INTEROPTIC.COM

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CISCO-COMPATIBLE DATA SHEET:

40G QSFP+ PRODUCT FAMILY

DESCRIPTION

The 40GBASE QSFP+ modules allow a wide variety of 40 Gigabit Ethernet connectivity options for data center, enterprise, and service provider applications. InterOptic 40G QSFP+ modules are supported on a comprehensive suite of switches and routers.

FEATURES & BENEFITS

- Hot-swappable 40G QSFP+ modules allow for quick additions/changes into an available 40G QSFP+ port
- "Pay as you Populate" model lowers initial costs
- Digital optical monitoring capability for strong diagnostic capabilities as supported by the OEM
- Optical interoperability allows for IEEE compliant 40GBASE optical interfaces on the same link

QSFP+-40G-CSR4

The 40GBASE-CSR4 QSFP+ module supports a link length of up to 82m on 500MHz*km OM2 parallel multimode fiber (MMF). A link length of up to 300m is possible using 2000MHz*km parallel MMF (OM3). Using 4700MHz*km parallel MMF (OM4), link lengths up to 400m are possible. This transceiver can also support a 4x10GBASE-SR mode utilizing an external QSFP+ MPO/MTP to four SFP+ LC MMF breakout cable.

QSFP+-40G-SR4, QSFP+-40G-SR4-S

The 40GBASE-SR4 QSFP+ module supports a link length of up to 30m on 500MHz*km OM2 parallel multimode fiber (MMF). A link length of up to 100m is possible using 2000MHz*km parallel MMF (OM3). Using 4700MHz*km parallel MMF (OM4), link lengths up to 150m are possible. These transceivers can also support a 4x10GBASE-SR mode utilizing an external QSFP+ MPO/MTP to four SFP+ LC MMF breakout cable.

WSP-Q40GLR4L

The 40GBASE-LR4L QSFP+ module supports a link length of up to 2 km on standard single-mode fiber (SMF, G.652). Interoperability with the 40GBASE-LR4 is supported for distances up to 2km.

QSFP+-40GE-LR4, QSFP+-40G-LR4, QSFP+-40G-LR4-S

The 40GBASE-LR QSFP+ module supports a link length of up to 10 km on standard single-mode fiber (SMF, G.652). The OTU3 protocol is additionally supported on the multi-rate QSFP+-40G-LR4 transceiver.

ORDERING INFORMATION

QSFP+-40G-CSR4	Cisco Compatible 40GBASE-CSR4 QSFP+ Transceiver for Parallel MMF
QSFP+-40GE-LR4	Cisco Compatible 40GBASE-LR4 QSFP+ Transceiver for SMF
QSFP+-40G-LR4	Cisco Compatible 40GBASE-LR4 and OTU3 QSFP+ Transceiver for SMF
QSFP+-40G-LR4-S	Cisco Compatible 40GBASE-LR4 QSFP+ Transceiver for SMF, S-Class
QSFP+-40G-SR4	Cisco Compatible 40GBASE-SR4 QSFP+ Transceiver for Parallel MMF
QSFP+-40G-SR4-S	Cisco Compatible 40GBASE-SR4 QSFP+ Transceiver for Parallel MMF, S-Class
WSP-Q40GLR4L	Cisco Compatible 40GBASE-LR4L QSFP+ Transceiver for SMF

PART NUMBER	CONNECTION TYPE	WAVELENGTH (nm)	CABLE TYPE	CORE SIZE (um)	MODAL BANDWIDTH (MHz*km)	MAXIMUM OPERATING DISTANCE
QSFP+-40G-CSR4	MPO/MTP	850	Parallel MMF	50	500 (OM2)	82m
					2000 (OM3)	300m
					4700 (OM4)	400m
QSFP+-40G-SR4 QSFP+-40G-SR4-S	MPO/MTP	850	Parallel MMF	50	500 (OM2)	30m
					2000 (OM3)	100m
					4700 (OM4)	150m
WSP-Q40GLR4L	LC - Duplex	1310	SMF	G.652	N/A	2km
QSFP+-40GE-LR4 QSFP+-40G-LR4 QSFP+-40G-LR4-S	LC - Duplex	1310	SMF	G.652	N/A	10km

PART NUMBER	PHY TYPE	TX POWER (dBm) Max-Min	RX POWER (dBm) Max - Min	TEMPERATURE RANGE	OPERATING TEMPERATURE
QSFP+-40G-CSR4	40GBASE-CSR4	0.0 to -7.3 per lane	0.0 to -9.9 per lane	COM	0 to 70 °C
QSFP+-40G-SR4 QSFP+-40G-SR4-S	40GBASE-SR4	-1.0 to -7.6 per lane	2.4 to -9.5 per lane	COM	0 to 70 °C
QSFP+-40GE-LR4 QSFP+-40G-LR4-S	40GBASE-LR4	2.3 to -7.0 per lane	2.3 to -13.7 per lane	COM	0 to 70 °C
QSFP+-40G-LR4	40GBASE-LR4 and OTU3	2.3 to -7.0 per lane	2.3 to -13.7 per lane	COM	0 to 70 °C
WSP-Q40GLR4L	40GBASE-LR4L	2.3 to -10.0 per lane	2.3 to -13.7 per lane	COM	0 to 70 °C

PHYSICAL DIMENSIONS (HxWxD)

QSFP+ Module: 13.5 x 18.4 x 72.4 mm (excluding pull tab)

POWER REQUIREMENTS (TYPICAL)

QSFP+ Module: 1.5 W (40GBASE-CSR4, SR4)
QSFP+ Module: 3.5 W (40GBASE-LR4L, LR4)

WARRANTY

Standard: 3 Year
Extended: Optional, up to 5 Years

SAFETY

Laser Class 1: 21CFR-1040 LN#50
Laser Class 1: IEC60825-1

STANDARDS COMPLIANCE

IEEE 802.3ba: 40 Gigabit Ethernet
IEEE 802.3ae: 10 Gigabit Ethernet
GR-20-CORE: Generic Requirements for Optical Fiber and Optical Fiber Cable
GR-326-CORE: Generic Requirements for Single-mode Optical Connectors and Jumper Assemblies
GR-1435-CORE: Generic Requirements for Multi-Fiber Optical Connectors
QSFP+ Module: QSFP++ MSA SFF-8436