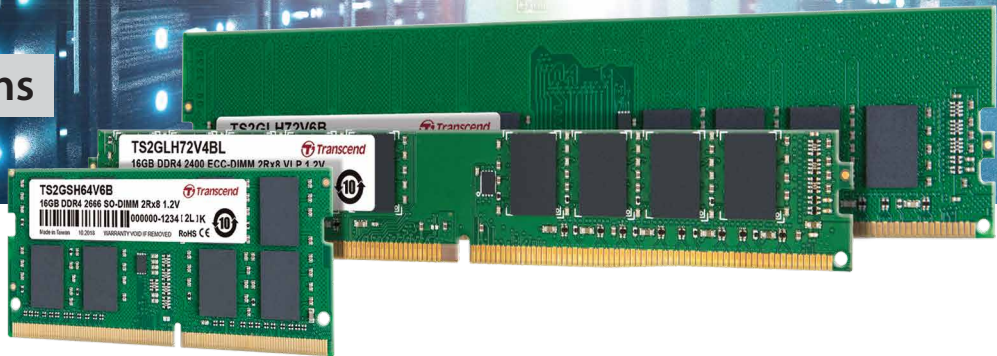


## Embedded Solutions



# DRAM Modules DDR4

Transcend's DDR4 DRAM modules operate at a nominal voltage of just 1.2V, offering higher energy efficiency and exceptional clock speeds to cater to the demands of the embedded industry. The modules are available in multiple form factors and technologies, such as ECC and wide-temperature support. All components are of the highest quality, having been sourced directly from the world's first-tier supplier of DRAM chips and stringently tested for unparalleled compatibility, reliability, and performance.

## Features

- JEDEC standard 1.2V ± 0.06V power supply
- High energy efficiency
- 8 bit pre-fetch
- Burst Length: 4, 8
- 16 Banks (4 Bank Groups)
- Support DBI mode
- Support Command/Address parity detection
- Support Data Cyclic Redundancy Check (CRC) for improved data reliability
- On-die termination with ODT pin
- Serial presence detect with EEPROM
- 100% tested for stability, compatibility and performance

## Advanced Technologies



Anti-Sulfur Technology



Corner Bond & Underfill



Conformal Coating





Wide Temperature



30µm Gold Finger

# DDR4 ECC DIMMs

Module Type	DDR4	
	ECC Long-DIMM	ECC SO-DIMM
Product Image		
Standard	JEDEC	
Speed	3200/2666/2400/2133 Mbps	
Capacity	4GB~32GB	
Voltage	1.2V	
Pin Count	ECC Long-DIMM: 288 pin	ECC SO-DIMM: 260 pin
PCB Height	Standard: 1.23 inches Very Low Profile: 0.74 inches	1.18 inches
PCB Gold Finger Thickness	30μ"	
Anti-Sulfuration	Default	
Operating Temperature	Standard Temperature: 0°C~ 95°C Wide Temperature: -40°C~ 95°C	

## Ordering Information

### DDR4-3200 ECC Long-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.2V)	Wide Temp. (-40°C~ 95°C)	Very Low Profile (VLP)
8GB	(1Gx8)x9	1Rx8	TS1GLH72V2B	TS1GLH72V2B-I	TS1GLH72V2BL
16GB	(1Gx8)x18	2Rx8	TS2GLH72V2B	TS2GLH72V2B-I	TS2GLH72V2BL
16GB	(1Gx8)x18	2Rx8	-	-	TS2GLH72V2B3L
16GB	(2Gx8)x9	1Rx8	TS2GLH72V2E	-	-
16GB	(2Gx8)x9	1Rx8	TS2GLH72V2E3	-	-
32GB	(2Gx8)x18	2Rx8	TS4GLH72V2E	TS4GLH72V2E-I	-
32GB	(2Gx8)x18	2Rx8	TS4GLH72V2E3	-	TS4GLH72V2E3L

