



Embedded Xeon D SoC
Dual 25GbE LAN
Dual 10GbBase-T LAN
Quad 1GbE LAN
IPMI

Key Features

- System on Chip
- Intel® Xeon® Processor D-2796NT, CPU TDP 120W, Intel Quick Assist Technology
- Up to 256GB Registered ECC RDIMM, DDR4-2933MHz; Up to 512GB LRDIMM LRDIMM, DDR4-2933MHz, in 4 DIMM slots
- 1 PCIe 4.0 x16
- 2 PCIe 4.0 NVMe x8 SlimSAS Internal Port
- 1 OCuLink Connector (4 SATA/PCIe 3.0 x4)
- 1 M.2 M-Key 2242/2280 (SATA/PCIe 3.0 x4)
- Quad 1G RJ45 with Intel® I350-AM4
- Dual 25G SFP28 with Intel SoC
- Dual 10GbBase-T RJ-45 with Intel® Ethernet Controller X550-AT2
- SoC controller for up to 6 SATA3 (6 Gbps) ports
- 12V DC or ATX Power Input (Use at least 5Vsb/4A PSU)

Optimized Servers

[SYS-110D-20C-FRAN8TP / \(en/products/system/iot/1u/sys-110d-20c-fran8tp\)](#) [SYS-110D-20C-FRDN8TP / \(en/products/system/iot/1u/sys-110d-20c-frdn8tp\)](#)

Specifications

Product SKUs
MBD-X12SDV-20C-SPT8F
Physical Stats
Form Factor
Micro-ATX
Dimension
7.5" x 8.5" (19.05cm x 21.59cm)
Processor
CPU
Intel® Xeon® Processor D-2796NT
Single Socket FCBGA-2579 supported,
CPU TDP supports Up to 120W TDP
Core
Up to 20 cores / 30MB Cache
System Memory
Memory Capacity
4 DIMM slots
Up to 512GB ECC LRDIMM, DDR4-2933MHz;
Up to 256GB ECC RDIMM, DDR4-2933MHz;
Up to 512GB ECC/non-ECC, DDR4-2933MHz
Memory Type
2933/2666/2400 MT/s ECC/non-ECC DDR4
LRDIMM, RDIMM
DIMM Sizes
LRDIMM: 64GB, 128GB
RDIMM: 8GB, 16GB, 32GB, 64GB
UDIMM: 4GB, 8GB, 16GB, 32GB
Memory Voltage
1.2V
Error Detection
Corrects single-bit errors
Detects double-bit errors (using ECC memory)
On-Board Devices
Chipset
System on Chip
SATA
SoC controller for 2 SATA3 (6 Gbps) ports;
RAID 0,1
4 SATA ports via OCuLink (or PCIe3.0 x4 for NVMe)
IPMI
ASPEED AST2600 BMC
Graphics
1 Aspeed AST2600 BMC port(s)
Network Controllers
Dual LAN with 25G SFP28 LAN via SoC
Dual LAN with Intel® X550 10GbBase-T Ethernet Controller
Quad LAN with Intel® I350 Gigabit Ethernet Controller
Input / Output
SATA
2 SATA3 (6Gbps) port(s)
LAN
4 RJ45 Gigabit Ethernet LAN ports
2 SFP28 25 Gigabit Ethernet LAN ports
2 RJ45 10GbBase-T ports
USB
4 USB 2 port(s) (4 via header)
2 USB 3 port(s) (2 rear type A)
Video Output
1 VGA D-Sub Connector port(s)
Serial Port
1 COM Port(s) (1 header)
DOM
1 SATA DOM (SATADOM) (disk on Module) power connector support
TPM
1 TPM Header & Chip both

