

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 \pm 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



30 μ m Gold Finger

DDR4 Unbuffered DIMMs



Module Type	DDR4 Long-DIMM	DDR4 SO-DIMM
Standard	JEDEC®	
Speed	3200/2666/2400/2133 MT/s	
Capacity	2GB~32GB	
Voltage	1.2V	
Pin Count	288 pin	260 pin
PCB Height	Standard: 1.23 inches Very Low Profile: 0.74 inches	1.18 inches
PCB Gold Finger Thickness	30μ" (Wide Temp.)	
Anti-Sulfuration	Default (Wide Temp.)	
Operating Temperature	Extended Temperature: -20°C~ 95°C Standard Temperature: 0°C ~ 95°C Wide Temperature: -40°C ~ 95°C	

DDR4-3200 Unbuffered-DIMM

	Capacity	Component Composition	Rank x Org.	Long-DIMM	SO-DIMM	
Extended Temp. (-20°C~ 95°C)	8GB	(1Gx8)x8	1Rx8	TS1GLH64V2B2	TS1GSH64V2B2	
		(1Gx16)x4	1Rx16	TS1GLH64V2G2	TS1GSH64V2G2	
	16GB	(1Gx8)x16	2Rx8	TS2GLH64V2B2	TS2GSH64V2B2	
		(1Gx8)x16 (2Gx8)x8	2Rx8	TS2GLH64V2B2-G TS2GLH64V2E2	TS2GSH64V2B2-G TS2GSH64V2E2	
32GB	(2Gx8)x16	2Rx8	TS4GLH64V2E2	TS4GSH64V2E2		
Standard Temp. (0°C~ 95°C)	8GB	(1Gx8)x8	1Rx8	TS1GLH64V2B1	TS1GSH64V2B1	
		(1Gx8)x8	1Rx8	TS1GLH64V2B1-G	TS1GSH64V2B1-G	
	16GB	(1Gx8)x16	2Rx8	TS2GLH64V2B1	TS2GSH64V2B1	
		(1Gx8)x16	2Rx8	TS2GLH64V2B1-G	TS2GSH64V2B1-G	
		(2Gx8)x8	1Rx8	TS2GLH64V2E	TS2GSH64V2E	
		(2Gx8)x8	1Rx8	TS2GLH64V2E1	TS2GSH64V2E1	
	32GB	(2Gx8)x16	2Rx8	TS4GLH64V2E	TS4GSH64V2E	
		(2Gx8)x16 (2Gx8)x16	2Rx8 2Rx8	TS4GLH64V2E-G TS4GLH64V2E1	TS4GSH64V2E-G TS4GSH64V2E1	
Standard Temp. (0°C~ 85°C)	4GB	(512Mx8)x8	1Rx8	TS512MLH64V2H5	TS512MSH64V2H5	
	8GB	(1Gx8)x8	1Rx8	TS1GLH64V2B5	TS1GSH64V2B5	
	16GB	(2Gx8)x8	1Rx8	TS2GLH64V2E5	TS2GSH64V2E5	
Wide Temp. (-40°C~ 95°C)	8GB	(1Gx8)x8	1Rx8	TS1GLH64V2B2-I	TS1GSH64V2B2-I	
		(1Gx8)x8	1Rx8	TS1GLH64V2B1-I	TS1GSH64V2B1-I	
	16GB	(1Gx8)x16	2Rx8	TS2GLH64V2B1-I	TS2GSH64V2B1-I	
		(1Gx8)x16	2Rx8	TS2GLH64V2B2-I	TS2GSH64V2B2-I	
		(2Gx8)x8	1Rx8	TS2GLH64V2E-I	TS2GSH64V2E-I	
		(2Gx8)x8	1Rx8	TS2GLH64V2E2-I	TS2GSH64V2E2-I	
	32GB	(2Gx8)x16	2Rx8	TS4GLH64V2E-I	TS4GSH64V2E-I	
		(2Gx8)x16 (2Gx8)x16	2Rx8 2Rx8	TS4GLH64V2E1-I TS4GLH64V2E2-I	TS4GSH64V2E1-I TS4GSH64V2E2-I	
	Very Low Profile (0°C~ 95°C)	8GB	(1Gx8)x8	1Rx8	TS1GLH64V2B1L-G	-
		16GB	(1Gx8)x16	2Rx8	TS2GLH64V2B1L-G	-
Very Low Profile + Extended Temp. (-20°C~95°C)	32GB	(2Gx8)x16	2Rx8	TS4GLH64V2E2L	-	
		(2Gx8)x16	2Rx8	TS4GLH64V2E2L-G	-	

