP (100-GHz ITU grid)	

Part Number	Product Description	Product Data Sheet
DWDM-SFP-4294=	1000BASE-DWDM 1542.94 nm SFP (100-GHz ITU grid)	
DWDM-SFP-4214=	1000BASE-DWDM 1542.14 nm SFP (100-GHz ITU grid)	
DWDM-SFP-4134=	1000BASE-DWDM 1541.35 nm SFP (100-GHz ITU grid)	
DWDM-SFP-4056=	1000BASE-DWDM 1540.56 nm SFP (100-GHz ITU grid)	
DWDM-SFP-3977=	1000BASE-DWDM 1539.77 nm SFP (100-GHz ITU grid)	
DWDM-SFP-3898=	1000BASE-DWDM 1538.98 nm SFP (100-GHz ITU grid)	
DWDM-SFP-3819=	1000BASE-DWDM 1538.19 nm SFP (100-GHz ITU grid)	
DWDM-SFP-3739=	1000BASE-DWDM 1537.40 nm SFP (100-GHz ITU grid)	
DWDM-SFP-3661=	1000BASE-DWDM 1536.61 nm SFP (100-GHz ITU grid)	
DWDM-SFP-3582=	1000BASE-DWDM 1535.82 nm SFP (100-GHz ITU grid)	
DWDM-SFP-3504=	1000BASE-DWDM 1535.04 nm SFP (100-GHz ITU grid)	
DWDM-SFP-3425=	1000BASE-DWDM 1534.25 nm SFP (100-GHz ITU grid)	
DWDM-SFP-3346=	1000BASE-DWDM 1533.47 nm SFP (100-GHz ITU grid)	
DWDM-SFP-3268=	1000BASE-DWDM 1532.68 nm SFP (100-GHz ITU grid)	
DWDM-SFP-3190=	1000BASE-DWDM 1531.90 nm SFP (100-GHz ITU grid)	
DWDM-SFP-3112=	1000BASE-DWDM 1531.12 nm SFP (100-GHz ITU grid)	
DWDM-SFP-3033=	1000BASE-DWDM 1530.33 nm SFP (100-GHz ITU grid)	

Ethernet Line Cards Requiring XFP Modules

The following Cisco ASR 9000 Series line cards (described in Table 1) require XFP modules:

- A9K-4T-L
- A9K-4T-B
- A9K-4T-E
- A9K-8T/4-L
- A9K-8T/4-B
- A9K-8T/4-E
- A9K-8T-L
- A9K-8T-B
- A9K-8T-E
- A9K-2T20GE-B (two 10-Gigabit Ethernet ports only)
- A9K-2T20GE-E (two 10-Gigabit Ethernet ports only)
- A9K-MPA-4X10GE (A9K-MOD80-SE or A9K-MOD80-TR required)

These line cards support the following transceiver modules:

- Cisco XFP modules for 10-Gigabit Ethernet and POS applications
- Cisco 10GBASE DWDM XFP modules.

Table 8 shows part numbers and descriptions for Cisco XFP modules for 10-Gigabit Ethernet and POS applications.

Table 8. Cisco XFP Modules for 10-Gigabit Ethernet and POS Applications

Part Number	Product Description	Product Data Sheet
XFP-10GLR-OC192SR= (Version V03; Versions V01 and V02 are not supported)	Multirate 10GBASE-LR and OC-192/STM-64 SR-1 XFP, SMF	CLICK HERE
XFP-10GZR-OC192LR= (Version V02; Version V01 is not supported)	Multirate 10GBASE-ZR and OC-192/STM-64 IR-2 XFP, SMF	
XFP-10GER-192IR+=	Multirate 10GBASE-ER and OC-192/STM-64 IR-2 XFP, SMF	
XFP10GER-192IR-L	Low Power multirate XFP supporting 10GBASE-ER and OC-192 IR	
XFP-10G-MM-SR=	Multirate 10GBASE-SR, SMF	

Table 9 shows part numbers and descriptions for Cisco 10GBASE DWDM XFP modules.

