

SFP (Small Form-factor Pluggable) module

Small Form-factor Pluggable (SFP) modules are compact optical transceivers used in optical communications which provide the same functionality as a regular GBIC, but in a much smaller and denser physical size. SFP modules are used in variety of Raisecom equipments for their extremely small size and flexibly hotswappable characteristic, enabling a fast and convenient installation of Raisecom products. Highlighted for the confirmation to standardized physical and electrical characteristics, the deployment of SFP modules makes carriers' inventory investment much smaller for there is

no vendor limitation.

Raisecom provides various types of SFP modules for different applications, including CWDM wavelength specific SFP which can directly connect with CWDM transmission system and normally used SFP which can work with other vendors' equipments. All Raisecom SFP modules provide two versions: normal version and DDM (digital diagnostic monitoring function) version. Compliance with Multi-Source Agreement (MSA) enables the compatibility with other vendors' equipments which are equipped with SFP cage.



SFP (Small Form-factor Pluggable) module

Parameters

* 155M SFP modules

Part Number	Wavelength (nm)	RX sensitivity (dBm)	Tx Power (dBm)	Max distance (km)
USFP-03/M-D-R	1310	<-29	-20- -14	2
USFP-03/S1-D-R	1310	<-34	-15- -8	15
USFP-03/S2-D-R	1310	<-34	-5- 0	40
USFP-03/S3-D-R	1550	<-34	-5- 0	80
USFP-03/SS13-D-R	1310	<-28	-15- -8	15
USFP-03/SS15-D-R	1550	<-28	-15- -8	15
USFP-03/SS23-D-R	1310	<-32	-5- 0	40
USFP-03/SS25-D-R	1550	<-32	-5- 0	40

*1.25G SFP modules

Part Number	Wavelength (nm)	RX sensitivity (dBm)	Tx Power (dBm)	Max distance (km)
USFP-GB/M-D-R	850	<-17	-10- -3	0.55
USFP-GB/S1-D-R	1310	<-20	-10- -3	15
USFP-GB/S2-D-R	1550	<-20	-3- 2	40
USFP-GB/S3-D-R	1550	<-30	-3- 2	80
USFP-GB/SS13-D-R	1310	<-20	-10- -3	15
USFP-GB/SS15-D-R	1550	<-20	-10- -3	15
USFP-GB/SS24-D-R	1490	<-20	-3- 2	40
USFP-GB/SS25-D-R	1550	<-20	-3- 2	40

*2.5G SFP modules

Part Number	Wavelength (nm)	RX sensitivity (dBm)	Tx Power (dBm)	Max distance (km)
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Specifications

Power supply	3.3V
Working ambience	Temp: 0~70 centigrade RH: 20~90% non-condensing
Storage ambience	Temp: -40~85 centigrade RH: 20~90% non-condensing

Compliance

Standards & protocols	SFF MSA (INF-8074i) ITU-T G.695 ITU-T G.825 IEEE802.3z FC-P1 v2.0 SFF -8472 v9.5 SGS RoHS ESD: 1500V above
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*10G XFP modules

Part Number	Wavelength (nm)	RX sensitivity (dBm)	Tx Power (dBm)	Max distance (km)
XFP-192/M-D-R	850	<-9.9	-7.3- -1	0.3
XFP-192/S1-D-R	1310	<-14	-6- -1	10
XFP-192/S2-D-R	1550	<-16	-1- -2	40
XFP-192/S3-D-R	1550	<-24	0- 4	80

CWDM wavelength specific SFP modules

*155M CWDM wavelength specific SFP modules

Part Number	Wavelength (nm)	RX sensitivity (dBm)	Tx Power (dBm)	Max distance (km)
CSFP-03/S	1271+n*20 (n=0,1...17)	<-22	-5-0	40
CSFP-03/L	1271+n*20 (n=0,1...17)	<-34	-5-0	80

*1.25G CWDM wavelength specific SFP modules

Part Number	Wavelength (nm)	RX sensitivity (dBm)	Tx Power (dBm)	Max distance (km)
CSFP-GB/S	1271+n*20 (n=0,1...17)	<-22	-2 - 3	40
CSFP-GB/L	1271+n*20 (n=0,1...17)	<-30	-2 - 3	80

