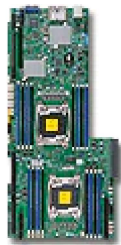


SuperServer 2028GR-TRH



Integrated Board



X10DRG-H

**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](#)**

Key Features

Up to 6 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. 6 PCI-E 3.0 x16 slots (GPU/MIC, opt.), 1 PCI-E 3.0 x8 (in x16) low-profile slot
4. Intel® i350 Dual-Port GbE LAN
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

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

Specifications

Product SKUs

SYS-2028GR-TRH	■ SuperServer 2028GR-TRH (Black)
-----------------------	---

Motherboard

Super X10DRG-H

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.
-------------	--

<u>GPU/Xeon Phi Support</u>	■ 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® i350 Dual Port Gigabit Ethernet ■ Virtual Machine Device Queues reduce I/O overhead ■ Supports 10BASE-T, 100BASE-TX, and 1000BASE-T, RJ45 output
----------------------------	---

Graphics	■ ASPEED AST2400 BMC
-----------------	----------------------

Input / Output

SATA	■ 10 SATA3 (6Gbps) ports
-------------	--------------------------

LAN	■ 2 RJ45 Gigabit Ethernet LAN 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	■ 6 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	<ul style="list-style-type: none"> 4 USB 3.0 ports (2 rear, 2 via header) 2 USB 2.0 ports (2 via headers)
Video	<ul style="list-style-type: none"> 1 VGA Connector
Serial Port	<ul style="list-style-type: none"> 1 Serial header

System BIOS

BIOS Type	<ul style="list-style-type: none"> 128Mb SPI Flash EEPROM with AMI® BIOS
BIOS Features	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Max: 3.5A / Min: 0A
Output Type	<ul style="list-style-type: none"> 25 Pairs Gold Finger Connector
Certification	 Platinum Level [Test Report]

PC Health Monitoring

CPU	<ul style="list-style-type: none"> Monitors for CPU Cores, +1.5V, +3.3V, +5V, +12V, +5 Stdby, +3.3 Stdby, VBAT, Memory Voltages. 5 Phase-switching voltage regulator
FAN	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Monitoring for CPU and chassis environment CPU thermal trip support Thermal Control for 10x Fan Connectors PSU I²C temperature sensing logic Thermal Monitor 2 (TM2) support PECI
LED	<ul style="list-style-type: none"> Power Fail / Overheat LED Suspend-state Indicator LED UID LED
Other Features	<ul style="list-style-type: none"> SDDC Support

Operating Environment / Compliance

RoHS	<ul style="list-style-type: none"> RoHS Compliant
Environmental Spec.	<ul style="list-style-type: none"> 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-H	1	Super X10DRG-H 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-0294L-02	2	(EOL)30AWG 58CM IPASS TO 4 SATA W/SB CROSS OVER
Cable 2	CBL-0484L	2	SATA,INT,ROUND,ST-ST,55CM,30AWG
Cable 3	CBL-PWEX-0582	6	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
Cable 4	CBL-0460L	1	8 Pin to Two 4 Pin Backplane Power Ext. 28/22cm. 18AWG
Cable 5	CBL-0157L	1	CBL,SGPIO,2X4F TO 2X4F,P2.54,RIBBON IN RND TUBE,40CM,28AWG
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-G2B-A66	1	RSC-G2B-A66
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
Battery Backup Kit	BTR-TFM8G-LSICVM02	1	Broadcom Supercap w/ 8GB CV + 24" cable (whole kit)
	MCP-240-00127-0N	1	Broadcom SuperCap Bracket, Include Screw, Same Size as 2.5" HDD
Global Services & Support	<u>OS4HR3/2/1</u>	-	3/2/1-year onsite 24x7x4 service
	<u>OSNBD3/2/1</u>	-	3/2/1-year onsite NBD service
Software	<u>SFT-OOB-LIC</u> • <i>eStore</i>	1	OOB Management Package (per node license)
Software	<u>SFT-DCMS-Single</u>	1	DataCenter Management Package (per node license)