

# QFX-SFP-1GE-T

Part number: 740-013111

## 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

SFP 1000Base-T Copper Transceiver Module for up to 100m transmission

## Overview

Part Number	740-013111
Speed	Gigabit Ethernet
Breakout Capable	No
Transceiver Type	SFP
Product Type	Copper
Connector	RJ-45
Monitoring Available	—
Digital Optical Monitoring	—
Common Optic Equivalent	SFP-1G-T-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: 1000BASE-T

Signaling rate, each lane	10/100/1000 Mbps
Cable type	Cat 5e
Distance	100 m
Maximum Power consumption (W)	1 W
Operating Temperature (range)	0° C to 70° C
Storage temperature	-40° C to 85° C

## Supported Platforms

Platform	Introduced Release	Additional Information
Routing		
ACX710	Junos OS Evolved 23.1R1	
ACX5000		
ACX5448	Junos OS 18.4R2	At present, ACX5448 routers support only 100-Mbps and 1-Gbps speeds on Tri-Rate Copper SFP optics (740-013111). Note that 100-Mbps speed is supported only from ports xe-0/0/24 through xe-0/0/47.
ACX7024	Junos OS 23.1R1	
ACX7348	Junos OS Evolved 23.4R1	
ACX7509	Junos OS Evolved 22.4R1	
MX150	Junos OS 17.3R1	
MX204	Junos OS 18.3R1	10M and 100M modes are not supported, only 1G mode is supported
MX240	Junos OS 23.1R1	
MX480	Junos OS 23.1R1	
MX960	Junos OS 23.1R1	
MX10004	Junos OS 22.3R1	
MX10008	Junos OS 21.2R1	
MX10016	Junos OS 21.2R1	
PTX1000	Junos OS 18.4R1	
PTX10008	Junos OS 18.4R1	
PTX10016	Junos OS 18.4R1	
SDN and Orchestration		
NFX250	Junos OS 15.1X53-D40	
Security		
SRX210		
SRX220		
SRX240		

Platform	Introduced Release	Additional Information
SRX300		
SRX320		
SRX340		
SRX345		
SRX380	Junos OS 20.1R1	
SRX550		
SRX550 HM		
SRX650		
SRX1400		
SRX1500		The SRX1500 Services Gateway supports only 1000 Mbps speed on QFX-SFP-1GE-T; 10-Mbps and 100-Mbps speeds are not supported.
SRX1600	Junos OS 23.4R1	
SRX2300	Junos OS 23.4R1	
SRX3400		
SRX3600		
SRX4100	Junos OS 15.1X49-D65	The SRX4100 Services Gateway supports only 1000 Mbps speed on QFX-SFP-1GE-T; 10-Mbps and 100-Mbps speeds are not supported.
SRX4200	Junos OS 15.1X49-D65	The SRX4200 Services Gateway supports only 1000 Mbps speed on QFX-SFP-1GE-T; 10-Mbps and 100-Mbps speeds are not supported.
SRX5400	Junos OS 12.1X47-D10	Introduced release on SRX-MIC-20GE-SFP: 12.1X47-D10
SRX5600	Junos OS 12.1X47-D10	Introduced release on SRX-MIC-20GE-SFP: 12.1X47-D10
SRX5800	Junos OS 12.1X47-D10	Introduced release on SRX-MIC-20GE-SFP: 12.1X47-D10
<b>Switching</b>		
EX2200	Junos OS 10.1R1	
EX2300	Junos OS 15.1X53-D50	
EX2300-C	Junos OS 15.1X53-D50	

