

## Key Features

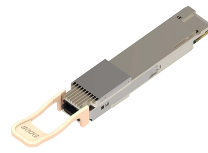
- Deployment flexibility with 800G (dual 400G), 400G, 100G, 50G, 40G, 25G, 10G or 1G modules.
- Hot swappable to maximize uptime and simplify serviceability
- Data rates from 1GbE to 25GbE supported using the SFP form factor, for the smallest, and lowest power solutions
- QSFP+ Universal transceiver for 40G operations over duplex multi-mode and single-mode fiber. Interoperable with IEEE 40GbE LR4 and LRL4 for easier migrations from 10G to 40G and to single mode fiber
- 100G QSFP pluggable transceivers and cables for high density 100G deployments.
- Parallel QSFP transceivers for both multi-mode and single-mode enable flexible 4x25G and 4x10G options for gradual migration from 10G to 40G and 25G to 100G connectivity
- 200G QSFP optics, AOCs and cables for simple upgrade from 100G
- A Broad range of 400GE optics, AOCs and cables, in both OSFP and QSFP-DD form-factors

## Overview

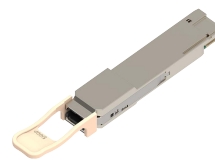
Optic's Optical Modules and Cable portfolio offer a wide variety of high-density and low-power 800G , 400G, 100G, 40G, 25G, 10G.

To accommodate an increasing spectrum of applications, Optic offers a wide choice of OSFP, QSFP-DD, QSFP28, QSFP, SFP28, SFP+ transceivers and cables that comply with industry standards, offering a broad range of connectivity options. Each module is optimized for different media and reach (ranging from 0.5 meters to 80 kilometers).

All interface speeds, from 10G to 400GE have connectivity options that include Active Optical Cables (AOCs), multi-mode fiber and single-mode fiber transceivers.



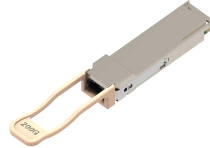
800G OSFP SR8



400G QSFP-DD SR8



400G OSFP AOC



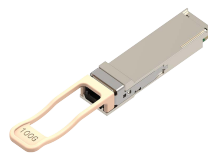
200G QSFP56 SR4



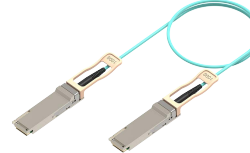
200G QSFP56 AOC



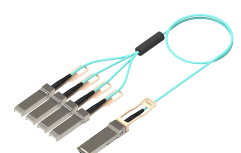
200G TO 2x100G AOC



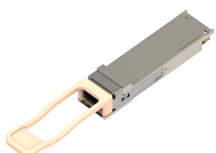
100G QSFP28 SR4



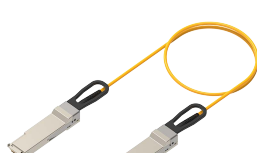
100G QSFP28 AOC



100G TO 4x25G AOC



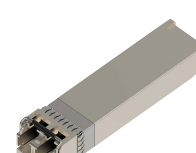
40G QSFP+ SR4



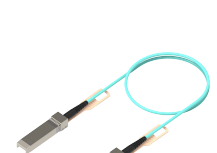
40G QSFP+ AOC



25G SFP28 SR



10G SFP+ SR



10/25G SFP AOC

## 800G OSFP Options

PHY Type	Reach
800GBASE-AOC / 2x 400GBASE-AOC	Active Optical Cable with link lengths of 1m to 30m pre-terminated
2x 400GBASE-SR8	Dual 400G optics, up to 60m over multi-mode fiber

## 400 Gigabit Ethernet OSFP and QSFP-DD Options

PHY Type	Reach
400GBASE-AOC	Active Optical Cable with link lengths of 1m to 30m pre-terminated
400GBASE-SR8	Up to 100m over parallel OM4 multi-mode fiber



Broad portfolio of 400G and 200G optics, AOCs and Modules

## 200 Gigabit Ethernet QSFP Options

PHY Type	Reach
200GBASE-AOC	Active Optical Cable with link lengths of 1m to 30m pre-terminated
200GBASE-SR4	200G QSFP56 , up to 70m/100m over parallel OM3 / OM4 multi-mode fiber

