

## **DuraMemory**<sup>™</sup>

# DDR5 Memory Modules

DDR5 is designed to meet increasing needs for efficient performance in a wide range of applications including cloud computing, and data center processing. The DDR5 memory provides developers with twice the performance (4800 to 6400 MT/s) and improved power efficiency in comparison to DDR4 by using an on-DIMM 12V voltage regulator (PMIC) and 1.1 I/O Voltage.

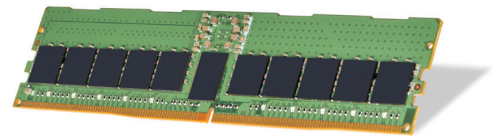
DDR5 also improves scaling performance without degrading channel efficiency at higher speeds. This increased performance is achieved by doubling the burst length to BL16 and bank-count to 32 from 16. For increased reliability and efficiency, a DDR5 DIMM utilizes two 40-bit fully independent sub-channels on the same module. DDR5 memory modules have a maximum die density of 64Gb and hence are capable of having a much higher DIMM storage capacity.

## Features

- Command/Address and Control bus is double data rate
- Generates CRC checksum in READ data frames
- Default burst length increased to BL16 – Single burst = 64B of data
- Integrated Temperature Sensor (MR4)
- DDR5 DRAM contain 256 mode registers

## Benefits

- Higher Bandwidth, DDR5 initial designs 4800 MHz
- Lower Power
- Better power efficiency and scalability
- Higher memory efficiency, lower latency
- Higher capacity DIMMs



## Applications

- High Performance Computing
- Cloud Computing and Storage
- Enterprise Networking

## DDR5 Ordering Information

288-PIN - DDR5 RDIMM							
SMART Part Number	Density	Height (mm)	Module Config.	Device Type	Speed	Voltage	Temperature
ST4098RD520805SB	32GB	31.25	4Gb x80	2Gx8	4800MT/s	1.1V	0°C to +70°C

288-PIN - DDR5 VLP RDIMM							
SMART Part Number	Density	Height (mm)	Module Config.	Device Type	Speed	Voltage	Temperature
ST4098RD520805MAV	32GB	18.75	4Gb x80	2Gx8	4800MT/s	1.1V	0°C to +70°C

288-PIN - DDR5 ECC UDIMM							
SMART Part Number	Density	Height (mm)	Module Config.	Device Type	Speed	Voltage	Temperature
ST2047UD520805SB	16GB	31.25	2Gb x72	2Gx8	4800MT/s	1.1V	0°C to +70°C

## DDR5 Value Memory Modules Ordering Information

288-PIN - DDR5 RDIMM							
SMART Part Number	Density	Height (mm)	Module Config.	Device Type	Speed	Voltage	Temperature
ST8198RD540405-SB	64GB	31.25	8Gb x80	4Gx4	4800MT/s	1.1V	0°C to +70°C
ST4098RD520805-SB	32GB	31.25	4Gb x80	2Gx8	4800MT/s	1.1V	0°C to +70°C
ST4098RD540405-SB	32GB	31.25	4Gb x80	4Gx4	4800MT/s	1.1V	0°C to +70°C
ST2048RD520805-SB	16GB	31.25	2Gb x80	2Gx8	4800MT/s	1.1V	0°C to +70°C

260-PIN - DDR5 SODIMM							
SMART Part Number	Density	Height (mm)	Module Config.	Device Type	Speed	Voltage	Temperature
ST4G6SO5285-SB	32GB	30	4Gb x64	2Gx8	4800MT/s	1.1V	0°C to +70°C
ST2G6SO5285-SB	16GB	30	2Gb x64	2Gx8	4800MT/s	1.1V	0°C to +70°C
ST1G6SO5165-SB	8GB	30	1Gb x64	512Mx16	4800MT/s	1.1V	0°C to +70°C

288-PIN - DDR5 UDIMM							
SMART Part Number	Density	Height (mm)	Module Config.	Device Type	Speed	Voltage	Temperature
ST4G6UD5285-SB	32GB	31.25	4Gb x64	2Gx8	4800MT/s	1.1V	0°C to +70°C
ST2G6UD5285-SB	16GB	31.25	2Gb x64	2Gx8	4800MT/s	1.1V	0°C to +70°C
ST1G6UD5165-SB	8GB	31.25	1Gb x64	512Mx16	4800MT/s	1.1V	0°C to +70°C



For more information, please visit: [www.smartm.com](http://www.smartm.com)

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