Transcend®

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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

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# DDR3 Unbuffered DIMMs

| Module Type | DDR3 | |
|---|---|---|
| | Long-DIMM | SO-DIMM |
| Product Image | | |
| Standard | JEDEC | |
| Speed | 1866/1600/1333 Mbps | |
| Capacity | 1GB~8GB | |
| Voltage | Standard voltage: 1.5V<br>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<br>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. |
|---|---|---|---|---|---|---|
| 4GB | (512Mx8)x8 | 1Rx8 | - | - | TS512MLK64W8H | - |

### 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. |
|---|---|---|---|---|---|---|
| 2GB | (256Mx8)x8 | 1Rx8 | TS256MSK64V8N | - | TS256MSK64W8N | - |
| 4GB | (512Mx8)x8 | 1Rx8 | - | - | TS512MSK64W8H | TS512MSK64W8H-I |
| 8GB | (512Mx8)x16 | 2Rx8 | - | - | TS1GSK64W8H | TS1GSK64W8H-I |

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

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## 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 | - |
| 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 |
| 4GB | (512Mx8)x8 | 1Rx8 | - | - | - | TS512MSK64W6H3-I |
| 8GB | (512Mx8)x16 | 2Rx8 | TS1GSK64V6H | TS1GSK64V6H-I | TS1GSK64W6H | TS1GSK64W6H-I |
| 8GB | (512Mx8)x16 | 2Rx8 | - | - | TS1GSK64W6H-G | - |

## 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 | - | - | - |
| 2GB | (256Mx8)x8 | 1Rx8 | TS256MLK64V3N | - | - | - |
| 4GB | (256Mx8)x16 | 2Rx8 | TS512MLK64V3N | - | - | - |
| 4GB | (512Mx8)x8 | 1Rx8 | TS512MLK64V3H | - | - | - |
| 8GB | (512Mx8)x16 | 2Rx8 | TS1GLK64V3H | - | - | - |

## 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 | TS128MSK64W3W | - |
| 2GB | (256Mx8)x8 | 1Rx8 | TS256MSK64V3N | TS256MSK64V3N-I | TS256MSK64W3N | - |
| 4GB | (256Mx8)x16 | 2Rx8 | TS512MSK64V3N | TS512MSK64V3N-I | TS512MSK64W3N | - |
| 4GB | (512Mx8)x8 | 1Rx8 | TS512MSK64V3H | - | - | - |
| 8GB | (512Mx8)x16 | 2Rx8 | TS1GSK64V3H | - | - | - |

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

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# DDR3 ECC DIMMs

| Module Type | DDR3 | |
|---|---|---|
| | ECC Long-DIMM | ECC SO-DIMM |
| Product Image | | |
| Standard | JEDEC | |
| Speed | 1600/1333 Mbps | |
| Capacity | 2GB~8GB | |
| Voltage | Standard voltage: 1.5V<br>Low voltage: 1.35V | |
| Pin Count | Long-DIMM: 240 pin | SO-DIMM: 204 pin |
| PCB Height* | Standard: 1.18 inches<br>Very Low Profile: 0.74 inches | |
| PCB Gold Finger Thickness | 30µ" | |
| Anti-Sulfuration | Default | |
| Operating Temperature | Standard Temperature: 0°C~ 85°C<br>Wide Temperature: -40°C~ 85°C | |

## Ordering Information

### 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 Long-DIMM

| Capacity | Component Composition | Rank x Org. | Very Low Profile (VLP) |
|---|---|---|---|
| 4GB | (512Mx8)x9 | 1Rx8 | TS512MLK72W6HL |
| 8GB | (512Mx8)x18 | 2Rx8 | TS1GLK72W6HL |

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

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## 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-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 | - | - | - |
| 2GB | (256Mx8)x9 | 1Rx8 | TS256MLK72V3N | - | - | - |
| 4GB | (256Mx8)x18 | 2Rx8 | TS512MLK72V3N | - | - | - |
| 8GB | (512Mx8)x18 | 2Rx8 | TS1GLK72V3H | - | - | - |

## 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 | 1Rx9 | TS256MSK72V3N | TS256MSK72V3N-I | TS256MSK72W3N | - |
| 4GB | (256Mx8)x18 | 2Rx8 | TS512MSK72V3N | TS512MSK72V3N-I | - | - |
| 4GB | (512Mx8)x9 | 1Rx8 | - | - | TS512MSK72W3H | - |
| 8GB | (512Mx8)x18 | 2Rx8 | - | TS1GSK72V3H-I | TS1GSK72W3H | - |

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

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# DDR3 Registered DIMMs

| | |
|---|---|
| Module Type | DDR3<br>Registered DIMM |
| Product Image | |
| Standard | JEDEC |
| Speed | 1600/1333 Mbps |
| Capacity | 2GB~16GB |
| Voltage | Standard voltage: 1.5V<br>Low voltage: 1.35V |
| Pin Count | R-DIMM: 240 pin |
| PCB Height | Standard: 1.18 inches<br>Very Low Profile: 0.74 inches |
| PCB Gold Finger Thickness | 30µ" |
| Anti-Sulfuration | Default |
| Operating Temperature | Standard Temperature: 0°C~ 85°C |

## Ordering Information

### DDR3-1600 Registered DIMM

| Capacity | Component Composition | Rank x Org. | Standard (1.5V) | Low Voltage (1.35V) | Very Low Profile (VLP) |
|---|---|---|---|---|---|
| 2GB | (256Mx8)x9 | 1Rx8 | TS256MKR72V6N | TS256MKR72W6N | - |
| 4GB | (256Mx8)x18 | 2Rx8 | TS512MKR72V6N | TS512MKR72W6N | TS512MKR72V6NL |
| 4GB | (512Mx8)x9 | 1Rx8 | TS512MKR72V6H | TS512MKR72W6H | TS512MKR72V6HL |
| 8GB | (512Mx8)x18 | 2Rx8 | TS1GKR72V6H | TS1GKR72W6H | TS1GKR72V6HL |
| 16GB | (1Gx4)x36 | 2Rx4 | TS2GKR72V6Z | - | - |

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## DDR3-1333 Registered DIMM

| Capacity | Component Composition | Rank x Org. | Standard (1.5V) | Low Voltage (1.35V) | Very Low Profile (VLP) |
|---|---|---|---|---|---|
| 2GB | (256Mx8)x9 | 1Rx8 | TS256MKR72V3N | - | TS256MKR72V3NL |
| 8GB | (256Mx8)x36 | 4Rx8 | TS1GKR72V3N | - | - |
| 8GB | (512Mx4)x36 | 2Rx4 | TS1GKR72V3Y | - | - |
| 16GB | (512Mx8)x36 | 4Rx8 | TS2GKR72V3H | - | - |

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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# Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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