## 100 Gigabit Ethernet QSFP Options

PHY Type	Reach
100GBASE-AOC	Active Optical Cable with link lengths of 1m to 30m pre-terminated
100GBASE-SR4	Up to 70m over parallel OM3 multi-mode fiber or 100m over parallel OM4 multi-mode fiber
100GBASE-LR4	Up to 10km over single-mode fiber
100GBASE-CWDM4	Up to 2km over single-mode fiber
100GBASE-ER4	Up to 40km over single-mode fiber
100GBASE-ZR4	Up to 80km over single-mode fiber

## 40 Gigabit Ethernet QSFP+ Options

PHY Type	Reach
40GBASE-AOC	Active Optical Cable with link lengths of 3m to 100m pre-terminated
40GBASE-SR4	Up to 100m over parallel OM3 multi-mode fiber or 150m over parallel OM4 multi-mode fiber
40GBASE-LR4	Up to 10km over duplex single-mode fiber
40GBASE-ER4	Up to 40km over duplex single-mode fiber

## 25 Gigabit Ethernet SFP Options

PHY Type	Reach
<b>25GBASE-AOC</b>	<b>Active Optical Cable with link lengths of 3m, 5m, 7m, 10m, 15m, 20m, 25m and 30m</b>
25GBASE-SR	Up to 70m/100m over OM3/OM4 duplex multimode fiber
25GBASE-MR-SR	Dual rate (25G/10G), up to 70m/100m over OM3/OM4 MMF at 25G and 300m/400m over OM3/OM4 MMF at 10G. Interoperates with 10G-SR when operated at 10G.

## 10 Gigabit Ethernet SFP+ Options

PHY Type	Reach
10GBASE-T <sup>1</sup>	Up to 30m link length over Category 6a copper cables
10GBASE-MRA-T <sup>1</sup>	Up to 30m link length over Category 6a copper cables (rate adapting transceiver)
10GBASE-AOC	Active Optical Cable with link lengths of 3m, 5m, 7m, 10m, 15m, 20m, 25m and 30m
10GBASE-SR	Up to 300m link length with 2000 MHz*km duplex MMF (OM3)
10GBASE-LR	Up to 10km link length over duplex single-mode fiber
10GBASE-ER	Up to 40km link length over duplex single-mode fiber
10GBASE-ZR	Up to 80km link length over duplex single-mode fiber
10GBASE-DWDM <sup>2</sup>	Up to 80km link length DWDM over duplex single-mode fiber

1. Supported on specific platforms. Refer to Transceiver and Cable Guide for supported platforms.
2. Proper optical attenuation is required for shorter links to protect the receiver from permanent damage.

## Environmental Characteristics

- Operating case temperature: 0 to 70C
- Storage Temperature: -40 to 70C
- Relative Humidity: 5 to 95%
- Operating Altitude: 0-10,000 ft **Power**

## Requirements (Maximum)

- SFP/SFP+ (except 10G ER, ZR, DWDM, BASE-T and 25G SR,LR): 1 W
- SFP-1G-T module: 1.5W
- 40G QSFP+ AOC, 40GBASE-SR4; SFP+ ER, ZR, DWDM and 25G SR, LR: 1.5 W
- SFP-10G-T: 2W
- SFP-10G-MRA-T module: 2.5W
- 40G QSFP+ AOC, LR4 and ER4: 3.5 W
- 100G QSFP AOC, SR4, PSM4, CWDM4, : 3.5W
- 100G QSFP LR4, ERL4: 4.5W
- 200G QSFP SR4: 4.5W
- 100G QSFP ZR4: 5.5W
- 400G OSFP & QSFP-DD AOC, SR8: 12W
- 800G OSFP & QSFP-DD AOC: 16W

## IEEE Compliance

- 802.3 IEEE Ethernet

## MSA & Standards Compliance

- GR-20-CORE
- GR-326-CORE
- GR-1435-CORE
- QSFP+/QSFP28: SFF-8449 and 8636
- SFP+: SFF-8431, 8461 and 8472
- 100G CWDM4 MSA
- 100G PSM4 MSA
- 100G Lambda MSA
- OSFP MSA
- QSFP-DD MSA

