



## Embedded Solutions

# DRAM Modules DDR3

Transcend's DDR3 DRAM modules operate at a nominal voltage of 1.5V or 1.35V, offering 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 1.5V ± 0.075V power supply
- Low Voltage models: JEDEC standard 1.35V (1.28V~1.45V) power supply
- 8 bit pre-fetch
- Burst Length: 4, 8
- Internal calibration through ZQ pin
- 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  
Gold Finger

# DDR3 Unbuffered DIMMs

Module Type	DDR3	
	Long-DIMM	SO-DIMM
Product Image		
Standard	JEDEC	
Frequency	1866/1600/1333 MHz	
Capacity	1GB~8GB	
Voltage	Standard voltage: 1.5V Low voltage: 1.35V	
Pin Count	Long-DIMM: 240 pin	SO-DIMM: 204 pin
PCB Height*	1.18 inches	
Operating Temperature	Standard Temperature: 0°C~ 85°C Wide Temperature: -40°C~ 85°C	

## Ordering Information

### DDR3-1866 Long-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.5V)	Wide Temp. (-40°C~ 85°C)	Low Voltage (1.35V)	Low Voltage + Wide Temp.
1GB	(128Mx8)x8	1Rx8	TS128MLK64V8U	TS128MLK64V8U-I	TS128MLK64W8U	TS128MLK64W8U-I
2GB	(128Mx8)x16	2Rx8	TS256MLK64V8U	TS256MLK64V8U-I	TS256MLK64W8U	TS256MLK64W8U-I
2GB	(256Mx8)x8	1Rx8	TS256MLK64V8N	TS256MLK64V8N-I	TS256MLK64W8N	TS256MLK64W8N-I
4GB	(256Mx8)x16	2Rx8	TS512MLK64V8N	TS512MLK64V8N-I	TS512MLK64W8N	TS512MLK64W8N-I
4GB	(512Mx8)x8	1Rx8	TS512MLK64V8H	TS512MLK64V8H-I	TS512MLK64W8H	TS512MLK64W8H-I
8GB	(512Mx8)x16	2Rx8	TS1GLK64V8H	TS1GLK64V8H-I	TS1GLK64W8H	TS1GLK64W8H-I

### DDR3-1866 SO-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.5V)	Wide Temp. (-40°C~ 85°C)	Low Voltage (1.35V)	Low Voltage + Wide Temp.
1GB	(128Mx8)x8	1Rx8	TS128MSK64V8U	TS128MSK64V8U-I	TS128MSK64W8U	TS128MSK64W8U-I
2GB	(128Mx8)x16	2Rx8	TS256MSK64V8U	TS256MSK64V8U-I	TS256MSK64W8U	TS256MSK64W8U-I
2GB	(256Mx8)x8	1Rx8	TS256MSK64V8N	TS256MSK64V8N-I	TS256MSK64W8N	TS256MSK64W8N-I
4GB	(256Mx8)x16	2Rx8	TS512MSK64V8N	TS512MSK64V8N-I	TS512MSK64W8N	TS512MSK64W8N-I
4GB	(512Mx8)x8	1Rx8	TS512MSK64V8H	TS512MSK64V8H-I	TS512MSK64W8H	TS512MSK64W8H-I
8GB	(512Mx8)x16	2Rx8	TS1GSK64V8H	TS1GSK64V8H-I	TS1GSK64W8H	TS1GSK64W8H-I

\* DDR3 Long-DIMM VLP modules (0.74 inches) are also available.

## DDR3-1600 Long-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.5V)	Wide Temp. (-40°C~ 85°C)	Low Voltage (1.35V)	Low Voltage + Wide Temp.
1GB	(128Mx8)x8	1Rx8	TS128MLK64V6U	TS128MLK64V6U-I	TS128MLK64W6U	TS128MLK64W6U-I
2GB	(128Mx8)x16	2Rx8	TS256MLK64V6U	TS256MLK64V6U-I	TS256MLK64W6U	TS256MLK64W6U-I
2GB	(256Mx8)x8	1Rx8	TS256MLK64V6N	TS256MLK64V6N-I	TS256MLK64W6N	TS256MLK64W6N-I
4GB	(256Mx8)x16	2Rx8	TS512MLK64V6N	TS512MLK64V6N-I	TS512MLK64W6N	TS512MLK64W6N-I
4GB	(512Mx8)x8	1Rx8	TS512MLK64V6H	TS512MLK64V6H-I	TS512MLK64W6H	TS512MLK64W6H-I
8GB	(512Mx8)x16	2Rx8	TS1GLK64V6H	TS1GLK64V6H-I	TS1GLK64W6H	TS1GLK64W6H-I

