SuperServer 2028GR-TRT

Integrated Board

X10DRG-HT

Views: | Angled View | Top View |
| Front View | Rear View |

▸ **Drivers & Utilities**   ▸ **BIOS**   ▸ **IPMI**   ▸ **Tested Memory**   ▸ **Manuals**
▸ **OS Certification Matrix**   ▸ **Compatible GPU List**   ▸ **Quick-References Guide**   ▸ **Drive Options**

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

Key Features

Up to 4 NVIDIA GPU

1. Dual socket R3 (LGA 2011) supports Intel® Xeon® processor E5-2600 **v4**†/ v3 family; QPI up to 9.6GT/s

2. Up to **2TB**† ECC 3DS LRDIMM , up to DDR4- **2400**†MHz ; 16 DIMM slots

3. 4 PCI-E 3.0 x16 slots (GPU/MIC, opt.), 1 PCI-E 3.0 x8 (in x16) low-profile slot

4. Intel X540 Dual port 10GBase-T

5. 10 Hot-swap 2.5" SATA Drive Bays

6. 2000W Redundant Power Supplies **Platinum Level (94%+)**

7. 5 heavy duty cooling fans

8. Smart server management tools

Specifications

Product SKUs

SYS-2028GR-TRT	▪ SuperServer 2028GR-TRT (**Black**)

Motherboard

Super X10DRG-HT

Processor/Cache

CPU	▪ Intel® Xeon® processor E5-2600 **v4**†/ v3 family (up to 145W TDP) * ▪ Dual Socket R3 (LGA 2011)
Cores / Cache	▪ Up to **22 Cores**† / Up to **55MB**† Cache
System Bus	▪ QPI up to 9.6 GT/s
Note	† BIOS version 2.0 or above is required
Note	* Please contact Supermicro Technical Support for additional information about frequency optimized CPUs and specialized system optimization.
GPU/Xeon Phi Support	▪ NVIDIA® Tesla® K1/K2/K10/K40/K80/M40/M60/Xeon Phi

System Memory

Memory Capacity	▪ 16x 288-pin DDR4 DIMM slots ▪ Up to 2TB† ECC 3DS LRDIMM, 1TB ECC RDIMM
Memory Type	▪ **2400**†/2133/1866/1600MHz ECC DDR4 SDRAM 72-bit
DIMM Sizes	▪ RDIMM: 64GB, 32GB, 16GB, 8GB, 4GB ▪ LRDIMM: 64GB, 32GB ▪ 3DS LRDIMM: 128GB
Memory Voltage	▪ 1.2 V
Error Detection	▪ Corrects single-bit errors

On-Board Devices

Chipset	▪ Intel® C612 chipset
SATA	▪ Intel C612 Controller ▪ SATA3 (6Gbps) with RAID 0, 1, 5, 10
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® X540 Dual Port 10GBase-T ▪ Virtual Machine Device Queues reduce I/O overhead ▪ Supports 10GBASE-T, 100BASE-TX, and 1000BASE-T, RJ45 output
Graphics	▪ ASPEED AST2400 BMC

Input / Output

SATA	▪ 10 SATA3 (6Gbps) ports
LAN	▪ 2 RJ45 10GBase-T ports ▪ 1 RJ45 Dedicated IPMI LAN port

Chassis

Form Factor	▪ 2U Rackmount
Model	▪ **CSE-218GH-R2K03B**

Dimensions and Weight

Height	▪ 3.5" (89mm)
Width	▪ 17.2" (437mm)
Depth	▪ 31" (787mm)
Package	▪ 26.5" (H) x 11" (W) x 44.5" (D)
Weight	▪ Net Weight: 39.5 lbs (17.9 kg) ▪ Gross Weight: 54 lbs (24.5 kg)
Available Color	▪ Black

Front Panel

Buttons	▪ Power On/Off button ▪ System Reset button
LEDs	▪ Power LED ▪ Hard drive activity LED ▪ 2 Network activity LEDs ▪ System Overheat LED / Fan fail LED / UID LED

Expansion Slots

PCI-Express	▪ 4 PCI-E 3.0 x16 slots (support GPU/Xeon Phi cards, option) ▪ 1 PCI-E 3.0 x8 (in x16) low-profile slot

Drive Bays

Hot-swap	▪ 10 Hot-swap 2.5" drive bays

System Cooling

Fans	▪ 5 heavy duty 8cm fans with optimal fan speed control

Power Supply

2000W 1U Redundant Power Supplies with PMBus

Total Output Power	▪ 1000W/1800W/1980W/2000W
Dimension (W x H x L)	▪ 73.5 x 40 x 265 mm
Input	▪ 100-120Vac / 12.5-10.5A / 50-60Hz ▪ 200-220Vac / 10-9.5A / 50-60Hz ▪ 220-230Vac / 10-9.8A / 50-60Hz ▪ 230-240Vac / 10-9.8A / 50-60Hz ▪ 200-240Vac / 10-9.8A (UL/cUL only) ▪ 200-240Vdc / 10-9.1A (CCC only)
+12V	▪ Max: 83.3A / Min: 0.1A (100-120Vac) ▪ Max: 150A / Min: 0.1A (200-220Vac) ▪ Max: 165A / Min: 0.1A (220-230Vac) ▪ Max: 166.7A / Min: 0.1A (230-240Vac) ▪ Max: 166.7A / Min: 0.1A (200-240Vac) (UL/cUL only)