## Gigabit Ethernet SFP Specifications

PHY Type	Connector Type	Wave-length (nm)	Cable Type	Core Size (um)	Modal Bandwidth (MHz*Km)	Tx power (dBm)	Rx power (dBm)	Max Reach
1000BASE-SX	LC	850	MMF	62.5	160	-9.5 to -4.0	-17 to 0.0	220m
				62.5	200			275m
				50.0	400			500m
				50.0	500			550m
1000BASE-LX	LC	1310	MMF <sup>1</sup>	62.5	500	-9.5 to -3.0	-19 to -3.0	550m
				50.0	400			550m
			50.0	500	550m			
			SMF	G.652	-	-9.5 to -3.0	-19 to -3.0	10km
1000BASE-T	RJ-45	-	Cat5 (UTP)	-	-	-	-	100m

## 10 Gigabit Ethernet Cable Specifications

PHY Type	Connector Type	Wavelength (nm)	Cable Type	Max Reach
<b>10GBASE-AOC</b>	SFP+ (Both ends)	850nm	MMF	3m to 30m

## 10 Gigabit Ethernet SFP/SFP+ Specifications

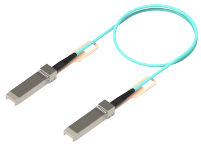
PHY Type	Conn. Type	Wave-length (nm)	Cable Type	Core Size (um)	Modal Bandwidth (MHz*Km)	Tx power (dBm)	Rx power (dBm)	Max Reach
10GBASE-T	RJ-45	-	Cat6a	-	-	-	-	30m
10GBASE-MRA-T	RJ-45	-	Cat6a	-	-	-	-	30m
10GBASE-SR	LC	850	MMF	62.5	200	-7.3 to -1.0	-9.9 to -1.0	33m
				50.0	400			66m
				50.0	500			82m
				50.0	2000 (OM3)			300m
				50.0	4700 (OM4)			400m
10GBASE-LR	LC	1310	SMF	G.652	-	-8.2 to 0.5	-14.4 to 0.5	10km
10GBASE-ER <sup>2</sup>	LC	1550	SMF	G.652	-	-4.7 to 4.0	-15.0 to -1.0	40km <sup>3</sup>
10GBASE-ZR <sup>2</sup>	LC	1550	SMF	G.652	-	-1.0 to 4.0	-23.0 to -7.0	80km <sup>3</sup>
10GBASE-DWDM <sup>2</sup>	LC	1567.95 to 1529.94	SMF	G.652	-	-1.0 to 3.0	-23.0 to -7.0	80km <sup>3</sup>

1. When 1000BASE-LX is used with OM1 or OM2 MMF a mode conditioning patch cable is required at the transmitter. This cable is not required for OM3 fiber.

2. Proper optical attenuation is required for shorter links to protect the receiver from permanent damage

3. Per IEEE 802.3ae - Links beyond 30 km over single-mode fiber are considered engineered links

## 25 Gigabit Ethernet SFP25 Cable Specifications



25GBASE-AOC Cable

PHY Type	Connector Type	Wavelength (nm)	Cable Type	Max Reach
<b>25GBASE-AOC</b>	SFP (Both ends)	850nm	MMF	3m to 30m



25GBASE-SR SFP28

## 25 Gigabit Ethernet SFP25 Optical Specifications

PHY Type	Conn Type	Wave-length (nm)	Cable Type	Core Size (um)	Modal Bandwidth (MHz*Km)	Tx power (dBm)	Rx power (dBm)	Max Reach
25GBASE-SR	LC	850	MMF	50.0	2000 (OM3) 4700 (OM4)	-8.4 to 2.4	-10.3 to 2.4	70m/100m

## 40 Gigabit Ethernet QSFP+ Cable Specifications

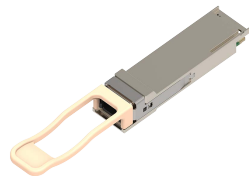


40GBASE-AOC Cable

PHY Type	Connector Type	Wavelength (nm)	Cable Type	Max Reach
40GBASE-AOC	QSFP+ to QSFP+	850	MMF	3m to 100m

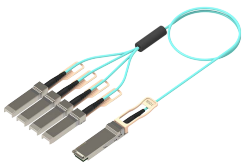
## 40 Gigabit Ethernet QSFP+ Optical Specifications

