SRX-QSFP-40G-LR4

Part number: 740-073096

Optics Overview

Juniper Networks offers a complete portfolio of modular and fixed-chassis routers and switches for both WAN and data center networks. These solutions span Juniper's MX-Series Universal Routing Platform and PTX-Series Packet Transport Routers to EX-Series Ethernet Switches and QFX-Series Data Center Switches among others. Depending on deployment scenarios, Juniper's platforms support different pluggable optic modules that can be selected based on speed, distance, form-factor, and wavelength among other relevant attributes.

Additional Resources

Hardware Compatibility Tool

HCT contains a regularly updated database of Juniper's transceivers, DACs, and AOCs along with information regarding compatibility with Juniper's platforms and interface modules.

https://apps.juniper.net/hct/home/

Product Description

40GE QSFP+ Optical Transceiver, LR4,10km

Overview

Part Number	740-073096
Speed	40 Gigabit Ethernet
Breakout Capable	No
Transceiver Type	QSFP+
Product Type	Optical Transceiver
Connector	Duplex LC
Monitoring Available	—
Digital Optical Monitoring	—
Common Optic Equivalent	QSFPP-40G-LR4-C

Note:

- Monitoring Available - Can measure received optical power and display in CLI.
- Digital Optical Monitoring - Full support for SFF-8636.
- The common optics product line provides competitively priced single-SKU optics offerings for use across Juniper routing, switching, and security platforms.

Specifications

Standard: 40GBASE-LR4

Transmitter wavelengths (range)	1310 nm
Cable type	SMF
Distance	10 km
Maximum Power consumption (W)	3.5 W
Operating Temperature (range)	0° C to 70° C
Storage temperature	−40° C to 85° C

Supported Platforms

Platform	Introduced Release	Additional Information
Routing		
ACX7024	Junos OS Evolved 22.3R1	
ACX7024X	Junos OS Evolved 22.3R1	
MX240		
MX480		
MX960		
MX2008	Junos OS 15.1F7	
MX2010		
MX2020		
PTX5000		
Security		
SRX2300	Junos OS 23.4R1	
SRX4300	Junos OS 24.2R1	
SRX4600	Junos OS 17.4R2	
SRX5400	Junos OS 12.1X46-D10	Introduced release on SRX5K-MPC3-40G10G: 15.1X49-D10. Introduced release on SRX-MIC-2X40G-QSFP: 12.1X46-D10.
SRX5600	Junos OS 12.1X46-D10	Introduced release on SRX5K-MPC3-40G10G: 15.1X49-D10. Introduced release on SRX-MIC-2X40G-QSFP: 12.1X46-D10.
SRX5800	Junos OS 12.1X46-D10	Introduced release on SRX5K-MPC3-40G10G: 15.1X49-D10. Introduced release on SRX-MIC-2X40G-QSFP: 12.1X46-D10.
Switching		
EX4300	Junos OS 13.2X51-D15	
EX4400	Junos OS 23.1R1	
EX4400 Multigigabit	Junos OS 23.1R1	
EX4400-24X Breakout Supported	Junos OS 23.4R1	

SRX-QSFP-40G-LR4

Platform	Introduced Release	Additional Information
EX4400-48F	Junos OS 23.1R1	
EX4600		
EX9204		
EX9208		
EX9214		
QFX5230-64CD	Junos OS Evolved 23.4R2	

Supported Interface Modules

Line Cards

Name	Description	Platforms and Introduced Releases	
40 Gigabit Ethernet			
EX9200-6QS	A line card with six 40-Gigabit Ethernet ports and 24 10-Gigabit Ethernet ports	EX9204 EX9214	EX9208
MX10K-LC4800	The MX10K-LC4800 line card (model number: JNP10K-LC4800) is a fixed-configuration 44-port line card that provides a line-rate throughput of 4.8 Tbps. This line card supports 100-Gigabit Ethernet (100GbE) and 400GbE deployments.	MX10004 Junos OS 24.2R1	MX10008 Junos OS 24.2R1

Modular Interface Cards (MICs)

Name	Description	Platforms and Introduced Releases	
40 Gigabit Ethernet			
SRX-MIC-2X40G-QSFP	MIC with two QSFP+ Ethernet ports	SRX5400 Junos OS 12.1X46-D10 SRX5800 Junos OS 12.1X46-D10	SRX5600 Junos OS 12.1X46-D10

Modular Port Concentrators (MPCs)

Name	Description	Platforms and Introduced Releases	
40 Gigabit Ethernet			
SRX5K-MPC3-40G10G	Fixed-configuration MPC with six 40-Gigabit Ethernet ports and twenty-four 10-Gigabit Ethernet ports	SRX5400 Junos OS 15.1X49-D10 SRX5800 Junos OS 15.1X49-D10	SRX5600 Junos OS 15.1X49-D10

Uplink Modules

Name	Description	Platforms and Introduced Releases	
40 Gigabit Ethernet			
EX-UM-2QSFP	EX4300, 2-Port 40G QSFP+ Uplink Module	EX4300 Junos OS 13.2X51-D15	
EX4400-EM-1C	1x100GbE QSFP28 extension module for EX4400 series of switches	EX4400 Junos OS 23.1R1 EX4400-24X Junos OS 23.4R1 Breakout Supported	EX4400 Multigigabit Junos OS 23.1R1 EX4400-48F Junos OS 23.1R1

Why buy optics from Juniper?

There is <u>value</u> in choosing Juniper over 3 rd party optics

✓ **Full testing, validation, and JTAC support for Juniper optics**

- Power, Electrical, and Management interfaces tested at the system level.
- Extended temperature and functional testing in DVT chamber using fully loaded systems.
- Full software integration into JUNOS/EVO for seamless part recognition, functionality, and telemetry.
- Latest qualification status and optics specifications published on <u>Hardware Compatibility Tool.</u>

✓ **Single-source provider for 1G to 400G on a variety of optical technologies**

- Juniper's optics portfolio is maintained and constantly refreshed based on vendor availability.
- Automatic supply chain diversity and supply continuity - multiple optics suppliers fulfilled through Juniper.

✓ **Rigorous evaluation of optical vendors**

- Juniper ensures uniformity across all vendors by standardizing P-Specs for management, specs, and logs.
- Vendors are scored based on engineering and supply-chain analysis.
- Factory audits and critical component evaluation (Ex. Who is supplying the laser?).

Aren't 3 rd party optics the same?

Optics may be a commodity, but some things are too good to be true

× **Juniper does not Provide JTAC support for 3 rd party optics**

- JTAC will only assist with host-related issues unrelated to the use of 3 rd party optics.

× **Not all optics are the same - standards compliance does <u>not</u> guarantee quality or performance**

- Third-party providers lack system-level knowledge and testing.
- No guarantee of vendor reliability or accountability.

× **Newer technologies (ex. Coherent 400G ZR/ZR+) are complex and not simply plug-and-play**

- Significant software integration necessary to enable full functionality, management, and telemetry.
- Use of unqualified 3 rd party high-power optics can damage the host equipment.

× **Third-party providers simply can't scale**

- Incomplete solution offerings and fast turnaround times only for limited quantities.