

SFP-1GE-T

Part number: 740-038291

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

GE SFP, 1000BASE-T Plug-in, Module

Overview

Part Number	740-038291
Speed	Gigabit Ethernet
Breakout Capable	No
Transceiver Type	SFP
Product Type	Copper
Connector	RJ-45
Monitoring Available	—
Digital Optical Monitoring	—
Additional Information	<p>ACX7024 only supports 1000Mbps speed with SFP-1GE-T; 100Mbps and 10Mbps speeds are not supported. Auto negotiation is not supported.</p> <p>ACX7509-FPC-20Y only supports 1000Mbps speed with SFP-1GE-T; 100Mbps and 10Mbps speeds are not supported. Auto negotiation is supported.</p>
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	1000 Mbps autosensing
Cable type	Cat 5e
Distance	100 m
Maximum Power consumption (W)	1 W
Operating Temperature (range)	-40° C to 85° C
Storage temperature	-40° C to 85° C

Supported Platforms

Platform	Introduced Release	Additional Information
Routing		
ACX710	Junos OS 20.2R1	
ACX5448	Junos OS 18.2R1	
ACX7024	Junos OS Evolved 22.4R1	
ACX7509	Junos OS Evolved 22.4R1	
MX5		
MX10		
MX40		
MX80		
MX104	Junos OS 13.2R2	
MX204	Junos OS 18.3R1	Supported natively on the SFP ports and with a QSA adapter on the QSFP28 ports starting from Junos OS 18.3R2 ,18.4R2 and 19.1R1 onwards. 10M and 100M modes are not supported, only 1G mode is supported
MX240		
MX480		
MX960		
MX2008	Junos OS 15.1F7	
MX2010		
MX2020		
MX10003	Junos OS 19.1R1	Use the QSA adapter to convert a 40-Gbps port to a 10-Gbps or a 1-Gbps port.
Security		
SRX5400	Junos OS 22.4R1	
SRX5600	Junos OS 22.4R1	
SRX5800	Junos OS 22.4R1	
Switching		
EX4600	Junos OS 14.1X53-D35	

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: https://www.nvidia.com/en-us/networking/ethernet/cable-accessories/	MX204 Junos OS 18.3R2	MX10003 Junos OS 19.1R1

Dense Port Concentrators (DPCs)

Name	Description	Platforms and Introduced Releases	
Gigabit Ethernet			
DPCE-R-20GE-2XGE ^(EOL)	Multi-Rate Ethernet Enhanced DPC with SFP and XFP	MX240 Junos OS 9.2R1	MX480 Junos OS 9.2R1
		MX960 Junos OS 9.2R1	
DPCE-R-40GE-SFP ^(EOL)	Gigabit Ethernet Enhanced DPC with SFP	MX240 Junos OS 9.0R1	MX480 Junos OS 8.4R1
		MX960 Junos OS 8.4R1	
DPCE-R-Q-20GE-2XGE ^(EOL)	Multi-Rate Ethernet Enhanced Queuing IP Services DPC with SFP and XFP	MX240 Junos OS 9.3R1	MX480 Junos OS 9.3R1
		MX960 Junos OS 9.3R1	
DPCE-X-40GE-SFP ^(EOL)	Gigabit Ethernet Enhanced Ethernet Services DPC with SFP	MX240 Junos OS 9.0R1	MX480 Junos OS 8.4R1
		MX960 Junos OS 8.4R1	

I/O cards (IOCs)

Name	Description	Platforms and Introduced Releases	
10 Gigabit Ethernet			
SRX5K-IOC4-10G	SRX5K-IOC4-10G is a fixed-configuration interface card with a Packet Forwarding Engine that provides 400-Gbps line rate. This interface card provides scalability in bandwidth and services to the SRX5400, SRX5600 and SRX5800 Services Gateways.	SRX5400 Junos OS 22.4R1	SRX5600 Junos OS 22.4R1
		SRX5800 Junos OS 22.4R1	

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	

Modular Interface Cards (MICs)

Name	Description	Platforms and Introduced Releases	
Gigabit Ethernet			
MIC-3D-20GE-SFP ^(EOL)	Gigabit Ethernet MIC with SFP	MX5 Junos OS 11.2R4	MX10 Junos OS 11.2R4
		MX40 Junos OS 11.2R4	MX80 Junos OS 10.2R1
		MX104 Junos OS 13.2R2	MX240 Junos OS 10.1R1
		MX480 Junos OS 10.1R1	MX960 Junos OS 10.1R1
		MX2008 Junos OS 15.1F7	MX2010 Junos OS 12.3R2
		MX2020 Junos OS 12.3R1	

Name	Description	Platforms and Introduced Releases	
MIC-3D-20GE-SFP-E	Gigabit Ethernet MIC with SFP (E)	MX5 Junos OS 13.2R2 MX40 Junos OS 13.2R2 MX104 Junos OS 13.2R2 MX480 Junos OS 13.3R1 MX2008 Junos OS 15.1F7 MX2020 Junos OS 13.3R1	MX10 Junos OS 13.2R2 MX80 Junos OS 13.2R2 MX240 Junos OS 13.3R1 MX960 Junos OS 13.3R1 MX2010 Junos OS 13.3R1
MIC-3D-20GE-SFP-EH	Gigabit Ethernet MIC with SFP (EH)	MX104 Junos OS 13.2R2	
MIC-MACSEC-20GE	Multi rate MACsec MIC that supports either 20x1GE SFP or 2x10G SFPP ports. This MIC has 256b AES.	MX80 Junos OS 18.3R1 MX240 Junos OS 18.3R1 MX960 Junos OS 18.3R1	MX104 Junos OS 18.3R1 MX480 Junos OS 18.3R1

Modular Port Concentrators (MPCs)

Name	Description	Platforms and Introduced Releases	
Gigabit Ethernet			
MPC7E-10G	MPC7E 10G	MX240 Junos OS 20.4R1 MX960 Junos OS 20.4R1 MX2010 Junos OS 20.4R1	MX480 Junos OS 20.4R1 MX2008 Junos OS 20.4R1 MX2020 Junos OS 20.4R1

Why buy optics from Juniper?

There is value in choosing Juniper over 3rd 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 3rd 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 3rd party optics

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