PHY Type	Connector Type	Wave-length (nm)	Cable Type	Core Size (um)	Modal Bandwidth (MHz*Km)	Tx power (dBm)	Rx power (dBm)	Max Reach
40GBASE-SR4	MPO-12 UPC	850	OM3 OM4	50.0 50.0	2000 (OM3) 4700 (OM4)	-7.6 to +2.4 /lane	-9.5 to +2.4 /lane	100m 150m
40GBASE-LR4	LC	1271 1291	SMF	G.652	-	-7 to +2.3 /lane	-13.7 to +2.3 /lane	10km
40GBASE-ER4*	LC	1311 1331	SMF	G.652	-	-2.7 to +3.8 /lane	-21.2 to -4.5 /lane	40km**



40GBASE-SR4 QSFP+

## 100 Gigabit Ethernet QSFP Cable Specifications



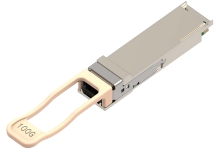
100GBASE-AOC Cable

PHY Type	Connector Type	Wavelength (nm)	Cable Type	Max Reach
<b>100GBASE-AOC</b>	QSFP to QSFP	850	MMF	1m to 30m

\* Proper optical attenuation is required for shorter links to protect the receiver from permanent damage

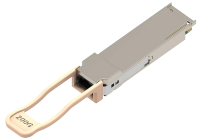
\*\* Per IEEE 802.3 - Links beyond 30 km over single-mode fiber are considered engineered links

## 100 Gigabit Ethernet QSFP Optical Specifications



100GBASE-SR4 QSFP

PHY Type	Connector Type	Wave-length (nm)	Cable Type	Core Size (um)	Modal Bandwidth (MHz*Km)	Tx power (dBm)	Rx power (dBm)	Max Reach
100GBASE-SR4	MPO-12 UPC	850	OM3 OM4	50.0 50.0	2000 (OM3) 4700 (OM4)	-8.4 to +2.4 /lane	-10.3 to +2.4 /lane	70m 100m
100GBASE-SR4-E	MPO-12 UPC	850	OM3 OM4	50.0 50.0	2000 (OM3) 4700 (OM4)	-4.5 to 2.4	-5.9 to +2.4 w/o FEC, or -10.3 to +2.4 w FEC	30m/50m w/o FEC, or 70m/100m w FEC
100GBASE-CWDM4	LC	1271 1291 1311 1331	SMF	G.652	-	-6.5 to +2.5 /lane	-11.5 to +2.5 /lane	2km
100GBASE-PSM4	MPO-12 APC	1310	SMF	G.652	-	-9.4 to +2.0 /lane	-12.6 to +2.0 /lane	500m
100GBASE-PLRL4	MPO-12 APC	1310	SMF	G.652	-	-5.5 to +1.5 /lane	-12.6 to +2.0 /lane	2km
100GBASE-LR4	LC	1295.56 1300.05 1304.58 1309.14	SMF	G.652	-	-4.3 to +4.5 /lane	-10.6 to +4.5 /lane	10km
100GBASE-ERL4*	LC		SMF	G.652	-	-2.9 to +4.5 /lane	-16.9 to -4.9 /lane	30km without FEC
100GBASE-ZR4*	LC		SMF	G.652	-	+2.0 to +7.0 /lane	-5.0 to -28.0 /lane	40km with FEC 80km



200GBASE-SR4 QSFP56

## 200 Gigabit Ethernet QSFP Optical Specifications

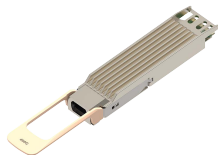
PHY Type	Connector Type	Wave-length (nm)	Cable Type	Core Size (um)	Modal Bandwidth (MHz*Km)	Tx power (dBm)	Rx power (dBm)	Max Reach
200GBASE-SR4	MPO-12 UPC	850	OM3 OM4	50.0 50.0	2000 (OM3) 4700 (OM4)	-6.5 to +4.0 /lane	-8.4 to +4.0 /lane	70m 100m



400GBASE-AOC OSFP

## 400 Gigabit Ethernet Cable Specifications

PHY Type	Connector Type	Wavelength (nm)	Cable Type	Max Reach
400GBASE-AOC	OSFP to OSFP or QSFP-DD to QSFP-DD	850	MMF	1m to 30m



