



# DRAM

## High Speed DDR SDRAM

### ► ISSI DDR Standard Features

- Single supply voltage of 2.5V or 2.6V
- Standard double-data rate clock timing
- SSTL\_2 compatible inputs
- Four internal banks with bank controls
- Data masking per byte on Write commands
- Programmable burst length of 2, 4, or 8
- Programmable CAS Latency of 2, 2.5 or 3
- Auto-Refresh and Self-Refresh Modes
- Auto-Precharge Supported
- JEDEC compliant:  
60-ball BGA or 66-pin TSOP-II for x16  
144-ball BGA for x32

### ► Applications

- Access and Aggregation Nodes
- Enterprise Switches
- Packet Optical Transport
- Core and Edge Routers
- Automotive Multimedia and Telematics
- Industrial Test and Measurement
- Medical Imaging & Analysis

### Key Timing Parameters

| Speed [Max Freq.] | -4  | -5  | -6  | Units |
|-------------------|-----|-----|-----|-------|
| CL = 4            | 250 | 200 | 166 | MHz   |
| CL = 3            | 200 | 200 | 166 | MHz   |
| CL = 2.5          | –   | 166 | 166 | MHz   |
| CL = 2            | –   | 133 | 133 | MHz   |

Note: These are general specs. 250MHz (DDR-500) is available for select products. For any given part number, please refer to the corresponding datasheet for the timing specifications.

### ISSI DDR Ordering Options

| Density | Config.  | Part Number              | Package  |        |         | Temperature Grade |      |       |
|---------|----------|--------------------------|----------|--------|---------|-------------------|------|-------|
|         |          |                          | TSOP2-66 | BGA-60 | BGA-144 | Com.              | Ind. | Auto. |
| 128Mbit | 8M x 16  | IS43R16800E              | ■        |        |         | ■                 | ■    |       |
|         | 4M x 32  | IS43R32400E              |          |        | ■       | ■                 | ■    | ■     |
|         | 32M x 8  | IS43R83200D, IS43R83200F | ■        |        |         | ■                 | ■    |       |
| 256Mbit | 16M x 16 | IS43R16160D, IS43R16160F | ■        | ■      |         | ■                 | ■    | ■     |
|         | 8M x 32  | IS43R32800D              |          |        | ■       | ■                 | ■    | ■     |
| 512Mbit | 64M x 8  | IS43R86400E, IS43R86400F | ■        | ■      |         | ■                 | ■    |       |
|         | 32M x 16 | IS43R16320E, IS43R16320F | ■        | ■      |         | ■                 | ■    | ■     |
|         | 16M x 32 | IS43R32160D              |          |        | ■       | ■                 | ■    | ■     |

Notes:

1. Automotive grade DDR part numbers begin with "IS46R".
2. Contact ISSI or refer to full listing of options.