Expansion Slots
PCIe
1 PCIe 4.0 x16,
1 PCIe 3.0 x4 (or 4x SATA), via OCuLink,
2 PCIe 4.0 x8, via SlimSAS
M.2
M.2 Interface: 1 SATA/PCIe 3.0 x4
Form Factor: 2242/2280
Key: M-Key
System BIOS
BIOS Type
AMI 32MB SPI Flash EEPROM
BIOS Features
ACPI 6.3
UEFI 2.7
SM BIOS 3.3
Plug and Play (PnP)
PCI Fw 3.0
Management
Software
Redfish API
(/manuals/other/RedfishRefGuide.pdf), Supermicro Server Manager (SSM) (/solutions/SMS_SSM.cfm), Supermicro Update Manager (SUM) (/solutions/SMS_SUM.cfm), SuperDoctor® 5
(/en/solutions/management-software/superdoctor), Super Diagnostics Offline
(/en/solutions/management-software/super-diagnostics-offline), KVM with dedicated LAN
(/manuals/other/BMC_IPMI_X13_H13.pdf#page=112), IPMI 2.0
(/solutions/IPMI.cfm)
Power Configurations
ATX Power connector, +12V DC Power Input, CPU thermal trip support for processor protection, Power-on mode for AC power recovery
Security
Hardware
Trusted Platform Module (TPM) 2.0
PC Health Monitoring
Voltage
3.3V standby, +5V standby, +5V, +3.3V, +12V, Memory Voltages, Monitors CPU Core Voltages
LED
UID/Remote UID
BMC/IPMI Heartbeat LED
Overheat/Fan Fail/PWR Fail LED
Power Indicator LED
LAN temperature
Temperature
CPU thermal trip support
peripheral temperature
System temperature
Memory temperature
NVMe temperature
Platform Environment Control Interface (PECI)/TSI
FAN
6x 4-pin fan headers (up to 6 fans)
System level control, PWM fan speed control, Fan speed control, 6 fans with tachometer status monitoring, Overheat LED Indication, Dual Cooling Zones
Other Features
UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12v DC power connector, 12V DC or ATX Power Source, Intel® QuickAssist Technology
Operating Environment
Operating Temperature Range
0°C - 60°C (32°F - 140°F)
Non-Operating Temperature Range
-40°C - 85°C (-40°F - 185°F)
Operating Relative Humidity Range
10% - 85% (non-condensing)
Non Operating Relative Humidity Range
10% - 95% (non-condensing)

Parts List

Standard Parts (Bulk Package)

I/O Shield	
Part Number	MCP-260-00098-0N • eStore (https://store.supermicro.com/mcp-260-00098-0n.html).
Qty	1
Description	Standard I/O Shield
SATA cable	
Part Number	CBL-0044L • eStore (https://store.supermicro.com/supermicro-sata-flat-straight-straight-57-5cm-cable-cbl-0044l.html).
Qty	2
Description	57.5CM SATA FLAT S-SPBF

Standard Parts (Retail Package)

COM Cable	
Part Number	CBL-CDAT-0605
Qty	1
Description	COM Cable 20cm
I/O Shield	
Part Number	MCP-260-00098-0N • eStore (https://store.supermicro.com/mcp-260-00098-0n.html).
Qty	1
Description	Standard I/O Shield
OCuLink to 4x SATA Cable	
Part Number	CBL-SAST-0933 • eStore (https://store.supermicro.com/supermicro-50cm-oculink-to-4-sata-cable-cbl-sast-0933.html).
Qty	1
Description	50CM OCuLink to 4x SATA Cable
OCuLink to U.2 Cable	
Part Number	CBL-SAST-0956 • eStore (https://store.supermicro.com/supermicro-55cm-oculink-to-u-2-pcie-with-power-cable-cbl-sast-0956.html).
Qty	1
Description	55CM OCuLink to U.2 Cable with Molex Power Header
QRG	
Part Number	MNL-2440-QRG
Qty	1
Description	Motherboard Quick Reference Guide
SATA cable	
Part Number	CBL-0044L • eStore (https://store.supermicro.com/supermicro-sata-flat-straight-straight-57-5cm-cable-cbl-0044l.html).
Qty	2
Description	57.5CM SATA FLAT S-SPBF