Platform	Introduced Release	Additional Information
EX2300 Multigigabit	Junos OS 18.1R2	
EX3300	Junos OS 12.1R1	
EX3400	Junos OS 15.1X53-D50	
EX4100	Junos OS 22.2R1	
EX4100-F	Junos OS 22.2R1	
EX4100 Multigigabit	Junos OS 22.2R1	
EX4200	Junos OS 9.0R2	EX4200-24F-S and EX4200-48T-S switches—Junos OS for EX Series switches, Release 12.3R4 or later
EX4300	Junos OS 13.2X50-D10	EX4300-32F switches—Junos OS for EX Series switches, Release 13.2X51-D15 or later EX4300-32F-S switches—Junos OS for EX Series switches, Release 13.2X51-D26 or later
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 23.1R1	
EX4400-48F	Junos OS 21.1R1	
EX4500	Junos OS 10.2R1	
EX4550	Junos OS 12.2R1	EX4550-32F-S switches—Junos OS for EX Series switches, Release 12.3R5 or later
EX4600		
EX4650-48Y	Junos OS 18.3R1	10M/100M speed is not supported
EX6200	Junos OS 12.1R1	
EX8208	Junos OS 9.4R1	
EX8216	Junos OS 9.4R1	
EX9204	Junos OS 12.3R2	
EX9208	Junos OS 12.3R2	
EX9214	Junos OS 12.3R2	
QFX3500	Junos OS 11.1R1	

Platform	Introduced Release	Additional Information
QFX5100		Supported in the SFP+ ports on QFX5100-48S and QFX5100-96S models. Supported only in the management SFP ports on QFX5100-24Q, QFX5100-24Q-AA and QFX5100-48T models.
QFX5110	Junos OS 15.1X53-D210	Small form-factor pluggable (SFP) and enhanced SFP (SFP+) optical transceivers used in the QFX5110-32Q are for the management ports only, whereas natively supported on QFX5110-48S.
QFX5120-48Y	Junos OS 18.3R1	10M/100M speed is not supported
QFX5200-32C	Junos OS 15.1X53-D30	Only supported in the management Ethernet port
QFX10002		Only supported in the management Ethernet port
QFX10008	Junos OS 15.1X53-D30	Supported in the management ethernet port, and on QFX10000-60S-6Q.
QFX10016	Junos OS 15.1X53-D61	Supported in the management ethernet port, and on QFX10000-60S-6Q.

## Supported Interface Modules

### Adapters

Name	Description	Platforms and Introduced Releases	
Gigabit Ethernet			
MAM1Q00A-QSA	NVIDIA LinkX Optics QSA Cable Adapter 40Gbps QSFP+ to 10Gbps SFP+ / 1Gbps SFP ports. For more information regarding ordering Mellanox products, please contact Mellanox at: <a href="https://www.nvidia.com/en-us/networking/ethernet/cable-accessories/">https://www.nvidia.com/en-us/networking/ethernet/cable-accessories/</a>	MX10003 Junos OS 19.1R1 PTX10008 Junos OS 18.4R1	PTX1000 Junos OS 18.4R1 PTX10016 Junos OS 18.4R1

## I/O cards (IOCs)

Name	Description	Platforms and Introduced Releases	
Gigabit Ethernet			
SRX-IOC-16GE-SFP <sup>(EOL)</sup>	Port module with 16 Gigabit Ethernet SFP ports	SRX5600 Junos OS 12.1X47-D10	SRX5800 Junos OS 12.1X47-D10
SRX1K-SYSIO-GE	1-Gigabit Ethernet SYSIOC	SRX1400	
SRX1K-SYSIO-XGE	10-Gigabit Ethernet SYSIOC	SRX1400	
SRX3K-16GE-SFP	16-port Ethernet SFP IOC for SRX3400, SRX3600, and SRX1400	SRX1400 Junos OS 10.4R1	SRX3400 Junos OS 9.4R1
		SRX3600 Junos OS 9.4R1	
SRX5K-40GE-SFP <sup>(EOL)</sup>	I/O card with 40 Gigabit Ethernet SFP ports	SRX5600 Junos OS 12.1X47-D10	SRX5800 Junos OS 12.1X47-D10