400GBASE-SR8 OSFP

## 400 Gigabit Ethernet Optical Specifications

PHY Type	Connector Type	Wave-length (nm)	Cable Type	Core Size (um)	Modal Bandwidth (MHz*Km)	Tx power (dBm)	Rx power (dBm)	Max Reach
400GBASE-SR8 & SR8-C	MPO-16 APC	850	OM3 OM4	50.0 50.0	2000 (OM3) 4700 (OM4)	-6.5 to +4.0 /lane	-8.4 to +4.0 /lane	70m 100m

\* Optical attenuation is required for shorter links to protect the receiver from permanent damage

Order Number	Product Description
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## 800G OSFP Active Optical Cables

A-O800-O800-1M	800G OSFP to OSFP Active Optical Cable, 1m
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A-O800-O800-3M	800G OSFP to OSFP Active Optical Cable, 3m
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A-O800-O800-5M	800G OSFP to OSFP Active Optical Cable, 5m
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A-O800-O800-7M	800G OSFP to OSFP Active Optical Cable, 7m
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A-O800-O800-10M	800G OSFP to OSFP Active Optical Cable, 10m
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A-O800-O800-15M	800G OSFP to OSFP Active Optical Cable, 15m
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A-O800-O800-20M	800G OSFP to OSFP Active Optical Cable, 20m
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A-O800-O800-25M	800G OSFP to OSFP Active Optical Cable, 25m
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A-O800-O800-30M	800G OSFP to OSFP Active Optical Cable, 30m
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## 800G QSFP-DD Active Optical Cables

A-D800-D800-1M	800G QSFP-DD to QSFP-DD Active Optical Cable, 1m
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A-D800-D800-3M	800G QSFP-DD to QSFP-DD Active Optical Cable, 3m
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A-D800-D800-5M	800G QSFP-DD to QSFP-DD Active Optical Cable, 5m
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A-D800-D800-7M	800G QSFP-DD to QSFP-DD Active Optical Cable, 7m
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A-D800-D800-10M	800G QSFP-DD to QSFP-DD Active Optical Cable, 10m
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A-D800-D800-15M	800G QSFP-DD to QSFP-DD Active Optical Cable, 15m
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A-D800-D800-20M	800G QSFP-DD to QSFP-DD Active Optical Cable, 20m
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A-D800-D800-25M	800G QSFP-DD to QSFP-DD Active Optical Cable, 25m
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A-D800-D800-30M	800G QSFP-DD to QSFP-DD Active Optical Cable, 30m
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Order Number	Product Description
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## 400 Gigabit Ethernet OSFP Active Optical Cables

AOC-O-O-400G-1M	400GbE OSFP to OSFP Active Optical Cable, 1m
AOC-O-O-400G-3M	400GbE OSFP to OSFP Active Optical Cable, 3m
AOC-O-O-400G-5M	400GbE OSFP to OSFP Active Optical Cable, 5m
AOC-O-O-400G-7M	400GbE OSFP to OSFP Active Optical Cable, 7m
AOC-O-O-400G-10M	400GbE OSFP to OSFP Active Optical Cable, 10m
AOC-O-O-400G-15M	400GbE OSFP to OSFP Active Optical Cable, 15m
AOC-O-O-400G-20M	400GbE OSFP to OSFP Active Optical Cable, 20m
AOC-O-O-400G-25M	400GbE OSFP to OSFP Active Optical Cable, 25m
AOC-O-O-400G-30M	400GbE OSFP to OSFP Active Optical Cable, 30m

## 400 Gigabit Ethernet OSFP Optics

OSFP-400G-SR8	400GBASE-SR8 OSFP Transceiver, MPO-16 APC connector, up to 100m over parallel OM4 MMF.
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## 400 Gigabit Ethernet QSFP-DD Active Optical Cables

AOC-D-D-400G-1M	400GbE QSFP-DD to QSFP-DD Active Optical Cable, 1m
AOC-D-D-400G-3M	400GbE QSFP-DD to QSFP-DD Active Optical Cable, 3m
AOC-D-D-400G-5M	400GbE QSFP-DD to QSFP-DD Active Optical Cable, 5m
AOC-D-D-400G-7M	400GbE QSFP-DD to QSFP-DD Active Optical Cable, 7m
AOC-D-D-400G-10M	400GbE QSFP-DD to QSFP-DD Active Optical Cable, 10m
AOC-D-D-400G-15M	400GbE QSFP-DD to QSFP-DD Active Optical Cable, 15m
AOC-D-D-400G-20M	400GbE QSFP-DD to QSFP-DD Active Optical Cable, 20m
AOC-D-D-400G-25M	400GbE QSFP-DD to QSFP-DD Active Optical Cable, 25m
AOC-D-D-400G-30M	400GbE QSFP-DD to QSFP-DD Active Optical Cable, 30m

