

# 128GB Computer memory DDR4 for QNAP TDS-16489U-SB2 RDIMM 3DS





5 years warranty Warranty details see last page 100% compatible

fast delivery

free support on our hotline

## 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-R		
DRAM Organization	3DS 2H 8Gx4		
Rank	4Rx4 (2S2Rx4)		
Type RDIMM (ECC Registered) 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	SP453663		
EAN	4067488170416		

## overRAMing - maximize your RAM



Most systems - including the QNAP TDS-16489U-SB2 - 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.com/-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	QNAP		
Device type	Storage/NAS		
Device family	NAS TDS		
Device series	TDS-16489U Serie		
Device name	TDS-16489U-SB2		
Standard memory	128GB (8x16GB)		
Maximum memory*	4TB		
Number of memory sockets	16		

<sup>\*</sup>The specifications for the maximum memory upgrade may differ from those of the manufacturer QNAP. 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

## Information on memory configuration

The following technical specifications should be considered in advance:

- The system supports RDIMM and RDIMM 3DS (Registered DIMM) or LRDIMM and LRDIMM 3DS (Load Reduced DIMM) memory modules. Large memory capacities can be realised with LRDIMM 3DS modules.
- RDIMM and RDIMM 3DS memory modules cannot be operated together with LRDIMM and LRDIMM 3DS main memories.
- If a memory expansion is to be made with the already existing RAM memories, it must be checked which basic memory technology (RDIMM / LRDIMM) is available.
- Memory slots without a processor may not be used.
- If memory modules are provided with higher speeds than specified by the system, the memory speed is automatically adjusted to the system specifications.

#### memory for Intel Xeon CPUs:

CPU / System	RDIMM	LRDIMM
Xeon E5-16xx v3	8GB RDIMM	32GB LRDIMM
Xeon E5-26xx v3	16GB RDIMM	64GB LRDIMM DDP
Xeon E5-46xx v3	32GB RDIMM	128GB LRDIMM DDP
	64GB RDIMM DDP	128GB LRDIMM 3DS
	128GB RDIMM 3DS	256GB LRDIMM 3DS
	256GB RDIMM 3DS	



## 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 QNAP TDS-16489U-SB2

8GB         SP240557         DDR4         RDIMM (ECC Registered)         288 Pin DIMM         PHS-memory® PHS-memory® PAM-8GDR4-RD -2400           16GB         SP153589         DDR4         RDIMM (ECC Registered)         288 Pin DIMM         PHS-memory® PhS-memor	Size	SKU	Technology	Туре	Number of pins	Brand	Reference no.
Registered)         D-2400           32GB         SP153590         DDR4         RDIMM (ECC Registered)         288 Pin DIMM         PHS-memory® PhS-memory® PhS-memory® RAM-32 GDR4-R D-2400, RAM-32 GDR4ECK0-RD-2666           64GB         SP453662         DDR4         RDIMM (ECC Registered) 3DS         288 Pin DIMM         PHS-memory® PhS-memory® RAM-64GDR4-R D-2400           64GB         SP407567         DDR4         LRDIMM (ECC LR DIMM)         288 Pin DIMM         PHS-memory® RAM-64GDR4EC S0-LR-2666           128GB         SP453663         DDR4         RDIMM (ECC Registered) 3DS         288 Pin DIMM         PHS-memory®           128GB         SP453660         DDR4         LRDIMM (ECC LR DIMM)         288 Pin DIMM         PHS-memory®           128GB         SP453661         DDR4         LRDIMM (ECC LR DIMM)         288 Pin DIMM         PHS-memory®	8GB	SP240557	DDR4	`	288 Pin DIMM	PHS-memory®	
Registered)         D-2400, RAM-32 GDR4ECK0-RD-2 666           64GB         SP453662         DDR4         RDIMM (ECC Registered) 3DS         288 Pin DIMM         PHS-memory® PHS-m	16GB	SP153589	DDR4	•	288 Pin DIMM	PHS-memory®	
Registered) 3DS         D-2400           64GB         SP407567         DDR4         LRDIMM (ECC LR DIMM)         288 Pin DIMM         PHS-memory® SO-LR-2666           128GB         SP453663         DDR4         RDIMM (ECC Registered) 3DS         288 Pin DIMM         PHS-memory®           128GB         SP453660         DDR4         LRDIMM (ECC LR DIMM)         288 Pin DIMM         PHS-memory®           128GB         SP453659         DDR4         LRDIMM (ECC LR DIMM) 3DS         288 Pin DIMM         PHS-memory®           256GB         SP453661         DDR4         LRDIMM (ECC 288 Pin DIMM         PHS-memory®	32GB	SP153590	DDR4	•	288 Pin DIMM	PHS-memory®	D-2400, RAM-32 GDR4ECK0-RD-2
LR DIMM)         SO-LR-2666           128GB         SP453663         DDR4         RDIMM (ECC Registered) 3DS         288 Pin DIMM         PHS-memory®           128GB         SP453660         DDR4         LRDIMM (ECC LR DIMM)         288 Pin DIMM         PHS-memory®           128GB         SP453659         DDR4         LRDIMM (ECC LR DIMM) 3DS         288 Pin DIMM         PHS-memory®           256GB         SP453661         DDR4         LRDIMM (ECC 288 Pin DIMM         PHS-memory®	64GB	SP453662	DDR4	•	288 Pin DIMM	PHS-memory®	
Registered) 3DS         128GB       SP453660       DDR4       LRDIMM (ECC LR DIMM)       288 Pin DIMM       PHS-memory®         128GB       SP453659       DDR4       LRDIMM (ECC LR DIMM) 3DS       288 Pin DIMM       PHS-memory®         256GB       SP453661       DDR4       LRDIMM (ECC 288 Pin DIMM PHS-memory®	64GB	SP407567	DDR4	•	288 Pin DIMM	PHS-memory®	
LR DIMM)           128GB         SP453659         DDR4         LRDIMM (ECC LR DIMM) 3DS         288 Pin DIMM         PHS-memory®           256GB         SP453661         DDR4         LRDIMM (ECC 288 Pin DIMM PHS-memory®	128GB	SP453663	DDR4	•	288 Pin DIMM	PHS-memory®	
LR DIMM) 3DS  256GB SP453661 DDR4 LRDIMM (ECC 288 Pin DIMM PHS-memory®	128GB	SP453660	DDR4	•	288 Pin DIMM	PHS-memory®	
=======================================	128GB	SP453659	DDR4	•	288 Pin DIMM	PHS-memory®	
	256GB	SP453661	DDR4	•	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.com/-W5Y



## Contact Information

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

#### Product Datasheet | SP453663 128GB Computer memory for TDS-16489U-SB2



All information without guarantee. Technical changes and errors excepted. You can find current price information in our online shop at https://www.phs-memory.com