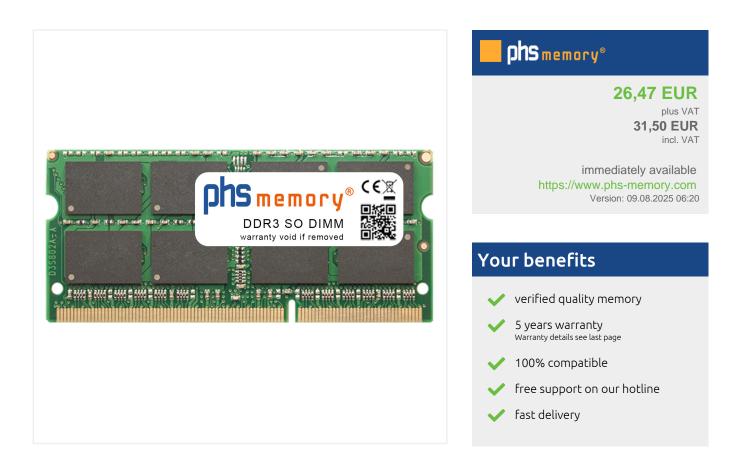
# phs memory®

# 8GB Computer memory DDR3 for Lenovo ThinkPad E450 (20DC) SO DIMM



#### 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	8GB		
Memory technology	DDR3		
ECC support	NO		
JEDEC Norm	PC3L-10600S		
DRAM Organization	512Mx8		
Rank	2Rx8		
Туре	SO DIMM		
Number of pins	204 Pin DIMM		
Memory data transfer rate	1333MHz @ CL9		
Voltage	1,35 Volt		
Speciality	-		
Board dimensions	67,6 x 30 (LxB mm)		
Operating temperature	0° C - 85° C		
Storage temperature	-40° C - +95° C		
RoHS compliant	Yes		
SKU	SP149382		
EAN	4055069231762		

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	Lenovo
Device type	Laptop
Device family	ThinkPad
Device series	E450 Serie
Device name	ThinkPad E450 (20DC)
Standard memory	8GB
Maximum memory*	32GB
Number of memory sockets	2
Annotation	suitable for the following models: 20DC001C 20DC001D 20DC001E, 20DC001F 20DC001K 20DC001H, 20DC001J 20DC001K 20DC001L, 20DC001P 20DC001Q 20DC001R, 20DC001V 20DC001Y 20DC0020, 20DC001X 20DC002Y, 20DC002V, 20DC002X 20DC002Y, 20DC003FUS, 20DC003JUS, 20DC003FUS, 20DC003JUS, 20DC003RUS, 20DC003JUS, 20DC003RUS, 20DC003JUS, 20DC003RUS, 20DC003JUS, 20DC003RUS, 20DC003JUS, 20DC003RUS, 20DC003JUS, 20DC003SUS, 20DC003JUS, 20DC003SUS, 20DC003SUS, 20DC003SUS, 20DC003SUS, 20DC003SUS, 20DC003SUS, 20DC004SUS, 20DC003SUS, 20DC004SUS, 20DC004SUS, 20DC004SUS,



20DC006T.., 20DC006U.., 20DC006V.., 20DC0070.., 20DC0073.., 20DC0076.., 20DC0077.., 20DC0078.., 20DC0079.., 20DC007A.., 20DC007B.., 20DC007E.., 20DC007F., 20DC007H., 20DC007M., 20DC007Q., 20DC007R., 20DC007S., 20DC007U., 20DC007V., 20DC007W., 20DC007Y., 20DC0081., 20DC0083.., 20DC0084.., 20DC0085.., 20DC0086.., 20DC0087.., 20DC0089.., 20DC008D.., 20DC008F.., 20DC008G.., 20DC008H.., 20DC008J.., 20DC008K.., 20DC008N.., 20DC008P.., 20DC008Q.., 20DC008T.., 20DC008V.., 20DC0099US, 20DC009A.., 20DC009B.., 20DC009C.., 20DC009D.., 20DC009E.., 20DC009F.., 20DC009G.., 20DC009H.., 20DC009J.., 20DC009K.., 20DC009L.., 20DC009M.., 20DC009N.., 20DC009P.., 20DC009Q.., 20DC009R.., 20DC009S.., 20DC009T.., 20DC009U.., 20DC00A9.., 20DC00AA.., 20DC00AB.., 20DC00AC.., 20DC00AD.., 20DC00AE.., 20DC00AF.., 20DC00AG.., 20DC00AH.., 20DC00AJ.., 20DC00AK.., 20DC00AL.., 20DC00AVUS, 20DC00AWUS, 20DC00AXUS, 20DC00AYUS, 20DC00B0U

\* The specifications for the maximum memory upgrade may differ from those of the manufacturer Lenovo. 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.

#### 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.

# **phs** memory®

### Further memory options for Lenovo ThinkPad E450 (20DC)

Size	SKU	Technology	Туре	Number of pins	Brand	Reference no.
4GB	SP149381	DDR3	SO DIMM	204 Pin DIMM	PHS-memory®	0B47380
8GB	SP149382	DDR3	SO DIMM	204 Pin DIMM	PHS-memory®	0B47381
16GB	SP149380	DDR3	SO DIMM	204 Pin DIMM	PHS-memory®	4X70J32868

#### 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

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