DDR4-2666 Unbuffered-DIMM

	Capacity	Component Composition	Rank x Org.	Long-DIMM	SO-DIMM
Standard Temp. (0°C~ 95°C)	2GB	(256Mx16)x4	1Rx16	TS256MLH64V6X	TS256MSH64V6X
	4GB	(512Mx16)x4	1Rx16	TS512MLH64V6D	TS512MSH64V6D
		(512Mx8)x8	1Rx8	TS512MLH64V6H	TS512MSH64V6H
		(512Mx8)x8	1Rx8	TS512MLH64V6H-G	
	8GB	(512Mx8)x16	2Rx8	-	TS1GSH64V6H
	32GB	(2Gx8)x16	2Rx8	TS4GLH64V6E	TS4GSH64V6E
Wide Temp. (-40°C~ 95°C)	4GB	(512Mx8)x8	1Rx8	-	TS512MSH64V6H-I
	32GB	(2Gx8)x16	2Rx8	TS4GLH64V6E-I	TS4GSH64V6E-I
Very Low Profile (0°C~ 95°C)	4GB	(512Mx8)x8	1Rx8	TS512MLH64V6HL	-
	32GB	(2Gx8)x16	2Rx8	TS4GSH64V6EL-G	-

DDR4-2400 Unbuffered-DIMM

	Capacity	Component Composition	Rank x Org.	Long-DIMM	SO-DIMM
Standard Temp. (0°C~ 95°C)	4GB	(512Mx8)x8	1Rx8	TS512MLH64V4H	TS512MSH64V4H
	8GB	(512Mx8)x16	2Rx8	TS1GLH64V4H	TS1GSH64V4H
Wide Temp. (-40°C~ 95°C)	4GB	(512Mx8)x8	1Rx8	-	TS512MSH64V4H-I
	16GB	(1Gx8)x16	2Rx8	-	TS2GSH64V4B1-I

DDR4-2133 Unbuffered-DIMM

	Capacity	Component Composition	Rank x Org.	Long-DIMM	SO-DIMM
Standard Temp. (0°C~ 95°C)	4GB	(512Mx8)x8	1Rx8	TS512MLH64V1H	TS512MSH64V1H
	8GB	(512Mx8)x16	2Rx8	TS1GLH64V1H	TS1GSH64V1H
Wide Temp. (-40°C~ 95°C)	4GB	(512Mx8)x8	1Rx8	-	TS512MSH64V1H-I
	8GB	(512Mx8)x16	2Rx8	-	TS1GSH64V1H-I
Very Low Profile (0°C~ 95°C)	8GB	(512Mx8)x16	2Rx8	TS1GLH64V1HL	-

DDR4 ECC DIMMs



Module Type	DDR4 ECC Long-DIMM	DDR4 ECC SO-DIMM
Standard	JEDEC®	
Speed	3200/2666/2400/2133 MT/s	
Capacity	4GB~32GB	
Voltage	1.2V	
Pin Count	288 pin	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	Extended Temperature: -20°C~ 95°C Standard Temperature: 0°C ~ 95°C Wide Temperature: -40°C ~ 95°C	

DDR4-3200 ECC

	Capacity	Component Composition	Rank x Org.	Long-DIMM	SO-DIMM
Extended Temp. (-20°C~ 95°C)	4GB	(512Mx8)x9	1Rx8	TS512MLH72V2H2	TS512MSH72V2H2
	8GB	(512Mx8)x18	2Rx8	TS1GLH72V2H2	TS1GSH72V2H2
		(1Gx8)x9	1Rx8	TS1GLH72V2B2	TS1GSH72V2B2
	16GB	(1Gx8)x18	2Rx8	TS2GLH72V2B2	TS2GSH72V2B2
(2Gx8)x9		1Rx8	TS2GLH72V2E2	TS2GSH72V2E2	
Standard Temp. (0°C~ 95°C)	8GB	(1Gx8)x9	1Rx8	TS1GLH72V2B6	TS1GSH72V2B6
	16GB	(2Gx8)x9	1Rx8	TS2GLH72V2E	TS2GSH72V2E
		(1Gx8)x18	2Rx8	TS2GLH72V2B6	TS2GSH72V2B6
Wide Temp. (-40°C~ 95°C)	4GB	(512Mx8)x9	1Rx8	TS512MLH72V2H2-I	TS512MSH72V2H2-I
		(1Gx8)x9	1Rx8	TS1GLH72V2B6-I	TS1GSH72V2B6-I
	16GB	(1Gx8)x18	2Rx8	TS2GLH72V2B2-I	TS2GSH72V2B2-I
		(2Gx8)x9	1Rx8	TS2GLH72V2E-I	TS2GSH72V2E-I
	32GB	(1Gx8)x18	2Rx8	TS2GLH72V2B6-I	TS2GSH72V2B6-I
		(2Gx8)x18	2Rx8	TS4GLH72V2E-I	TS4GSH72V2E-I
Very Low Profile (0°C~ 95°C)	16GB	(2Gx8)x18	2Rx8	TS4GLH72V2E2-I	TS4GSH72V2E2-I
		(1Gx8)x18	2Rx8	TS2GLH72V2B6L	-