USB	■ 4 USB 3.0 ports (2 rear, 2 via header) ■ 2 USB 2.0 ports (2 via headers)
Video	■ 1 VGA Connector
Serial Port	■ 1 Serial header

System BIOS

BIOS Type	■ 128Mb SPI Flash EEPROM with AMI® BIOS
BIOS Features	■ Plug and Play (PnP) ■ APM 1.2 ■ DMI 2.3 ■ PCI 2.2 ■ ACPI 1.0 / 2.0 ■ USB Keyboard support ■ Hardware BIOS Virus protection ■ SMBIOS 2.3 ■ UEFI ■ RTC (Real Time Clock) Wakeup

12V SB	■ Max: 3.5A / Min: 0A
Output Type	■ 25 Pairs Gold Finger Connector
Certification	Platinum Level [**Test Report**]

PC Health Monitoring

CPU	■ Monitors for CPU Cores,+1.5V, +3.3V, +5V, +12V, +5 Stdby, +3.3 Stdby, VBAT, Memory Voltages. ■ 5 Phase-switching voltage regulator
FAN	■ Total of five 4-pin PWM fans ■ 5 fans with tachometer monitoring ■ Status monitor for speed control ■ Status monitor for on/off control ■ Low noise fan speed control
Temperature	■ Monitoring for CPU and chassis environment ■ CPU thermal trip support ■ Thermal Control for 10x Fan Connectors ■ PSU I^{2}C temperature sensing logic ■ Thermal Monitor 2 (TM2) support ■ PECI
LED	■ Power Fail / Overheat LED ■ Suspend-state Indicator LED ■ UID LED
Other Features	■ SDDC Support

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-X10DRG-HT	1	Super X10DRG-HT Motherboard
	CSE-218GH-R2K03B	1	2U Black SC218G Chassis
Backplane	BPN-SAS-218A	1	10-port 2U (GPU chassis) SAS 6Gbps direct-attached backplane, support up to 10x 2.5-inch SAS/SATA HDD/SSD
Cable 1	CBL-0157L	1	CBL,SGPIO,2X4F TO 2X4F,P2.54,RIBBON IN RND TUBE,40CM,28AWG
Cable 2	CBL-0294L-02	2	(EOL)30AWG 58CM IPASS TO 4 SATA W/SB CROSS OVER
Cable 3	CBL-0484L	2	SATA,INT,ROUND,ST-ST,55CM,30AWG
Cable 4	CBL-0460L	1	8 Pin to Two 4 Pin Backplane Power Ext. 28/22cm. 18AWG
Cable 5	CBL-PWEX-0582	4	8 pin to two 6+2 pin 12V GPU power cable, 30 cm 16/20 AWG, 10A/pin(16AWG), 6A/pin(20AWG), -25~85C, RoHS/REACH
Label	LBL-0108	1	CAUTION LABEL FOR REDUNDANT PWR SYSTEMS
Manual	MNL-1626-QRG	1	SYS-2028GR-TR(T)/TRH(T), QRG,HF,RoHS/REACH
Riser Card	RSC-G2FR-A66	1	RSC-G2FR-A66-O-P
Riser Card	RSC-G2F-A66	1	RSC-G2F-A66-O-P
Riser Card	RSC-R2UG-E16R-X9	1	RSC-R2UG-E16R-X9
Heatsink / Retention	SNK-P0048PS	1	2U Passive CPU Heat Sink for X9, X10 Generation Systems Equipped w/ a Narrow ILM MB
Heatsink / Retention	SNK-P0047PS	1	1U Passive CPU Heat Sink for X9, X10 Systems Equipped w/ a Narrow ILM MB
Power Supply	PWS-2K03P-1R	2	1U 2000W Redundant Power Supply Platinum 73.5mm width.,RoHS/REACH

Optional Parts List

	Part Number	Qty	Description
GPU Supporting Bracket	MCP-240-00139-0N	-	NVIDIA-GPU + PCI Bracket for supporting APEX2800LP and AOC-S2308L-L8E on SC218GH
GPU Supporting Bracket	MCP-120-00070-0N	-	SC218G-4GPU INTEL-XEON-PHI GPU Supporting Bracket Set (SC218-INTEL-KNIGHTR-GPU-BKT)
Cable	CBL-PWEX-0665	-	PCIe 8 pin female(black) to CPU 8 pin female(white), K80/M60/M40 GPU power for 300W card, 30cm, 18AWG
Global Services & Support	OS4HR3/2/1	-	3/2/1-year onsite 24x7x4 service
	OSNBD3/2/1	-	3/2/1-year onsite NBD service
Software	SFT-OOB-LIC • eStore	1	OOB Management Package (per node license)
Software	SFT-DCMS-Single	1	DataCenter Management Package (per node license)