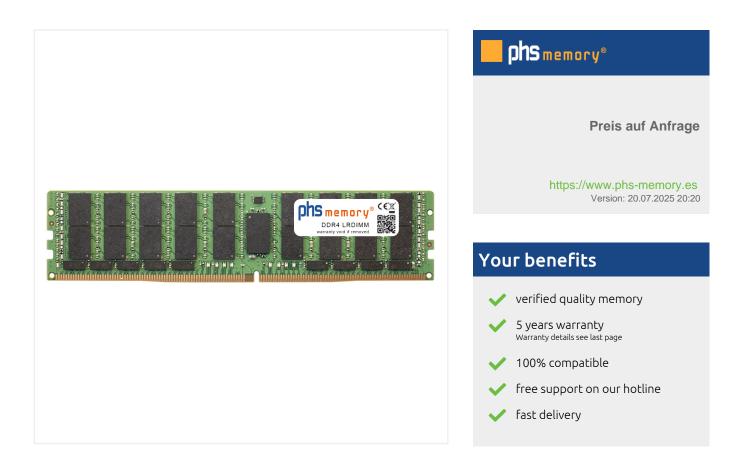
# phs memory®

## 128GB Computer memory DDR4 for Gigabyte MF51-ES1 (rev. 1.0) LRDIMM 3DS



#### PHS-memory® - computer memory with 100% quality

- many years of IT competence
- Free support for optimal configuration and product selection
- High availability through professional warehouse management
- Fast delivery in throughout Europe
- Short response times and professional order processing due to full digitalization throughout the entire process with complete traceability
- Incoming goods inspection include checks of the DRAMs, PCBs and the programmed SPDs in order to exclude possible errors (Controlled BOM).
- PHS-memory® brand memories guarantee 100% compatibility to the specified system.
- PHS-memory® memories can be used together with existing memories in the device depends on to the configuration rules of the system.
- The "fallback option" in the SPD of PHS-memory® allows DRAMs with higher clock rates to be operated together with older memory modules with lower clock rates within the system.
- Products with unique serial number for service and warranty
- Pre-sales and after-sales support by technically trained personnel



### Memory Specification



Memory size	128GB		
Memory technology	DDR4		
ECC support	yes		
JEDEC Norm	PC4-23400-L		
DRAM Organization	3DS 4H 8Gx4		
Rank	8Rx4 (2S4Rx4)		
Туре	LRDIMM (ECC LR DIMM) 3DS		
Number of pins	288 Pin DIMM		
Memory data transfer rate	2933MHz @ CL21		
Voltage	1,2 Volt		
Speciality	3DS		
Board dimensions	133,35 x 31,25 (LxB mm)		
Operating temperature	0° C - 85° C		
Storage temperature	-40° C - +95° C		
RoHS compliant	yes		
SKU	SP469319		
EAN	4067488328442		

#### overRAMing maximize your RAM



Most systems - including the Gigabyte MF51-ES1 (rev. 1.0) - can be upgraded with more memory than originally specified by the device manufacturer.

Therefore, our memory specialists continuously analyze new memory solutions in selected systems. Due to improved manufacturing technologies, new memories with higher performance and capacity will be tested for stability and functionality. Then the new memory solutions are released for the respective systems.

Use the benefits of larger computer memory capacity with the PHSmemory® overRAMing memory solutions.

https://www.phs-memory.es/-BOR

Note: The module specified in this datasheet is one of several possible configurations available under this part number.

Some details may differ from the specifications described here and the illustration, but have no negative influence on the functionality.



#### System Specifications

The memory is 100% compatible with this sytem:

System manufacturer	Gigabyte		
Device type	Motherboard-memory		
Device family	Mainboard M		
Device series	MF51 Serie		
Device name	MF51-ES1 (rev. 1.0)		
Maximum memory*	2TB / 512GB according to manufacturer		
Number of memory sockets	8		

\* The specifications for the maximum memory upgrade may differ from those of the manufacturer Gigabyte. Often the information given in the manual for the maximum memory upgrade is not up to date. New memory technologies, bios updates or newer software versions often allow the use of memory modules with a higher capacity than specified by the manufacturer with the same performance and stability.

Memory modules with our overRAMing-symbol are approved by us for maximum memory expansion.

## Information on memory allocation

Sie können RDIMM Computer memory or LRDIMM Computer memory einsetzen. LRDIMM memory sind gerade dann empfehlenswert, wenn große memorykapazitäten erreicht werden sollen. Registered DIMM and Load Reduced LRDIMM memory modules must not be mixed

#### Information on memory installation

- Turn off the system
- Remove the plug of the power supply unit (if connected)
- Remove the battery, according to the user manual of the system
- Always ground yourself before touching electronic components
- Protect the memory module from static voltages:
- Do not touch the gold pins of the memory module
- Only touch the sides of the memory module
- Use a grounding strap and/or ESD glove if possible

General installation instructions are supplied by E-Mail.



### Further memory options for Gigabyte MF51-ES1 (rev. 1.0)

Size	SKU	Technology	Туре	Number of pins	Brand	Reference no.
8GB	SP364355	DDR4	RDIMM (ECC Registered)	288 Pin DIMM	PHS-memory®	
16GB	SP364353	DDR4	RDIMM (ECC Registered)	288 Pin DIMM	PHS-memory®	
32GB	SP364354	DDR4	RDIMM (ECC Registered)	288 Pin DIMM	PHS-memory®	
64GB	SP364352	DDR4	LRDIMM (ECC LR DIMM)	288 Pin DIMM	PHS-memory®	
64GB	SP469321	DDR4	RDIMM (ECC Registered) 3DS	288 Pin DIMM	PHS-memory®	
128GB	SP469319	DDR4	LRDIMM (ECC LR DIMM) 3DS	288 Pin DIMM	PHS-memory®	
128GB	SP469322	DDR4	RDIMM (ECC Registered) 3DS	288 Pin DIMM	PHS-memory®	
256GB	SP469323	DDR4	RDIMM (ECC Registered) 3DS	288 Pin DIMM	PHS-memory®	
256GB	SP469320	DDR4	LRDIMM (ECC LR DIMM) 3DS	288 Pin DIMM	PHS-memory®	

#### PHS-memory® warranty

Every PHS-memory® is equipped with a 5-years-warranty of perfect operation. If the RAM module is defective or fails within 5 years of purchase when used properly, you will receive an appropriate RAM module free of charge. If a suitable memory module is no longer available, we will refund the purchase price.

For more information on warranty and service please visit https://www.phs-memory.es/-W5Y



#### Contact Information

PHS-electronic gmbh - www.phs-memory.es -Karl-Götz-Str. 5 97424 Schweinfurt Alemania Phone: +49 9721 784678 E-Mail: info@phs-memory.es Web: www.phs-memory.es

All information without guarantee. Technical changes and errors excepted. You can find current price information in our online



shop at https://www.phs-memory.es