### DDR4-3200 ECC SO-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.2V)	Wide Temp. (-40°C~ 95°C)	Very Low Profile (VLP)
4GB	(512Mx16)x4	1Rx16	TS512MSH64V2D	TS512MSH64V2D-I	-
8GB	(1Gx8)x9	1Rx8	TS1GSH72V2B	TS1GSH72V2B-I	-
8GB	(1Gx8)x9	1Rx8	TS1GSH72V2B3	TS1GSH72V2B3-I	-
16GB	(1Gx8)x18	2Rx8	TS2GSH72V2B	TS2GSH72V2B-I	-
16GB	(2Gx8)x9	1Rx8	TS2GSH72V2E	-	-
16GB	(2Gx8)x9	1Rx8	TS2GSH72V2E3	TS2GSH72V2E3-I	-
32GB	(2Gx8)x18	2Rx8	TS4GSH72V2E	TS4GSH72V2E-I	-
32GB	(2Gx8)x18	2Rx8	TS4GSH72V2E3	TS4GSH72V2E3-I	-

## DDR4-2666 ECC Long-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.2V)	Wide Temp. (-40°C~ 95°C)	Very Low Profile (VLP)
4GB	(512Mx8)x9	1Rx8	TS512MLH72V6H	TS512MLH72V6H-I	TS512MLH72V6HL
8GB	(1Gx8)x9	1Rx8	TS1GLH72V6B	TS1GLH72V6B-I	TS1GLH72V6BL
8GB	(1Gx8)x9	1Rx8	TS1GLH72V6B3	-	-
16GB	(1Gx8)x18	2Rx8	TS2GLH72V6B	-	TS2GLH72V6BL
32GB	(2Gx8)x18	2Rx8	TS4GLH72V6E	TS4GLH72V6E-I	TS4GLH72V6EL

## DDR4-2666 ECC SO-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.2V)	Wide Temp. (-40°C~ 95°C)
4GB	(512Mx8)x9	1Rx8	TS512MSH72V6H	TS512MSH72V6H-I
8GB	(1Gx8)x9	1Rx8	TS1GSH72V6B	TS1GSH72V6B-I
16GB	(1Gx8)x18	2Rx8	TS2GSH72V6B	TS2GSH72V6B-I
32GB	(2Gx8)x18	2Rx8	TS4GSH72V6E	TS4GSH72V6E-I
32GB	(2Gx8)x18	2Rx8	TS4GSH72V6E3	-

## DDR4-2400 ECC Long-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.2V)	Wide Temp. (-40°C~ 95°C)	Very Low Profile (VLP)
4GB	(512Mx8)x9	1Rx8	TS512MLH72V4H	-	-
8GB	(1Gx8)x9	1Rx8	TS1GLH72V4B	-	-
16GB	(1Gx8)x18	2Rx8	TS2GLH72V4B	-	-
16GB	(1Gx8)x18	2Rx8	-	-	TS2GLH72V4B3L
32GB	(2Gx8)x18	2Rx8	TS4GLH72V4E	-	-

## DDR4-2400 ECC SO-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.2V)	Wide Temp. (-40°C~ 95°C)
4GB	(512Mx8)x9	1Rx8	TS512MSH72V4H	-
8GB	(512Mx8)x18	2Rx8	-	TS1GSH72V4H-I
8GB	(1Gx8)x9	1Rx8	TS1GSH72V4B	-
16GB	(1Gx8)x18	2Rx8	TS2GSH72V4B	TS2GSH72V4B-I

## DDR4-2133 ECC Long-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.2V)	Wide Temp. (-40°C~ 95°C)	Very Low Profile (VLP)
4GB	(512Mx8)x9	1Rx8	TS512MLH72V1H	-	-
8GB	(512Mx8)x18	2Rx8	TS1GLH72V1H	-	-
16GB	(1Gx8)x18	2Rx8	TS2GLH72V1B	-	-

## DDR4-2133 ECC SO-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.2V)	Wide Temp. (-40°C~ 95°C)
4GB	(512Mx8)x9	1Rx8	TS512MSH72V1H	-
8GB	(512Mx8)x18	2Rx8	TS1GSH72V1H	TS1GSH72V1H-I
16GB	(1Gx8)x18	2Rx8	TS2GSH72V1B	TS2GSH72V1B-I