

# JNP-SFP-25G-SR

Part number: 740-068639

## 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

25GBASE-SR SFP28 Module for MMF

## Overview

Part Number	740-068639
Speed	25 Gigabit Ethernet
Breakout Capable	No
Transceiver Type	SFP28
Product Type	Optical Transceiver
Connector	Duplex LC
Monitoring Available	Yes
Digital Optical Monitoring	Yes
Common Optic Equivalent	SFP-25G-SR-C

### Note:

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

## Specifications

### Standard: 25GBASE-SR

MSA compliance (SFF, for e.g. SFF-8665)	SFF-8402	
Optic Type (Commercial Vs Service Provider Grade)	Commercial	
Digital Diagnostic Monitoring	transceiver temperature transceiver supply voltage TX bias current TX output power RX received optical power	
Signaling rate, each lane	25.78125 GBd $\pm$ 100 ppm	
Transmitter fibers	1	
Transmitter wavelengths (range)	840 nm to 860 nm	
Receive lane wavelengths (range)	840 to 860 nm	
Transmitter RMS spectral width (maximum)	0.6 nm	
Transmitter output power, each lane (minimum)	-8.4 dBm	
Transmitter output power, each lane (maximum)	2.4 dBm	
Receiver input power, each lane (minimum)	-10.3 dBm	
Receiver input power, each lane (maximum)	2.4 dBm	
Receiver sensitivity (OMA), each lane (maximum)	N/A	
Stressed receiver sensitivity (OMA) each lane (maximum)	-5.2 dBm	
Cable type	MMF	
Core size/cladding	50/125 $\mu$ m	
Fiber grade	OM3	OM4
Effective modal bandwidth	2000 MHz x km	4700 MHz x km
Distance	70 m	100 m
Maximum Power consumption (W)	1.5 W	
Operating Temperature (range)	0° C to 70° C	

Storage temperature	-40° C to 85° C
Typical Weight & Dimensions	Weight: 0.15 kg Height: 8.55 mm Width: 13.55 mm Depth: 57.5 mm

## Supported Platforms

Platform	Introduced Release	Additional Information
<b>Routing</b>		
ACX7024	Junos OS Evolved 22.3R1	
ACX7100-32C	Junos OS Evolved 21.3R1	
ACX7100-48L	Junos OS Evolved 21.1R1	
ACX7348	Junos OS Evolved 23.4R1	
ACX7509	Junos OS Evolved 21.4R1	
MX304	Junos OS 22.3R1	
SSR1400		
SSR1500		
<b>Security</b>		
SRX1600	Junos OS 23.4R1	
SRX2300	Junos OS 23.4R1	
<b>Switching</b>		
EX4100	Junos OS 22.2R1	
EX4100 Multigigabit	Junos OS 22.2R1	
EX4400	Junos OS 21.1R1	
EX4400-48T	Junos OS 21.1R1	
EX4400-24T	Junos OS 21.1R1	
EX4400 Multigigabit	Junos OS 21.2R1	
EX4400-24X	Junos OS 21.2R1	
EX4400-48F	Junos OS 21.1R1	
EX4650-48Y	Junos OS 18.3R1	
QFX5120-48Y	Junos OS 18.3R1	
QFX5120-48YM	Junos OS 20.4R1	
QFX5200-48Y	Junos OS 18.1R1	
QFX5700	Junos OS Evolved 22.1R1	

## Supported Interface Modules

### Adapters

Name	Description	Platforms and Introduced Releases	
25 Gigabit Ethernet			
MAM1Q00A-QSA28	NVIDIA LinkX Optics QSA Cable Adapter 100Gbps QSFP28 to 25Gbps SFP28; Supported interface work with MAM1Q00A-QSA28 revision A6 For more information regarding ordering NVIDIA products, please contact NVIDIA at: <a href="https://www.nvidia.com/en-us/networking/ethernet/cable-accessories/">https://www.nvidia.com/en-us/networking/ethernet/cable-accessories/</a>	ACX7100-32C Junos OS Evolved 21.3R1	MX304 Junos OS 22.3R1

### Flexible PIC Concentrators (FPCs)

Name	Description	Platforms and Introduced Releases	
25 Gigabit Ethernet			
QFX5K-FPC-20Y	20X50G linecard for QFX5700	QFX5700 Junos OS Evolved 22.1R1	

### Line Cards

Name	Description	Platforms and Introduced Releases	
25 Gigabit Ethernet			
ACX7509-FPC-20Y	ACX7509 20X1GE/10GE/25GE/50GE LINE CARD	ACX7509 Junos OS Evolved 21.4R1	
MX304-LMIC16	The MX304-LMIC16-BASE is a 16-port line card that supports maximum data throughput of 1.6 TB ingress and 1.6 TB egress	MX304 Junos OS 22.3R1	

## Uplink Modules

Name	Description	Platforms and Introduced Releases	
25 Gigabit Ethernet			
EX4400-EM-4Y	4x25G SFP28 extension module for EX4400 series of switches. MACsec AES256	EX4400 Junos OS 21.1R1	EX4400-48T Junos OS 21.1R1
		EX4400-24T Junos OS 21.1R1	EX4400 Multigigabit Junos OS 21.2R1
		EX4400-48F Junos OS 21.1R1	

## Why buy optics from Juniper?

There is value in choosing Juniper over 3<sup>rd</sup> 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 [Hardware Compatibility Tool](#).

### ✓ 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<sup>rd</sup> 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<sup>rd</sup> party optics

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

### × Not all optics are the same - standards compliance does not 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<sup>rd</sup> 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.

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