DDR4-2666 ECC DIMM

	Capacity	Component Composition	Rank x Org.	Long-DIMM	SO-DIMM
Standard Temp. (0°C~ 95°C)	4GB	(512Mx8)x9	1Rx8	TS512MLH72V6H	TS512MSH72V6H
	32GB	(2Gx8)x18	2Rx8	TS4GLH72V6E	TS4GSH72V6E
Wide Temp. (-40°C~ 95°C)	4GB	(512Mx8)x9	1Rx8	-	TS512MSH72V6H-I
	16GB	(1Gx8)x18	2Rx8	-	TS2GSH72V6B6-I
	32GB	(2Gx8)x18	2Rx8	-	TS4GSH72V6E-I

DDR4-2400 ECC DIMM

	Capacity	Component Composition	Rank x Org.	Long-DIMM	SO-DIMM
Standard Temp. (0°C~ 95°C)	4GB	(512Mx8)x9	1Rx8	TS512MLH72V4H	TS512MSH72V4H

DDR4-2133 ECC DIMM

	Capacity	Component Composition	Rank x Org.	Long-DIMM	SO-DIMM
Standard Temp. (0°C~ 95°C)	4GB	(512Mx8)x9	1Rx8	TS512MLH72V1H	TS512MSH72V1H
	8GB	(512Mx8)x18	2Rx8	TS1GLH72V1H	TS1GSH72V1H
	16GB	(1Gx8)x18	2Rx8	TS2GLH72V1B	TS2GSH72V1B

DDR4 Registered DIMMs



Module Type	DDR4 R-DIMM
Standard	JEDEC®
Speed	3200 MT/s
Capacity	8GB~32GB
Voltage	1.2V
Pin Count	288 pin
PCB Height	Standard: 1.23 inches Very Low Profile: 0.74 inches
PCB Gold Finger Thickness	30μ"
Anti-Sulfuration	Default
Operating Temperature	Extended Temperature: -20°C~ 95°C Standard Temperature: 0°C ~ 95°C Wide Temperature: -40°C ~ 95°C

DDR4-3200 Registered DIMM

	Capacity	Component Composition	Rank x Org.	Long-DIMM
Extended Temp. (-20°C~ 95°C)	8GB	(1Gx8)x9	1Rx8	TS1GHR72V2B2
	16GB	(1Gx8)x18	2Rx8	TS2GHR72V2B2
		(2Gx8)x9	1Rx8	TS2GHR72V2E2
Standard Temp. (0°C~ 95°C)	8GB	(2Gx8)x18	2Rx8	TS4GHR72V2E2
		(1Gx8)x9	1Rx8	TS1GHR72V2B6
	16GB	(1Gx8)x18	2Rx8	TS2GHR72V2B6
		(2Gx8)x9	1Rx8	TS2GHR72V2E
	32GB	(2Gx8)x9	1Rx8	TS2GHR72V2E1
		(2Gx8)x18	2Rx8	TS4GHR72V2E
Wide Temp. (-40°C~ 95°C)	8GB	(2Gx8)x18	2Rx8	TS4GHR72V2E1
		(1Gx8)x9	1Rx8	TS1GHR72V2B6-I
	16GB	(1Gx8)x18	2Rx8	TS2GHR72V2B2-I
		(2Gx8)x9	1Rx8	TS2GHR72V2E1-I
	32GB	(2Gx8)x9	1Rx8	TS2GHR72V2E2-I
		(2Gx8)x18	2Rx8	TS4GHR72V2E-I
Very Low Profile (0°C~ 95°C)	8GB	(2Gx8)x18	2Rx8	TS4GHR72V2E1-I
		(1Gx8)x9	1Rx8	TS1GHR72V2B2L
	16GB	(2Gx8)x9	1Rx8	TS2GHR72V2EL
		(2Gx8)x18	2Rx8	TS4GHR72V2EL
	32GB	(2Gx8)x9	1Rx8	TS2GHR72V2E1L
		(2Gx8)x18	2Rx8	TS4GHR72V2EL

Product specifications are subject to change without notice. Pictures shown may differ from actual products. Due to the complexity and variety of industrial applications, Transcend cannot guarantee 100% compatibility with all platforms and under all scenarios. For special applications and environments, it is strongly suggested that you contact Transcend beforehand for clarification.



Please feel free to contact us with any special requests you might have.
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