## Line Cards

Name	Description	Platforms and Introduced Releases	
Gigabit Ethernet			
ACX7509-FPC-20Y	ACX7509 20X1GE/10GE/25GE/50GE LINE CARD	ACX7509 Junos OS Evolved 22.4R1	
EX9200-40F	A line card with 40 1-Gigabit Ethernet ports	EX9204 Junos OS 12.3R2	EX9208 Junos OS 12.3R2
		EX9214 Junos OS 12.3R2	
EX9200-40F-M	A line card with 40 1-Gigabit Ethernet ports with Media Access Control Security (MACsec) capability	EX9204 Junos OS 12.3R2	EX9208 Junos OS 12.3R2
		EX9214 Junos OS 12.3R2	

Name	Description	Platforms and Introduced Releases	
EX9200-40XS	A line card with 40 10-Gigabit Ethernet ports with Media Access Control Security (MACsec) capability, each of which can house 10-gigabit small form-factor pluggable plus (SFP+) transceivers	EX9204 Junos OS 23.4R1  EX9214 Junos OS 23.4R1	EX9208 Junos OS 23.4R1
MX10K-LC480	The MX10K-LC480 (Model number: JNP10K-LC480) is a fixed-configuration line card with 48 SFP/SFP+ ports.	MX10004 Junos OS 22.3R1  MX10016 Junos OS 21.2R1	MX10008 Junos OS 21.2R1
PTX10K-LC1101	30x100G/30x40G Line Card	PTX10008 Junos OS 18.4R1	PTX10016 Junos OS 18.4R1
PTX10K-LC1102	36X40G/12X100G Line Card	PTX10008 Junos OS 18.4R1	PTX10016 Junos OS 18.4R1
QFX10000-60S-6Q	QFX10000 60-port 1/10G SFP/SFP+ line card with 6 40G QSFP+ / 2 100G QSFP28 ports	PTX10008 Junos OS 20.2R1  QFX10008 Junos OS 17.1R1	PTX10016 Junos OS 20.2R1  QFX10016 Junos OS 17.1R1

### Modular Interface Cards (MICs)

Name	Description	Platforms and Introduced Releases	
Gigabit Ethernet			
EX9200-20F-MIC	EX9200 MIC, 20-port GbaseX (Half-slot)	EX9204 Junos OS 12.3R2  EX9214 Junos OS 12.3R2	EX9208 Junos OS 12.3R2
MIC-3D-20GE-SFP-E	Gigabit Ethernet MIC with SFP (E)	MX240 Junos OS 23.1R1  MX960 Junos OS 23.1R1	MX480 Junos OS 23.1R1



Name	Description	Platforms and Introduced Releases	
SRX-MIC-20GE-SFP	MIC with twenty 1-Gigabit Ethernet SFP Ethernet ports	SRX5400 Junos OS 12.1X47-D10	SRX5600 Junos OS 12.1X47-D10
		SRX5800 Junos OS 12.1X47-D10	

## Modular Port Concentrators (MPCs)

Name	Description	Platforms and Introduced Releases	
Gigabit Ethernet			
MPC7E-10G	MPC7E 10G	MX240 Junos OS 23.1R1	MX480 Junos OS 23.1R1
		MX960 Junos OS 23.1R1	

## Routing Engines

Name	Description	Platforms and Introduced Releases	
Gigabit Ethernet			
EX-XRE200 <sup>(EOL)</sup>	EX8200 Virtual Chassis External Routing Engine 200 includes dual AC/DC power supplies, dual fans, 2 160GB HDD, one 4 port 10/100/1000BASE-T RJ-45 IO card	EX8208 Junos OS 11.3R1	EX8216 Junos OS 11.3R1

## Uplink Modules

Name	Description	Platforms and Introduced Releases	
Gigabit Ethernet			
EX-UM-4X4SFP	EX4300, 4-Port 10G SFP+/4-Port 1G SFP Uplink Module	EX4300 Junos OS 13.2X50-D10	
EX-UM-8X8SFP	EX4300, 8-Port 10G SFP+/ 8-Port 1G SFP Uplink Module	EX4300 Junos OS 13.2X51-D15	

Name	Description	Platforms and Introduced Releases	
EX4400-EM-4S	4x10G SFP+ extension module for EX4400 series of switches	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 23.1R1	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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