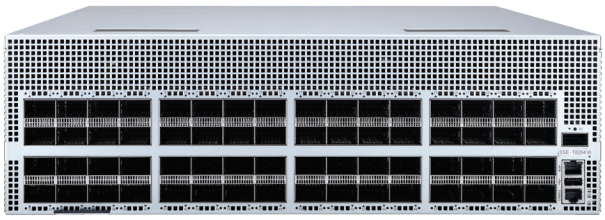
Supermicro SSE-T8264 1.6T Ethernet Switch

The Premier Ethernet Solution With Leading Low Latency for Data Center Workloads



Key Advantages for AI/ML Data Center Applications:

- Robust 3RU form factor
- Massive 102.4Tbps switch fabric capacity with 267MB memory packet buffer
- Open Network OS supported system to maximize flexibility
- High density, high efficiency, multi rate 1600G/800G/400G/200G switching through either direct and/or breakout cables supporting a wide range of use cases
- Supports both AC and DC input power options with air cooling SKUs
- Utilizes Supermicro Enterprise Advanced SONiC OS for streamlined deployments in various scenarios

Crafted for Modern AI Workloads

Unleash the full potential of your data center with the Supermicro SSE-T8264, a state-of-the-art 1.6T Ethernet switch meticulously crafted to meet the rigorous demands of modern AI, machine learning, and hyperscale cloud computing environments. Engineered with cutting-edge 224 Gbps PAM4 SERDES technology, this switch delivers exceptional performance and cost efficiency, enabling high-speed connectivity at 1600GbE, 800GbE, and 400GbE while ensuring seamless backward compatibility with 200G networks. Boasting an impressive 102.4Tbps total bandwidth in a compact 3RU form factor, the SSE-T8264 redefines scalability, offering a high-density networking solution that empowers large-scale enterprises, service providers, and cloud operators to stay ahead in an era of exponential data growth.

Low Latency & Optimized Efficiency

The SSE-T8264 supports up to 64 ports of 1.6T or 128 ports of 800G, delivering line-rate performance across diverse configurations to suit a wide range of data center applications. Its robust Layer 2 and Layer 3 feature set ensures reliable, high-performance switching, while its industry-leading low latency makes it the ideal choice for workloads with minimal delay requirements such as AI model training and real-time analytics. Designed with breakthrough power efficiency, this switch optimizes energy consumption without compromising performance, helping data centers reduce operational costs and meet sustainability goals.

Enabling Diverse Deployments

Paired with Supermicro's Enterprise SONiC operating system, the SSE-T8264 offers unmatched flexibility and ease of use. The Open Network OS provides a robust foundation for customization, enabling seamless integration into diverse data center ecosystems. Supermicro's user-friendly enhancements to SONiC simplify network management including an Industry-Standard CLI, streamline deployment, and ensure optimal performance for mission-critical applications. Whether you're building high-performance computing clusters, scaling cloud-native infrastructures, or deploying advanced AI/ML workloads, the SSE-T8264 delivers the reliability, scalability, and agility needed to drive innovation.

Future Proofing Data Centers

With support for multi-rate connectivity through direct or breakout cables, the SSE-T8264 adapts effortlessly to evolving network demands, making it a future-proof investment for dynamic data center environments. From its high-density port configurations to advanced thermal management with front-to-rear airflow and redundant power supplies, every aspect of the SSE-T8264 is designed to maximize uptime, performance, and operational efficiency. Experience the future of networking with the Supermicro SSE-T8264, a solution that empowers your data center to thrive with increased throughput requirements in AI and cloud computing.

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Operating System / NOS

The SSE-T8264 series switch comes with preloaded Supermicro Enterprise Advanced SONiC OS.
This comes in a 3-year or 5-year license and is required for software support including upgrades.

Download

Manuals	SSE-T8264 Manuals	[Download]
Firmware	SSE-T8264 Firmware	[Download]

Hardware Specifications

Physical Ports

- 64x OSFP1600 ports
- 1x100GbE QSFP28 port
- 1xRJ45 Console and 1xOOB Ethernet management ports
- 1x USB 3.0 Type-A interface

CPU Engine

- Intel Xeon-D x86 CPU, 8C at 2.3GHz
- 32GB DDR4
- 128GB SSD

Data Forwarding

- 102.4Tbps switching capacity
- Non-blocking, wire-speed
- 267MB memory packet buffer

Power

- 3200W AC PSU, support 2+2 Hot-pluggable, load-balancing, Input Voltage: 200-240VAC, 50/60Hz
- Busbar Input, Input Voltage: 40-60 VDC
- Support Optics/Cables: Up to 26W transceivers

Physical and Environmental

- 3RU, Mountable in 19" or 21" racks
- Dimensions: (WxDxH) 438.4 x 720 x 131.8mm
- Weight: 36kg
- Front to Rear airflow
- Hot-swappable 4+1 redundant Fan Modules
- Temperature: Operating 0°C to 40°C
- Humidity: Operating: 5% to 90% RH

Cables and Transceivers

- DR8 SMF OSFP IHS transceivers up to 500m

Safety and Compliance

Safety

EU:
- EN 60950-1
- IEC 60950-1
- EN 62368-1
- IEC 62368-1

North America:
- UL 60950-1
- CAN/CSA-C22.2 No. 60950
- UL 62368-1
- CAN/CSA-C22.2 No. 62368-1

Australia/New Zealand (ACMA):
- AS/NZS 60950-1
- AS/NZS 62368-1

Korea (KCC):
- KC 62368-1

Taiwan (BSMI):
- NS 15598-1

Environmental

- EU (RoHS)
- EU (REACH)
- EU (WEEE)
- Taiwan (RoHS)