## DDR3-1600 SO-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.5V)	Wide Temp. (-40°C~ 85°C)	Low Voltage (1.35V)	Low Voltage + Wide Temp.
1GB	(128Mx8)x8	1Rx8	TS128MSK64V6U	TS128MSK64V6U-I	TS128MSK64W6U	TS128MSK64W6U-I
2GB	(128Mx8)x16	2Rx8	TS256MSK64V6U	TS256MSK64V6U-I	TS256MSK64W6U	TS256MSK64W6U-I
2GB	(256Mx8)x8	1Rx8	TS256MSK64V6N	TS256MSK64V6N-I	TS256MSK64W6N	TS256MSK64W6N-I
4GB	(256Mx8)x16	2Rx8	TS512MSK64V6N	TS512MSK64V6N-I	TS512MSK64W6N	TS512MSK64W6N-I
4GB	(512Mx8)x8	1Rx8	TS512MSK64V6H	TS512MSK64V6H-I	TS512MSK64W6H	TS512MSK64W6H-I
8GB	(512Mx8)x16	2Rx8	TS1GSK64V6H	TS1GSK64V6H-I	TS1GSK64W6H	TS1GSK64W6H-I

## DDR3-1333 Long-DIMM



Capacity	Component Composition	Rank x Org.	Standard (1.5V)	Wide Temp. (-40°C~ 85°C)	Low Voltage (1.35V)	Low Voltage + Wide Temp.
1GB	(128Mx8)x8	1Rx8	TS128MLK64V3U	TS128MLK64V3U-I	TS128MLK64W3U	TS128MLK64W3U-I
2GB	(128Mx8)x16	2Rx8	TS256MLK64V3U	TS256MLK64V3U-I	TS256MLK64W3U	TS256MLK64W3U-I
2GB	(256Mx8)x8	1Rx8	TS256MLK64V3N	TS256MLK64V3N-I	TS256MLK64W3N	TS256MLK64W3N-I
4GB	(256Mx8)x16	2Rx8	TS512MLK64V3N	TS512MLK64V3N-I	TS512MLK64W3N	TS512MLK64W3N-I
4GB	(512Mx8)x8	1Rx8	TS512MLK64V3H	TS512MLK64V3H-I	TS512MLK64W3H	TS512MLK64W3H-I
8GB	(512Mx8)x16	2Rx8	TS1GLK64V3H	TS1GLK64V3H-I	TS1GLK64W3H	TS1GLK64W3H-I

## DDR3-1333 SO-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.5V)	Wide Temp. (-40°C~ 85°C)	Low Voltage (1.35V)	Low Voltage + Wide Temp.
1GB	(128Mx8)x8	1Rx8	TS128MSK64V3U	TS128MSK64V3U-I	TS128MSK64W3U	TS128MSK64W3U-I
2GB	(128Mx8)x16	2Rx8	TS256MSK64V3U	TS256MSK64V3U-I	TS256MSK64W3U	TS256MSK64W3U-I
2GB	(256Mx8)x8	1Rx8	TS256MSK64V3N	TS256MSK64V3N-I	TS256MSK64W3N	TS256MSK64W3N-I
4GB	(256Mx8)x16	2Rx8	TS512MSK64V3N	TS512MSK64V3N-I	TS512MSK64W3N	TS512MSK64W3N-I
4GB	(512Mx8)x8	1Rx8	TS512MSK64V3H	TS512MSK64V3H-I	TS512MSK64W3H	TS512MSK64W3H-I
8GB	(512Mx8)x16	2Rx8	TS1GSK64V3H	TS1GSK64V3H-I	TS1GSK64W3H	TS1GSK64W3H-I

\* DDR3 Long-DIMM VLP modules (0.74 inches) are also available.