## 400 Gigabit Ethernet QSFP-DD Optics

QDD-400G-SR8	400GBASE-SR8 QSFP-DD Transceiver, MPO-16 APC connector, up to 100m over parallel OM4 MMF.
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## 200 Gigabit Ethernet QSFP Optics

QSFP-200G-SR4	200GBASE-SR4 QSFP Transceiver, MPO12 UPC connector, up to 70m/100m over OM3/OM4 parallel MMF, 200G/100G dual rate
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Order Number	Product Description
<b>100 Gigabit Ethernet QSFP Active Optical Cables</b>	
AOC-Q-Q-100G-1M	100GbE QSFP to QSFP Active Optical Cable, 1m
AOC-Q-Q-100G-3M	100GbE QSFP to QSFP Active Optical Cable, 3m
AOC-Q-Q-100G-5M	100GbE QSFP to QSFP Active Optical Cable, 5m
AOC-Q-Q-100G-7M	100GbE QSFP to QSFP Active Optical Cable, 7m
AOC-Q-Q-100G-10M	100GbE QSFP to QSFP Active Optical Cable, 10m
AOC-Q-Q-100G-15M	100GbE QSFP to QSFP Active Optical Cable, 15m
AOC-Q-Q-100G-20M	100GbE QSFP to QSFP Active Optical Cable, 20m
AOC-Q-Q-100G-25M	100GbE QSFP to QSFP Active Optical Cable, 25m
AOC-Q-Q-100G-30M	100GbE QSFP to QSFP Active Optical Cable, 30m
<b>100 Gigabit Ethernet QSFP Optics</b>	
QSFP-100G-SR4	100GBASE-SR4 QSFP Transceiver, MPO12 UPC connector, up to 70m/100m over parallel OM3/OM4 MMF
QSFP-100G-LR4	100GBASE-LR4 QSFP Transceiver, up to 10km over duplex SMF
QSFP-100G-CWDM4	100GBASE-CWDM4 QSFP Transceiver, up to 2km over duplex SMF, 100G/40G dual rate
QSFP-100G-ERL4	100GBASE-ERL4 QSFP Transceiver, 30 to 40km over single-mode fiber
QSFP-100G-ZR4 <sup>1</sup>	100GBASE-ZR4 QSFP Transceiver, up to 80km over single-mode fiber
<b>40 Gigabit Ethernet QSFP+ Active Optical Cables</b>	
AOC-Q-Q-40G-3M	QSFP+ to QSFP+ 40GbE Active Optical Cable 3 meter
AOC-Q-Q-40G-5M	QSFP+ to QSFP+ 40GbE Active Optical Cable 5 meter
AOC-Q-Q-40G-7M	QSFP+ to QSFP+ 40GbE Active Optical Cable 7 meter
AOC-Q-Q-40G-10M	QSFP+ to QSFP+ 40GbE Active Optical Cable 10 meter
AOC-Q-Q-40G-15M	QSFP+ to QSFP+ 40GbE Active Optical Cable 15 meter
AOC-Q-Q-40G-20M	QSFP+ to QSFP+ 40GbE Active Optical Cable 20 meter
AOC-Q-Q-40G-25M	QSFP+ to QSFP+ 40GbE Active Optical Cable 25 meter
AOC-Q-Q-40G-30M	QSFP+ to QSFP+ 40GbE Active Optical Cable 30 meter
AOC-Q-Q-40G-50M	QSFP+ to QSFP+ 40GbE Active Optical Cable 50 meter
AOC-Q-Q-40G-75M	QSFP+ to QSFP+ 40GbE Active Optical Cable 75 meter
AOC-Q-Q-40G-100M	QSFP+ to QSFP+ 40GbE Active Optical Cable 100 meter