Table 9. Cisco 10GBASE DWDM XFP Modules

Part Number	Product Description	Product Data Sheet
DWDM-XFP-C=	10G Multirate C Band Tunable DWDM XFP	
DWDM-XFP-60.61=	10GBASE-DWDM 1560.61 nm XFP (100-GHz ITU grid)	CLICK HERE
DWDM-XFP-59.79=	10GBASE-DWDM 1559.79 nm XFP (100-GHz ITU grid)	
DWDM-XFP-58.98=	10GBASE-DWDM 1558.98 nm XFP (100-GHz ITU grid)	
DWDM-XFP-58.17=	10GBASE-DWDM 1558.17 nm XFP (100-GHz ITU grid)	
DWDM-XFP-56.55=	10GBASE-DWDM 1556.55 nm XFP (100-GHz ITU grid)	
DWDM-XFP-55.75=	10GBASE-DWDM 1555.75 nm XFP (100-GHz ITU grid)	
DWDM-XFP-54.94=	10GBASE-DWDM 1554.94 nm XFP (100-GHz ITU grid)	
DWDM-XFP-54.13=	10GBASE-DWDM 1554.13 nm XFP (100-GHz ITU grid)	
DWDM-XFP-52.52=	10GBASE-DWDM 1552.52 nm XFP (100-GHz ITU grid)	
DWDM-XFP-51.72=	10GBASE-DWDM 1551.72 nm XFP (100-GHz ITU grid)	
DWDM-XFP-50.92=	10GBASE-DWDM 1550.92 nm XFP (100-GHz ITU grid)	
DWDM-XFP-50.12=	10GBASE-DWDM 1550.12 nm XFP (100-GHz ITU grid)	
DWDM-XFP-48.51=	10GBASE-DWDM 1548.51 nm XFP (100-GHz ITU grid)	
DWDM-XFP-47.72=	10GBASE-DWDM 1547.72 nm XFP (100-GHz ITU grid)	
DWDM-XFP-46.92=	10GBASE-DWDM 1546.92 nm XFP (100-GHz ITU grid)	
DWDM-XFP-46.12=	10GBASE-DWDM 1546.12 nm XFP (100-GHz ITU grid)	
DWDM-XFP-44.53=	10GBASE-DWDM 1544.53 nm XFP (100-GHz ITU grid)	
DWDM-XFP-43.73=	10GBASE-DWDM 1543.73 nm XFP (100-GHz ITU grid)	
DWDM-XFP-42.94=	10GBASE-DWDM 1542.94 nm XFP (100-GHz ITU grid)	
DWDM-XFP-42.14=	10GBASE-DWDM 1542.14 nm XFP (100-GHz ITU grid)	
DWDM-XFP-40.56=	10GBASE-DWDM 1540.56 nm XFP (100-GHz ITU grid)	
DWDM-XFP-39.77=	10GBASE-DWDM 1539.77 nm XFP (100-GHz ITU grid)	
DWDM-XFP-38.98=	10GBASE-DWDM 1538.98 nm XFP (100-GHz ITU grid)	
DWDM-XFP-38.19=	10GBASE-DWDM 1538.19 nm XFP (100-GHz ITU grid)	
DWDM-XFP-36.61=	10GBASE-DWDM 1536.61 nm XFP (100-GHz ITU grid)	
DWDM-XFP-35.82=	10GBASE-DWDM 1535.82 nm XFP (100-GHz ITU grid)	
DWDM-XFP-35.04=	10GBASE-DWDM 1535.04 nm XFP (100-GHz ITU grid)	
DWDM-XFP-34.25=	10GBASE-DWDM 1534.25 nm XFP (100-GHz ITU grid)	

Part Number	Product Description	Product Data Sheet
DWDM-XFP-32.68=	10GBASE-DWDM 1532.68 nm XFP (100-GHz ITU grid)	
DWDM-XFP-31.90=	10GBASE-DWDM 1531.90 nm XFP (100-GHz ITU grid)	
DWDM-XFP-31.12=	10GBASE-DWDM 1531.12 nm XFP (100-GHz ITU grid)	
DWDM-XFP-30.33=	10GBASE-DWDM 1530.33 nm XFP (100-GHz ITU grid)	

Ethernet Line Cards Requiring SFP+ Modules

The following Cisco ASR 9000 Series Ethernet line cards support SFP+ modules:

- A9K-24x10GE-SE
- A9K-24x10GE-TR
- A9K-36x10GE-SE
- A9K-36x10GE-TR
- A9K-16T/8-B

Table 10 shows the part numbers and descriptions for the Cisco SPF+ transceiver modules.