# DDR3 ECC DIMMs

Module Type	DDR3	
	ECC Long-DIMM	ECC SO-DIMM
Product Image		
Standard	JEDEC	
Frequency	1866/1600/1333 MHz	
Capacity	2GB~8GB	
Voltage	Standard voltage: 1.5V Low voltage: 1.35V	
Pin Count	Long-DIMM: 240 pin	SO-DIMM: 204 pin
PCB Height*	1.18 inches	
PCB Gold Finger Thickness	30μ"	
Anti-Sulfuration	Default	
Operating Temperature	Standard Temperature: 0°C~ 85°C Wide Temperature: -40°C~ 85°C	

## Ordering Information

### DDR3-1866 ECC Long-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.5V)	Wide Temp. (-40°C~ 85°C)	Low Voltage (1.35V)	Low Voltage + Wide Temp.
2GB	(128Mx8)x18	2Rx8	TS256MLK72V8U	TS256MLK72V8U-I	TS256MLK72W8U	TS256MLK72W8U-I
2GB	(256Mx8)x9	1Rx8	TS256MLK72V8N	TS256MLK72V8N-I	TS256MLK72W8N	TS256MLK72W8N-I
4GB	(256Mx8)x18	2Rx8	TS512MLK72V8N	TS512MLK72V8N-I	TS512MLK72W8N	TS512MLK72W8N-I
4GB	(512Mx8)x9	1Rx8	TS512MLK72V8H	TS512MLK72V8H-I	TS512MLK72W8H	TS512MLK72W8H-I
8GB	(512Mx8)x18	2Rx8	TS1GLK72V8H	TS1GLK72V8H-I	TS1GLK72W8H	TS1GLK72W8H-I

\* DDR3 ECC Long-DIMM VLP modules (0.74 inches) are also available.

### DDR3-1600 ECC Long-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.5V)	Wide Temp. (-40°C~ 85°C)	Low Voltage (1.35V)	Low Voltage + Wide Temp.
2GB	(128Mx8)x18	2Rx8	TS256MLK72V6U	TS256MLK72V6U-I	TS256MLK72W6U	TS256MLK72W6U-I
2GB	(256Mx8)x9	1Rx8	TS256MLK72V6N	TS256MLK72V6N-I	TS256MLK72W6N	TS256MLK72W6N-I
4GB	(256Mx8)x18	2Rx8	TS512MLK72V6N	TS512MLK72V6N-I	TS512MLK72W6N	TS512MLK72W6N-I
4GB	(512Mx8)x9	1Rx8	TS512MLK72V6H	TS512MLK72V6H-I	TS512MLK72W6H	TS512MLK72W6H-I
8GB	(512Mx8)x18	2Rx8	TS1GLK72V6H	TS1GLK72V6H-I	TS1GLK72W6H	TS1GLK72W6H-I

### DDR3-1600 ECC SO-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.5V)	Wide Temp. (-40°C~ 85°C)	Low Voltage (1.35V)	Low Voltage + Wide Temp.
2GB	(256Mx8)x9	1Rx8	TS256MSK72V6N	TS256MSK72V6N-I	TS256MSK72W6N	TS256MSK72W6N-I
4GB	(256Mx8)x18	2Rx8	TS512MSK72V6N	TS512MSK72V6N-I	TS512MSK72W6N	TS512MSK72W6N-I
4GB	(512Mx8)x9	1Rx8	TS512MSK72V6H	TS512MSK72V6H-I	TS512MSK72W6H	TS512MSK72W6H-I
8GB	(512Mx8)x18	2Rx8	TS1GSK72V6H	TS1GSK72V6H-I	TS1GSK72W6H	TS1GSK72W6H-I

### DDR3-1333 ECC Long-DIMM


Capacity	Component Composition	Rank x Org.	Standard (1.5V)	Wide Temp. (-40°C~ 85°C)	Low Voltage (1.35V)	Low Voltage + Wide Temp.
2GB	(128Mx8)x18	2Rx8	TS256MLK72V3U	TS256MLK72V3U-I	TS256MLK72W3U	TS256MLK72W3U-I
2GB	(256Mx8)x9	1Rx8	TS256MLK72V3N	TS256MLK72V3N-I	TS256MLK72W3N	TS256MLK72W3N-I
4GB	(256Mx8)x18	2Rx8	TS512MLK72V3N	TS512MLK72V3N-I	TS512MLK72W3N	TS512MLK72W3N-I
4GB	(512Mx8)x9	1Rx8	TS512MLK72V3H	TS512MLK72V3H-I	TS512MLK72W3H	TS512MLK72W3H-I
8GB	(512Mx8)x18	2Rx8	TS1GLK72V3H	TS1GLK72V3H-I	TS1GLK72W3H	TS1GLK72W3H-I