Electromagnetic Compatibility

EU:
- CISPR 32
- EN 55032
- BS EN 55032
- CISPR 35
- EN 55035
- BS EN 55035
- EN6100-3-2
- BS EN 6100-3-2
- EN6100-3-3
- BS EN 6100-3-3
- EN 300 386

Japan:
- VCCI CISPR 32-1

North America:
- 47CFR Part 15(CFR 47) Class A
- ICES003 issue7 Class A

Australia/New Zealand:
- AS/NZS CISPR 32

Taiwan (BSMI):
- CNS 15936

Korea (KCC):
- KN32 Class A
- KN35

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Supermicro Enterprise Advanced Software Features

System and Platform Infrastructure Features

- System locator and interface LED
- Hardware watchdog
- Third-party container management
- Interface aliasing (IS-standard and IS-standard-extended interface naming)
- Maintenance mode
  - LACP graceful shut
  - BGP graceful shut
  - OSPFv2 maximum metrics
- Multi-instance Redis DB
- Hardware resource allocation and reservation
- DOM information display
- Dynamic port breakout
- Port auto-breakout and auto-detect for port speed
- Transceiver parameter tuning
- Link flap error-disable
- CPU/memory histogram
- System ready for services and applications
- Secure boot process and reference implementation
- Syslog high threshold notifications and clear for CPU/temperature
- Patching support in SONiC (patch host/containers)
- Media AutoFEC for FEC type automation

Layer 2 Features

- LAG and MCLAG (static and LACP)
- LLDP
- UDLD
- PVST, RPVST+, and MSTP
- DHCP snooping
- IGMP
- IGMP snooping (v1, v2, v3)

Layer 3 Features

- MCLAG
- DHCP relay and IP helper
- Proxy ARP
- VRRP
- VXLAN EVPN
- Route leaking
- IP SLA (ICMP and TCP tracker)
- IPv4 unnumbered interfaces
- Many hashing algorithms to support a range of traffic patterns
- Static routing, BGP, OSPFv2 and OSPFv3
- BFD
- Fast Link Failover (FLF)
- Multi-site Data Center Interconnect (DCI)
- RIB/FIB consistency checker
- Next Hop Group (NHG)
- L3 PIM (operates on L3 interfaces only)
- IPv4 PIM-SSM
- 1 million route scale

ACL and Flow-Based Services

- PBR and service chaining
- Layer 2 and Layer 3 ACLs
- Policy-based routing (IPv4 and IPv6)
- ACL consistency checker

Security Features

- AAA – RADIUS, TACACS, LDAP, MFA
- CAC-PIV over SSH
- Federal certs common criteria
- Role-based Access Control (RBAC)

Manageability Features

- Industry Standard CLI (IS-CLI)
- NTP client and server
- SCP, SFTP, TFTP, FTP
- Syslog and audit logs
- Remote logging
- In-memory debug logging
- SPAN/ERSPAN
- Zero Touch Provisioning (ZTP)

QoS

- Configurable queue and buffer size
- L2 and L3 QoS maps
- Traffic priority scheduling
- Rate limiting
- ACL-based DSCP and PCP remarking
- Priority Flow Control (PFC)
- DSCP marking preservation for VXLAN
- CoPP (Control Plane Policing)

Telemetry and Instrumentation

- sFlow
- gNMI
- REST
- SNMP

AI/ML Focused Features

- RoCEv2
- RoCEv2 with cut-through mode support
- RoCEv2 over VXLAN
- PFC, ECN, ETS optimizations
- Enhanced DCQCN
- Adaptive Routing Selection (ARS) / Dynamic Load Balancing (DLB)
- Enhanced hashing and load balancing with 100mSec granularity
- Rich congestion and load balancing telemetry
- LLDP for DCBx
- RoCE buffer configurable based on cable length per interface

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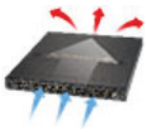
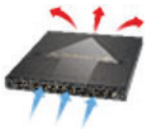
Switch Hardware SKUs

	Part Number	Description
Layer 2/3 1600G Ethernet Switch	 SSE-T8264S	64 port 1600G OSFP - 200-277VAC PSU Front-to-rear airflow - Air Cooling
	 SSE-T8264D	64 port 1600G OSFP - DC Busbar 40-60VDC Input Front-to-rear airflow - Air Cooling

Switch Software SKUs

Product SKU	Description
SFT-BCM1600G-3YR	Supermicro Enterprise Advanced 3-year Software Support
SFT-BCM1600G-5YR	Supermicro Enterprise Advanced 5-year Software Support
**A 3-year or 5-year software SKU is mandatory per switch and will need renewal for software support including upgrades*	

Optics & Cables Supported

SMC P/N	Length	Description
TRX TBD	up to 500m	1600G OSFP DR8 Transceiver, MPO16, 500m
	up to 500m	1600G OSFP 2*DR4 Transceiver, MPO12, 500m
SMC P/N	**Length**	**Description**
CBL TBD	5m	MPO16/MPO16, OS2, SMF, 50/125 5m APC
	5m	MPO12/MPO12, OS2, SMF

Warranty

SSE-T8264 comes with a standard (3-1-1) warranty which covers 3 years of labor, 1 year of parts, and 1 year of cross-shipment warranty. The warranty can be extended up to a total of 5 years. For more information, please visit the warranty page.

Onsite Services

Supermicro Hardware Maintenance provides flexible and customizable Service Level Agreements for remote help desk and rapid onsite support to cover Supermicro hardware solutions. Our Onsite Service Programs offer up to a 4-hour Onsite Response time option for mission-critical uptime or any tailored solution that will meet your specific business requirements. For more details, please visit the Onsite Services page.

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