1. QSFP-100G-ZR4 supported on specific platforms. Refer to Transceiver and Cable Guide for supported platforms.

Order Number	Product Description
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## 40 Gigabit Ethernet QSFP+ Optics

QSFP-40G-SR4	40GBASE-SR4 QSFP+ Transceiver, MPO12 UPC connector, up to 100m over OM3 MMF or 150m over OM4 MMF
QSFP-40G-LR4	40GBASE-LR4 QSFP+ Transceiver, up to 10km over SMF
QSFP-40G-LRL4	40G QSFP+ Transceiver, up to 1km over duplex SMF
QSFP-40G-ER4	40GBASE-ER4 QSFP+ Transceiver, up to 40km over SMF

## 25 Gigabit Ethernet SFP Active Optical Cables

AOC-S-S-25G-3M	SFP to SFP 25GbE Active Optical Cable 3 meter
AOC-S-S-25G-5M	SFP to SFP 25GbE Active Optical Cable 5 meter
AOC-S-S-25G-7M	SFP to SFP 25GbE Active Optical Cable 7 meter
AOC-S-S-25G-10M	SFP to SFP 25GbE Active Optical Cable 10 meter
AOC-S-S-25G-15M	SFP to SFP 25GbE Active Optical Cable 15 meter
AOC-S-S-25G-20M	SFP to SFP 25GbE Active Optical Cable 20 meter
AOC-S-S-25G-25M	SFP to SFP 25GbE Active Optical Cable 25 meter
AOC-S-S-25G-30M	SFP to SFP 25GbE Active Optical Cable 30 meter

## 25 Gigabit Ethernet SFP Optics

SFP-25G-SR	25GBASE-SR SFP Transceiver, up to 70m over OM3 MMF or 100m over OM4 MMF
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Order Number	Product Description
<b>10G Gigabit Ethernet SFP+ Active Optical Cables</b>	
AOC-S-S-10G-3M	SFP+ to SFP+ 10GbE Active Optical Cable 3 meter
AOC-S-S-10G-5M	SFP+ to SFP+ 10GbE Active Optical Cable 5 meter
AOC-S-S-10G-7M	SFP+ to SFP+ 10GbE Active Optical Cable 7 meter
AOC-S-S-10G-10M	SFP+ to SFP+ 10GbE Active Optical Cable 10 meter
AOC-S-S-10G-15M	SFP+ to SFP+ 10GbE Active Optical Cable 15 meter
AOC-S-S-10G-20M	SFP+ to SFP+ 10GbE Active Optical Cable 20 meter
AOC-S-S-10G-25M	SFP+ to SFP+ 10GbE Active Optical Cable 25 meter
AOC-S-S-10G-30M	SFP+ to SFP+ 10GbE Active Optical Cable 30 meter
<b>10 Gigabit Ethernet SFP+ Optics</b>	
SFP-10G-T*	10G/1G/100M BASE-T Copper (RJ45) Transceiver, up to 30m over Cat6a cable
SFP-10G-MRA-T*	10G/1G/100M BASE-T Copper (RJ45) Rate Adapting Transceiver, up to 30m over Cat6a cable
SFP-10G-SR	10GBASE-SR SFP+ Transceiver, up to 300m over OM3 MMF or 400m over OM4 MMF
SFP-10G-LR	10GBASE-LR SFP+ Transceiver, up to 10km over duplex SMF
SFP-10G-ER	10GBASE-ER SFP+ Transceiver, up to 40km over duplex SMF
SFP-10G-ZR	10GBASE-ZR SFP+ Transceiver, up to 80km over duplex SMF
SFP-10G-DZ-T**	10GBASE-DWDM Tunable SFP+ Transceiver, Full C-Band 50 GHz ITU Grid, up to 80km over duplex SMF

\* SFP-10G-T & rate adapting transceivers supported on specific platforms. Refer to Transceiver and Cable Guide for supported platforms.

\*\* A full list of 50GHz grid and 100GHZ grid channel numbers, wavelengths and frequencies are listed in the following pages of this data sheet.

