



Long-Term Support  
World Class Quality

# DRAM

## LPDDR4/4X SDRAM

### ISSI LPDDR4/4X Product Features:

- Low voltage core and I/O:  
VDD1 = 1.8V  
VDD2 = 1.1V  
VDDQ = 1.1V (LPDDR4) or 0.6V (LPDDR4X)
- Frequency range:  
10MHz to 1866MHz [date rate range: 20MT/s to 3733MT/s per I/O]
- 8 internal banks per channel for concurrent operation
- Programmable Read and Write Latencies
- Programmable and on-the-fly burst length [BL = 16 or 32]
- Temperature Sensor for efficient Self-Refresh control
- Adjustable Drive Strength
- Partial Array Self Refresh [PASR]
- Long-term Support
- Package: 200-ball BGA



### ISSI LPDDR4 Ordering Options

| Den. | Speeds (MT/s) | Part No.        | Org.                   | Pkg.     | Ordering Options  | Status |
|------|---------------|-----------------|------------------------|----------|-------------------|--------|
| 2G   | 3200          | IS43/46LQ16128A | Single channel [1 x16] | BGA[200] | -062TBLx, -062BLx | Prod   |
|      | 3200          | IS43/46LQ32640A | Two channel [2 x16]    | BGA[200] | -062TBLx, -062BLx | Prod   |
| 4G   | 3200          | IS43/46LQ16256A | Single channel [1 x16] | BGA[200] | -062TBLx, -062BLx | Prod   |
|      | 3733, 3200    | IS43/46LQ16256B | Single channel [1 x16] | BGA[200] | -053BLx, -062BLx  | Prod   |
| 8G   | 3200          | IS43/46LQ32128A | Two channel [2 x16]    | BGA[200] | -062TBLx, -062BLx | Prod   |
|      | 3733, 3200    | IS43/46LQ16512A | Single channel [1 x16] | BGA[200] | -053BLx, -062BLx  | S=NOW  |
|      | 3200          | IS43/46LQ32256A | Two channel [2 x16]    | BGA[200] | -062BLx           | Prod   |
|      | 3733, 3200    | IS43/46LQ32256B | Two channel [2 x16]    | BGA[200] | -053BLx, -062BLx  | Prod   |

### ISSI LPDDR4X Ordering Options

| Den. | Speeds (MT/s) | Part No.         | Org.                   | Pkg.     | Ordering Options  | Status |
|------|---------------|------------------|------------------------|----------|-------------------|--------|
| 2G   | 3200          | IS43/46LQ16128AL | Single channel [1 x16] | BGA[200] | -062TBLx, -062BLx | Prod   |
|      | 3200          | IS43/46LQ32640AL | Two channel [2 x16]    | BGA[200] | -062TBLx, -062BLx | Prod   |
| 4G   | 3200          | IS43/46LQ16256AL | Single channel [1 x16] | BGA[200] | -062TBLx, -062BLx | Prod   |
|      | 3733, 3200    | IS43/46LQ16256BL | Single channel [1 x16] | BGA[200] | -053BLx, -062BLx  | Prod   |
| 8G   | 3200          | IS43/46LQ32128AL | Two channel [2 x16]    | BGA[200] | -062TBLx, -062BLx | Prod   |
|      | 3733, 3200    | IS43/46LQ16512AL | Single channel [1 x16] | BGA[200] | -053BLx, -062BLx  | S=NOW  |
|      | 3200          | IS43/46LQ32256AL | Two channel [2 x16]    | BGA[200] | -062TBLx, -062BLx | Prod   |
|      | 3733, 3200    | IS43/46LQ32256BL | Two channel [2 x16]    | BGA[200] | -053BLx, -062BLx  | Prod   |

#### Notes:

1. S = Samples
2. Commercial and Industrial Grade Options begin with "IS43", Automotive Grade Options begin with "IS46".
3. BLx: BL1 = -40°C to 95°C, BLA1 = -40°C to 95°C, BLA2 = -40°C to 105°C, BLA3 = -40°C to 125°C
4. Please contact ISSI for availability of certain ordering options.



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# LPDDR4/4X SDRAM

## ISSI LPDDR4 Ordering Options *with ECC*

| Den. | Speeds   | Part No.         | Org.                   | Pkg.     | Ordering Options    | Status |
|------|----------|------------------|------------------------|----------|---------------------|--------|
| 2G   | 3200MT/s | IS43/46LQ16128EA | Single channel [1 x16] | BGA[200] | -062TB2Lx, -062B2Lx | Prod   |
|      | 3200MT/s | IS43/46LQ32640EA | Two channel [2 x16]    | BGA[200] | -062TB2Lx, -062B2Lx | Prod   |
| 4G   | 3200MT/s | IS43/46LQ16256EA | Single channel [1 x16] | BGA[200] | -062TB2Lx, -062B2Lx | Prod   |
|      | 3200MT/s | IS43/46LQ32128EA | Two channel [2 x16]    | BGA[200] | -062TB2Lx, -062B2Lx | Prod   |
| 8G   | 3200MT/s | IS43/46LQ32256EA | Two channel [2 x16]    | BGA[200] | -062B2Lx            | Prod   |

## ISSI LPDDR4X Ordering Options *with ECC*

| Den. | Speeds   | Part No.          | Org.                   | Pkg.     | Ordering Options    | Status |
|------|----------|-------------------|------------------------|----------|---------------------|--------|
| 2G   | 3200MT/s | IS43/46LQ16128EAL | Single channel [1 x16] | BGA[200] | -062TB2Lx, -062B2Lx | Prod   |
|      | 3200MT/s | IS43/46LQ32640EAL | Two channel [2 x16]    | BGA[200] | -062TB2Lx, -062B2Lx | Prod   |
| 4G   | 3200MT/s | IS43/46LQ16256EAL | Single channel [1 x16] | BGA[200] | -062TB2Lx, -062B2Lx | Prod   |
|      | 3200MT/s | IS43/46LQ32128EAL | Two channel [2 x16]    | BGA[200] | -062TB2Lx, -062B2Lx | Prod   |
| 8G   | 3200MT/s | IS43/46LQ32256EAL | Two channel [2 x16]    | BGA[200] | -062B2Lx            | Prod   |

### Notes:

1. S = Samples
2. Commercial and Industrial Grade Options begin with "IS43", Automotive Grade Options begin with "IS46".
3. B2Lx: B2LI = -40°C to 95°C, B2LA1 = -40°C to 95°C, B2LA2 = -40°C to 105°C, B2LA3 = -40°C to 125°C
4. Please contact ISSI for availability of certain ordering options.

## Additional ISSI Mobile DRAM Options

| Mobile DRAM                    | 32Mb | 64Mb | 128Mb | 256Mb | 512Mb | 1Gb | 2Gb | 4Gb |
|--------------------------------|------|------|-------|-------|-------|-----|-----|-----|
| 1.8V/2.5V/3.3V<br>Mobile SDRAM | ✓    | ✓    | ✓     | ✓     | ✓     |     |     |     |
| 1.8V LPDDR                     | ✓    | ✓    | ✓     | ✓     | ✓     | ✓   | ✓   |     |
| 1.2V [1.8V] LPDDR2             |      |      |       | ✓     | ✓     | ✓   | ✓   | ✓   |