### DDR3-1333 ECC SO-DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.5V)	Wide Temp. (-40°C~ 85°C)	Low Voltage (1.35V)	Low Voltage + Wide Temp.
2GB	(256Mx8)x9	1Rx8	TS256MSK72V3N	TS256MSK72V3N-I	TS256MSK72W3N	TS256MSK72W3N-I
4GB	(256Mx8)x18	2Rx8	TS512MSK72V3N	TS512MSK72V3N-I	TS512MSK72W3N	TS512MSK72W3N-I
4GB	(512Mx8)x9	1Rx8	TS512MSK72V3H	TS512MSK72V3H-I	TS512MSK72W3H	TS512MSK72W3H-I
8GB	(512Mx8)x18	2Rx8	TS1GSK72V3H	TS1GSK72V3H-I	TS1GSK72W3H	TS1GSK72W3H-I

\* DDR3 ECC Long-DIMM VLP modules (0.74 inches) are also available.

# DDR3 Registered DIMMs

Module Type	DDR3 Registered DIMM
Product Image	
Standard	JEDEC
Frequency	1866/1600/1333 MHz
Capacity	4GB~32GB
Voltage	Standard voltage: 1.5V Low voltage: 1.35V
Pin Count	R-DIMM: 240 pin
PCB Height	Standard: 1.18 inches Very Low Profile: 0.74 inches
PCB Gold Finger Thickness	30μ"
Anti-Sulfuration	Default
Operating Temperature	Standard Temperature: 0°C~ 85°C

## Ordering Information

### DDR3-1866 Registered DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.5V)	Low Voltage (1.35V)	Very Low Profile (VLP)
4GB	(256Mx8)x18	2Rx8	TS512MKR72V8N	TS512MKR72W8N	TS512MKR72V8NL
4GB	(512Mx8)x9	1Rx8	TS512MKR72V8H	TS512MKR72W8H	TS512MKR72V8HL
8GB	(512Mx8)x18	2Rx8	TS1GKR72V8H	TS1GKR72W8H	TS1GKR72V8HL

## DDR3-1600 Registered DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.5V)	Low Voltage (1.35V)	Very Low Profile (VLP)
4GB	(256Mx8)x18	2Rx8	TS512MKR72V6N	TS512MKR72W6N	TS512MKR72V6NL
4GB	(512Mx8)x9	1Rx8	TS512MKR72V6H	TS512MKR72W6H	TS512MKR72V6HL
8GB	(512Mx8)x18	2Rx8	TS1GKR72V6H	TS1GKR72W6H	TS1GKR72V6HL
8GB	(1Gx4)x18	1Rx4	TS1GKR72V6Z	TS1GKR72W6Z	-
16GB	(1Gx4)x36	2Rx4	TS2GKR72V6Z	TS2GKR72W6Z	-
16GB	(2Gx4)x18	2Rx4	-	-	TS2GKR72V6PL
32GB	(2Gx4)x36	4Rx4	TS4GKR72V6P	TS4GKR72W6P	-

## DDR3-1333 Registered DIMM

Capacity	Component Composition	Rank x Org.	Standard (1.5V)	Low Voltage (1.35V)	Very Low Profile (VLP)
4GB	(256Mx8)x18	2Rx8	TS512MKR72V3N	TS512MKR72W3N	TS512MKR72V3NL
4GB	(512Mx8)x9	1Rx8	TS512MKR72V3H	TS512MKR72W3H	TS512MKR72V3HL
8GB	(256Mx8)x36	4Rx8	TS1GKR72V3N	TS1GKR72W3N	-
8GB	(512Mx8)x18	2Rx8	TS1GKR72V3H	TS1GKR72W3H	TS1GKR72V3HL
8GB	(1Gx4)x18	1Rx4	TS1GKR72V3Z	TS1GKR72W3Z	-
16GB	(512Mx8)x36	4Rx8	TS2GKR72V3H	TS2GKR72W3H	-
16GB	(1Gx4)x36	2Rx4	TS2GKR72V3Z	TS2GKR72W3Z	-
16GB	(2Gx4)x18	2Rx4	-	-	TS2GKR72V3PL
32GB	(2Gx4)x36	4Rx4	TS4GKR72V3P	TS4GKR72W3P	-

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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