Datasheet S9180-32X

P4 Programmable Datacenter Switch

32 × 100GE QSFP28 & 2 × 10GE SFP+ ports

High-performance 10/100GE top-of-rack open networking switch.

As customer demands for bandwidth continue to grow, datacenters require the flexibility to continually enhance the existing density and flexibility of their networking environments. Featuring the Barefoot Tofino chipset, the S9180-32X switch is a P4 language programmable 10/100GE switch product that offers datacenters the capacity for network differentiation, allowing programmers to clearly specify a network's forwarding behavior. This in turn provides the unparalleled flexibility they need to meet customers' ever increasing data switching demands. In a compact 1RU form factor, the S9180-32X innovative architecture supports up to 32 x 100GE QSFP28 and 2 x 10GE SFP+ connections forming the foundation for extensive datacenter-ready features including low-latency and high-density ports. The S9180-32X provides all the power needed to simplify datacenter network infrastructures, making scale-out easy and thus giving data centers unmatched capacity to meet whatever bandwidth demands the future may bring. Flexible, reliable, powerful maximize your return on investment with the next-generation S9180-32X.

Key applications

- Cost-effective, bare-metal switch infrastructure for data center fabric.
- Automate loading of compatible open source and commercial network operating systems through ONIE.
- Introduce customized protocols for greater competitive advantage based on localized expertise.
- Design and implement simplified and streamlined network for even larger network capacities.
- Apply effective forwarding processes for completely network transparency.
- Build key-value management services directly into the network data plane.
- Deploys as high-speed Layer 2 gateway to connect nonvirtualized infrastructure with hypervisor-based overlay networks.

Key features

- Barefoot Tofino with P4 programmable chipset.
- Full forwarding-plane programmability.
- 32 × 100GE QSFP28 and 2 × 10GE SFP+ ports for downlinking and uplinking capability.
- Dual power supply and fan assembly with overcurrent, overvoltage, and overheating protection technologies, including a modularized design.
- Next-generation Spine network architecture, enhancing workload capacity and optimizing network scaling.
- Intel® Broadwell D-1527 2.2GHz 4 Cores / D-1548 2.0GHz 8 Cores.
- Specifically designed for utilization in high-performance datacenter environments.
- Allows system hot backup without system reboot or reconfiguration, as well as switch over to backup system in event of primary system failure, to ensure uninterrupted data processing and operation.
- Non-blocking switching architecture.

Specifications

Physical

- Compact full featured modular 10/100GE datacenter switch
- 1 RJ45 console/management port with RS232 signaling
- 1 10/100/1000 Base-T Ethernet for Out-of-Band management
- 1 USB 2.0 Type-A port

Processor	Intel® Broadwell D-1527 2.2GHz 4 Cores Intel® Broadwell D-1548 2.0GHz 8 Cores
Memory	DDR4 16GB DDR4 32GB
Storage	M.2 SSD 128GB
ASIC	Barefoot Tofino BFN-T10-032D
Built-in Interfaces	Total 10GE: 128 Total 100GE: 32
LED	Power, system, link & activity, fan & PSU status
Chassis	1 RU, 440w x 44h x 428d mm (17.32” x 1.73” x 16.85”) Weight (including 2 x PSUs & 4 x fans): 8.7 kg (19.18 lb)
Redundancy	Two hot swappable power supplies with integrated fans and trays

Environmental

- Fresh air compliant to 45°C (113°F)
- Rack mounting kit

Power supply	AC input: 100–240 Vac 50/60 Hz DC input: 240Vdc/3.5A (240Vdc China only) Typical/Max power draw: 350/415 Watts
Max. operating Specs.	Operating temperature: 0°C to 45°C (32°F to 113°F) Operating humidity: 10% to 90% (RH), noncondensing
Max. non-operating Specs.	Storage temperature: –40°C to 70°C (–40°F to 158°F) Storage humidity: 5% to 95% (RH), non-condensing

Performance

Switching Capacity	6.4Tbps
Packet throughput	2980 Mpps

Regulatory compliance

EMC	EN55032 Class A EN61000-3-2/EN61000-3-3 EN55024 FCC P15B Class A BSMI (CNS 13438) Class A CCC (GB9254) Class A RoHS: RoHS 6 UL
Safety	IEC/EN 60950-1/A2 BSMI (CNS 14336-1) CCC (GB4943)

S9180-32X Views

S9180-32X front view

S9180-32X rear view

Supported Accessories

Transceiver	100GE, SR4 QSFP28 | 100GE, eSR4 QSFP28 | 100GE, LR4 QSFP28 | 100GE, CWDM4 2Km QSFP28 100GE, PSM4 500m QSFP28
Cable types	100GE, 4 x 25GE, QSFP28 to 4 x SFP28, DAC | 100GE, QSFP28 to QSFP28, AOC 100GE, QSFP28 to QSFP28, DAC
Power supply types	CRPS550W-AC-FTB, 550W AC/DC PSU, airflow from Panel to rear side (front to rear) CRPS550W-AC-BTF, 550W AC/DC PSU, airflow from rear to panel side (rear to front) CRPS800W-DC-BTF, 800W DC/DC PSU, airflow from rear to panel side (rear to front) CRPS800W-DC-FTB, 800W DC/DC PSU, airflow from panel to rear side (front to rear)
Fan types	Fan normal airflow from panel to rear side Fan reverse airflow from rear side to panel Fan spare supports normal and reverse airflow operations