## 50GHz Channel Numbers and Wavelengths (50GHz ITU grid) for SFP-10G-DZ-T

Channel Number	Frequency (THz)	Wavelength (nm)	Channel Number	Frequency (THz)	Wavelength (nm)	Channel Number	Frequency (THz)	Wavelength (nm)
1	191.2	1567.95	33	192.8	1554.94	65	194.4	1542.14
2	191.25	1567.54	34	192.85	1554.53	66	194.45	1541.74
3	191.3	1567.13	35	192.9	1554.13	67	194.5	1541.35
4	191.35	1566.72	36	192.95	1553.73	68	194.55	1540.95
5	191.4	1566.31	37	193.0	1553.33	69	194.6	1540.55
6	191.45	1565.90	38	193.05	1552.92	70	194.65	1540.16
7	191.5	1565.49	39	193.1	1552.52	71	194.7	1539.76
8	191.55	1565.08	40	193.15	1552.12	72	194.75	1539.37
9	191.6	1564.68	41	193.2	1551.72	73	194.8	1538.97
10	191.65	1564.27	42	193.25	1551.32	74	194.85	1538.58
11	191.7	1563.86	43	193.3	1550.92	75	194.9	1538.18
12	191.75	1563.45	44	193.35	1550.51	76	194.95	1537.79
13	191.8	1563.04	45	193.4	1550.11	77	195.0	1537.39
14	191.85	1562.64	46	193.45	1549.71	78	195.05	1537.00
15	191.9	1562.23	47	193.5	1549.31	79	195.1	1536.61
16	191.95	1561.82	48	193.55	1548.91	80	195.15	1536.21
17	192.0	1561.42	49	193.6	1548.51	81	195.2	1535.82
18	192.05	1561.01	50	193.65	1548.11	82	195.25	1535.43
19	192.1	1560.60	51	193.7	1547.71	83	195.3	1535.03
20	192.15	1560.20	52	193.75	1547.31	84	195.35	1534.64
21	192.2	1559.79	53	193.8	1546.91	85	195.4	1534.25
22	192.25	1559.39	54	193.85	1546.52	86	195.45	1533.86
23	192.3	1558.98	55	193.9	1546.12	87	195.5	1533.46
24	192.35	1558.58	56	193.95	1545.72	88	195.55	1533.07
25	192.4	1558.17	57	194.0	1545.32	89	195.6	1532.68
26	192.45	1557.77	58	194.05	1544.92	90	195.65	1532.29
27	192.5	1557.36	59	194.1	1544.52	91	195.7	1531.90
28	192.55	1556.96	60	194.15	1544.13	92	195.75	1531.50
29	192.6	1556.55	61	194.2	1543.73	93	195.8	1531.11
30	192.65	1556.15	62	194.25	1543.33	94	195.85	1530.72
31	192.7	1555.74	63	194.3	1542.93	95	195.9	1530.33
32	192.75	1555.34	64	194.35	1542.54	96	195.95	1529.94

## 100GHz Channel Numbers and Wavelengths (100GHz ITU grid) for SFP-10G-DZ-T

Channel Number	Frequency (THz)	Wavelength (nm)	Channel Number	Frequency (THz)	Wavelength (nm)	Channel Number	Frequency (THz)	Wavelength (nm)
1	191.2	1567.95	17	192.8	1554.94	33	194.4	1542.14
2	191.3	1567.13	18	192.9	1554.13	34	194.5	1541.35
3	191.4	1566.31	19	193.0	1553.33	35	194.6	1540.55
4	191.5	1565.49	20	193.1	1552.52	36	194.7	1539.76
5	191.6	1564.68	21	193.2	1551.72	37	194.8	1538.97
6	191.7	1563.86	22	193.3	1550.92	38	194.9	1538.18
7	191.8	1563.04	23	193.4	1550.11	39	195.0	1537.39
8	191.9	1562.23	24	193.5	1549.31	40	195.1	1536.61
9	192.0	1561.42	25	193.6	1548.51	41	195.2	1535.82
10	192.1	1560.60	26	193.7	1547.71	42	195.3	1535.03
11	192.2	1559.79	27	193.8	1546.91	43	195.4	1534.25
12	192.3	1558.98	28	193.9	1546.12	44	195.5	1533.46
13	192.4	1558.17	29	194.0	1545.32	45	195.6	1532.68
14	192.5	1557.36	30	194.1	1544.52	46	195.7	1531.90
15	192.6	1556.55	31	194.2	1543.73	47	195.8	1531.11
16	192.7	1555.74	32	194.3	1542.93	48	195.9	1530.33