Table 10.   Cisco 10GBASE SFP+ Modules

Part Number	Product Description	Product Datasheet
SFP-10G-SR	10GBASE-SR 850 nm MMF	CLICK HERE
SFP-10G-LR	10GBASE-LR 1310 nm SMF	
SFP-10G-ER	10GBASE-ER 1550 nm SMF[1]	
SFP-10G-ZR	10GBASE-ZR SFP+, SMF 80km	
SFP-H10GB-ACU7M	SFP+ Active Twinax cable assembly, 7m	
SFP-H10GB-ACU10M	SFP+ Active Twinax cable assembly, 10m	

1. ER support on A9K-24x10GE and A9K-36x10GE linecards planned for future release

SIP Line Card Requiring SFP and XFP Modules

The following Cisco ASR 9000 Series SPA Interface Processor (SIP) line card (described in Table 1) supports SFP and XFP modules:

- A9K-SIP-700

The line card supports the following transceiver modules:

- Cisco OC12/STM4 SFP Modules
- Cisco OC48/STM16 SFP Modules
- Cisco XFP Modules for OC192/STM64 POS Applications

Table 11 shows the part numbers and descriptions for the Cisco DWDM SFP+ modules.

Table 11.   Cisco DWDM SFP+ Modules

Part Number	Product Description
DWDM-SFP10G-30.33	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-31.12	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-31.90	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-32.68	10GBASE DWDM SFP+, 100GHz, 80km

Part Number	Product Description
DWDM-SFP10G-33.47	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-34.25	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-35.04	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-35.82	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-36.61	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-37.40	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-38.19	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-38.98	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-39.77	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-40.56	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-41.35	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-42.14	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-42.94	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-43.73	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-44.53	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-45.32	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-46.12	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-46.92	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-47.72	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-48.51	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-49.32	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-50.12	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-50.92	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-51.72	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-52.52	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-53.33	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-54.13	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-54.94	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-55.75	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-56.55	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-57.36	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-58.17	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-58.98	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-59.79	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-60.61	10GBASE DWDM SFP+, 100GHz, 80km
DWDM-SFP10G-61.41	10GBASE DWDM SFP+, 100GHz, 80km

Table 12 shows the part numbers and descriptions for the Cisco OC12/STM4 SFP modules.

Table 12. Cisco OC12/STM4 SFP Modules

Part Number	Product Description	Product Datasheet
SFP-OC12-MM	OC-12/STM-4 pluggable short-reach (2 km) transceiver module, 1310-nm wavelength, MMF, LC connector	CLICK HERE
SFP-OC12-SR	OC-12/STM-4 pluggable short-reach (2 km) transceiver module, 1310-nm wavelength, LC connector	

Part Number	Product Description	Product Datasheet
SFP-OC12-IR1	OC-12/STM-4 pluggable intermediate-reach (15 km) transceiver module, 1310-nm wavelength	
SFP-OC12-LR1	OC-12/STM-4 pluggable long-reach (40 km) transceiver module, 1310-nm wavelength, LC connector	
SFP-OC12-LR2	OC-12/STM-4 pluggable long-reach (80 km) transceiver module, 1550-nm wavelength, LC connector	

Table 13 shows the part numbers and descriptions for the Cisco OC48/STM16 SFP modules.

Table 13. Cisco OC48/STM16 SFP Modules

Part Number	Product Description	Product Datasheet
SFP-OC48-SR	OC-48c/STM-16 pluggable short-reach (2 km) transceiver module, 1310-nm wavelength, LC connector	CLICK HERE
SFP-OC48-IR1	OC-48c/STM-16 pluggable intermediate-reach (15 km) transceiver module, 1310-nm wavelength, LC connector	
SFP-OC48-LR2	OC-48c/STM-16 pluggable long-reach (80 km) transceiver module, 1550-nm wavelength, LC connector	

Table 14 shows the part numbers and descriptions for the Cisco XFP modules for 10-Gigabit Ethernet and POS applications.

Table 14. Cisco XFP Modules for 10-Gigabit Ethernet and POS Applications

Part Number	Product Description	Product Datasheet
XFP-10GLR-OC192SR=	Multirate 10GBASE-LR and OC-192/STM-64 SR-1 XFP, SMF	CLICK HERE
XFP-10GZR-OC192LR=	Multirate 10GBASE-ZR and OC-192/STM-64 IR-2 XFP, SMF	
XFP-10GER-192IR+=	Multirate 10GBASE-ER and OC-192/STM-64 IR-2 XFP, SMF	
XFP-10G-MM-SR=	Multirate 10GBASE-SR, SMF	