*2.5G CWDM wavelength specific SFP modules

Part Number	Wavelength (nm)	RX sensitivity (dBm)	Tx Power (dBm)	Max distance (km)
CSFP-48/S	1271+n*20 (n=0,1...17)	<-18	0-5	40
CSFP-48/L	1271+n*20 (n=0,1...17)	<-28	0-5	80

Ordering Information

1 Normal wavelength SFP modules

Part number	Description
USFP-S/L-D-R	S indicates the speed; L indicates the indicates the transmission distance of user site; D indicates with Digital Diagnostics Monitoring function;
USFP-03/M-D-R	155M, transmission distance 2km, multi mode SFP module for user site
USFP-03/S1-D-R	155M, transmission distance 15km, single mode SFP module for user site
USFP-03/S2-D-R	155M, transmission distance 40km, single mode SFP module for user site
USFP-03/S3-D-R	155M, transmission distance 80km, single mode SFP module for user site
USFP-03/SS13-D-R	155M, transmission distance 15km, single mode single fiber SFP module with 1310nm TX for user site
USFP-03/SS15-D-R	155M, transmission distance 15km, single mode single fiber SFP module with 1550nm TX for user site
USFP-03/SS23-D-R	155M, transmission distance 40km, single mode single fiber SFP module with 1310nm TX for user site
USFP-03/SS25-D-R	155M, transmission distance 40km, single mode single fiber SFP module with 1550nm TX for user site
USFP-GB/M-D-R	1.25G, transmission distance 0.55km, multi mode SFP module for user site
USFP-GB/S1-D-R	1.25G, transmission distance 15km, single mode SFP module for user site

USFP-GB/S2-D-R	1.25G, transmission distance 40km, single mode SFP module for user site
USFP-GB/S3-D-R	1.25G, transmission distance 80km, single mode SFP module for user site
USFP-GB/SS13-D-R	1.25G, transmission distance 15km, single mode single fiber SFP module with 1310nm TX for user site
USFP-GB/SS15-D-R	1.25G, transmission distance 15km, single mode single fiber SFP module with 1550nm TX for user site
USFP-GB/SS24-D-R	1.25G, transmission distance 40km, single mode single fiber SFP module with 1490nm TX for user site
USFP-GB/SS25-D-R	1.25G, transmission distance 40km, single mode single fiber SFP module with 1550nm TX for user site
USFP-48/M-D-R	2.5G, transmission distance 300m, multi mode SFP module for user site
USFP-48/S1-D-R	2.5G, transmission distance 15km, single mode SFP module for user site
USFP-48/S2-D-R	2.5G, transmission distance 40km, single mode SFP module for user site
USFP-48/S3-D-R	2.5G, transmission distance 80km, single mode SFP module for user site
UXFP-192/M-D-R	10G, transmission distance 300m, multi mode XFP module for user site
UXFP-192/S1-D-R	10G, transmission distance 15km, single mode XFP module for user site
UXFP-192/S2-D-R	10G, transmission distance 40km, single mode XFP module for user site
UXFP-192/S3-D-R	10G, transmission distance 80km, single mode XFP module for user site
2 CWDM wavelength specific SFP module	
Part number	Description
CSFP-S/L/W	S indicates the speed; L indicates the transmission distance of user site; W indicates CWDM specific wavelength, including 1271nm, 1291nm, 1311nm, 1331nm, 1351nm, 1371nm, 1391nm, 1411nm, 1431nm, 1451nm, 1471nm, 1491nm, 1511nm, 1531nm, 1551nm, 1571nm, 1591nm and 1611nm;
CSFP-03/S	Rate: 155M, transmission distance: 40km, CWDM SFP optical module
CSFP-03/L	Rate: 155M, transmission distance: 80km, CWDM SFP optical module
CSFP-GB/S	Rate: 1.25G, transmission distance: 40km, CWDM SFP optical module
CSFP-GB/L	Rate: 1.25G, transmission distance: 80km, CWDM SFP optical module
CSFP-48/S	Rate: 2.5G, transmission distance: 40km, CWDM SFP optical module
CSFP-48/L	Rate: 2.5G, transmission distance: 80km, CWDM SFP optical module
3 Copper Gigabit SFP	
Part number	Description
USFP-FE-D-R	100M copper SFP module, transmission distance 100m
USFP-GE-D-R	1000M copper SFP module, transmission distance 100m
USFP-GE/AN-D-R	10/100/1000M copper SFP module with auto negotiation, transmission distance 100m