SuperServer 2028TP-DNCFR

Integrated Board

Super X10DRT-PIBF

Available Colors: Black

Key Features

Two hot-pluggable systems (nodes) in a 2U form factor. Each node supports the following:

1. Dual socket R3 (LGA 2011) supports Intel® Xeon® processor E5-2600 v3 family; QPI up to 9.6GT/s
2. Up to 1TB ECC LRDIMM, 512GB ECC RDIMM, up to 2133MHz; 16x DIMM sockets
3. 1x PCI-E 3.0 x16, 1x PCI-E 3.0 x8 slots
4. Single port IB (FDR, 56Gbps), w/ QSFP connector
5. Intel® i350 Dual port GbE LAN
6. Integrated IPMI 2.0 with KVM and Dedicated LAN
7. 4x NVMe and 8x 2.5" Hot-swap SAS drives
8. LSI 3008 SAS3 controller (8 ports); RAID 0, 1, 10
9. 1600W Redundant Power Supplies Titanium Level (96%)

Note: Image above may show a varied configuration or optional parts, Please refer to parts list for standard parts included.

Specifications

Product SKUs

SYS-2028TP-DNCFR	▪ SuperServer 2028TP-DNCFR (Black)

Motherboard

Super X10DRT-PIBF

Processor/Cache (per Node)

CPU	▪ Intel® Xeon® processor E5-2600 v3 family (up to 145W TDP) * ▪ Dual Socket R3 (LGA 2011)
Cores / Cache	▪ Up to 18 Cores / Up to 45MB Cache
System Bus	▪ QPI up to 9.6 GT/s
Note	* Please contact Supermicro Technical Support for additional information about

Chassis

Form Factor	▪ 2U Rackmount
Model	▪ CSE-217HD+-R1K68B

Dimensions and Weight

Width	▪ 17.25" (438mm)
Height	▪ 3.47" (88mm)
Depth	▪ 28.75" (730mm)
Weight	▪ Gross Weight: 85 lbs (38.6kg) ▪ Net Weight: 66 lbs (29.9 kg)
Available Colors	▪ Black

Front Panel

Buttons	▪ Power On/Off button ▪ UID button
	▪ Power status LED

frequency optimized CPUs and specialized system optimization.

System Memory (per Node)

Memory Capacity	▪ 16x 288-pin DDR4 DIMM slots ▪ Up to 1TB ECC LRDIMM, 512GB ECC RDIMM
Memory Type	▪ 2133/1866/1600MHz ECC DDR4 SDRAM 72-bit
DIMM Sizes	▪ RDIMM: 32GB, 16GB, 8GB, 4GB ▪ LRDIMM: 64GB, 32GB
Memory Voltage	▪ 1.2 V
Error Detection	▪ Corrects single-bit errors

On-Board Devices

Chipset	▪ Intel® C612 chipset
Infiniband	▪ Mellanox ConnectX-3 FDR Infiniband 56Gbps Controller
SAS	▪ LSI 3008 SAS3 (12Gbps) controller; RAID 0, 1, 10 support ▪ Note: In order to support NVMe drives, both CPU socket must be populated
IPMI	▪ Support for Intelligent Platform Management Interface v.2.0 ▪ IPMI 2.0 with virtual media over LAN and KVM-over-LAN support ▪ ASPEED AST2400 BMC
Network Controllers	▪ Intel® i350 Dual Port Gigabit Ethernet ▪ Virtual Machine Device Queues reduce I/O overhead ▪ Supports 10BASE-T, 100BASE-TX, and 1000BASE-T, RJ45 output ▪ 1x Realtek RTL8201N PHY (dedicated IPMI)
Graphics	▪ ASPEED AST2400 BMC

Input / Output (per Node)

SAS	▪ 8x SAS3 (12Gbps) ports
LAN	▪ 2x RJ45 Gigabit Ethernet LAN ports ▪ 1x RJ45 Dedicated IPMI LAN port
Infiniband	▪ 1x external QSFP Infiniband connector
USB	▪ 2x USB 3.0 ports total (2x rear)
VGA	▪ 1x VGA port
Serial Port / Header	▪ 1x Fast UART 16550 port / 1 Header (internal)
Others	▪ 1x mSATA (full size) and one SATADOM support on the daughter card ▪ 1x SATADOM support on the motherboard
LEDs	HDD activity LED ▪ 2x Network activity LEDs ▪ Universal Information (UID) LED

Expansion Slots (per Node)

PCI-Express	▪ 1x PCI-E 3.0 x16 slot ▪ 1x PCI-E 3.0 x8 slot

Drive Bays (per Node)

Hot-swap	▪ 8x 2.5" Hot-swap SAS HDD Bays ▪ 4x 2.5" Hot-swap Bays support NVMe

System Cooling

Fans	▪ 4x 8cm heavy duty PWM fans with optimal fan speed control

Power Supply

1600W Titanium Level (96%) High-efficiency Redundant Single Output Power Supplies

AC Input	▪ 800W Output @ 100-140V, 7-10A, 50-60Hz ▪ 1600W Output @ 180-240V, 8-11A, 50-60Hz
DC Output	▪ 800W: +12V/67A, +5Vsb/1A ▪ 1600W: +12V/133A, +5Vsb/1A
Certification	Titanium Level [Test Report]

System BIOS

BIOS Type	▪ 128Mb SPI Flash EEPROM with AMI BIOS
BIOS Features	▪ Plug and Play (PnP) ▪ APM 1.2 ▪ PCI 2.2 ▪ ACPI 1.0 / 2.0 ▪ USB Keyboard support ▪ SMBIOS 2.3 ▪ UEFI

Operating Environment / Compliance

RoHS	▪ RoHS Compliant
Environmental Spec.	▪ Operating Temperature: 10°C to 35°C (50°F to 95°F) ▪ Non-operating Temperature: -40°C to 70°C (-40°F to 158°F) ▪ Operating Relative Humidity: 8% to 90% (non-condensing) ▪ Non-operating Relative Humidity: 5% to 95% (non-condensing)

Parts List

Parts List - (Items Included)			
	Part Number	**Qty**	**Description**
Motherboard / Chassis	MBD-X10DRT-PIBF	2	Super X10DRT-PIBF Motherboards
	CSE-217HD+-R1K68B	1	2U Chassis
Backplane	BPN-SAS3-217HD-N4		2U Twin Backplane, support 16xSAS3/SATA3 HDD/SSD (2.5") and 8xNVMe SSD spin up and failure LED supported. HF,RoHS/REACH
Backplane	BPN-ADP-8S3008N4-2UP-O-P	2	2U adapter card for 2U TwinPro system; LSI3008 on board to provide 8x SAS3 ports, 4x NVMe ports, 1x mSATA port and 1x SATADOM port,HF,RoHS/REACH
Heatsink / Retention	SNK-P0048PS	4	2U Passive CPU Heat Sink for X9, X10 Generation Systems Equipped w/ a Narrow ILM MB
Power Supply	PWS-1K68A-1R	2	1U 1600W Redundant Titanium Power Supply 76mm width 27Pair,PBF

Optional Parts List			
	Part Number	**Qty**	**Description**
Onsite Service Program	OS4HR3/2/1	-	3/2/1-year onsite 24x7x4 service
Onsite Service Program	OSNBD3/2/1	-	3/2/1-year onsite NBD service
Software	SFT-OOB-LIC	2	OOB Management Package (per node license)
Software	SFT-DCMS-Single	2	DataCenter Management Package (per node license)