

# SFP-1GE-FE-E-T

Part number: 740-013111-01

## 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, 10/100/1000 Copper SFP

## Overview

Part Number	740-013111-01
Speed	Gigabit Ethernet
Breakout Capable	No
Transceiver Type	SFP
Product Type	Copper
Connector	RJ-45
Monitoring Available	—
Digital Optical Monitoring	—

**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

### Standard: 100BASE-T

Signaling rate, each lane	100 Mbps
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

### Standard: 10BASE-T

Signaling rate, each lane	10 Mbps
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 Evolved 23.1R1	ACX710 only supports 1-Gbps speeds on Tri-Rate Copper SFP optics (740-013111). 100Mbps and 10Mbps sub-speeds are not supported.
ACX7024	Junos OS 23.1R1	ACX7024 only supports 1-Gbps speeds on Tri-Rate Copper SFP optics (740-013111). 100Mbps and 10Mbps sub-speeds are not supported.
ACX7509	Junos OS Evolved 22.4R1	ACX7509 only supports 1-Gbps speeds on Tri-Rate Copper SFP optics (740-013111). 100Mbps and 10Mbps sub-speeds are not supported.
MX5		
MX10		
MX40		
MX80		
MX104	Junos OS 13.3R8	The following releases are not supported: 14.1R1, 14.1R2, 14.1R3, 14.1R4, 14.1R5, 14.2R1, 14.2R2, 14.2R3, 15.1R1, 15.1F2
MX204	Junos OS 18.3R1	10M and 100M modes are not supported, only 1G mode is supported
MX240		
MX480		
MX960		
MX2008	Junos OS 15.1F7	
MX2010		
MX2020		
MX10004	Junos OS 22.3R1	
MX10008	Junos OS 21.2R1	
MX10016	Junos OS 21.2R1	

## Supported Interface Modules

### Dense Port Concentrators (DPCs)

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

### 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	
EX9200-40XS	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

## Modular Interface Cards (MICs)

Name	Description	Platforms and Introduced Releases	
Gigabit Ethernet			
MIC-3D-20GE-SFP <sup>(EOL)</sup>	Gigabit Ethernet MIC with SFP	MX5 Junos OS 11.2R4  MX40 Junos OS 11.2R4  MX104 Junos OS 13.3R8  MX480 Junos OS 10.1R1  MX2008 Junos OS 15.1F7  MX2020 Junos OS 12.3R1	MX10 Junos OS 11.2R4  MX80 Junos OS 10.2R1  MX240 Junos OS 10.1R1  MX960 Junos OS 10.1R1  MX2010 Junos OS 12.3R2
MIC-3D-20GE-SFP-E	Gigabit Ethernet MIC with SFP (E)	MX5 Junos OS 13.2R2  MX40 Junos OS 13.2R2  MX104 Junos OS 13.3R8  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 13.3R8	

Name	Description	Platforms and Introduced Releases	
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	MX104 Junos OS 18.3R1
		MX240 Junos OS 18.3R1	MX480 Junos OS 18.3R1
		MX960 Junos OS 18.3R1	

## 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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