



Long-Term Support
World Class Quality

LPDDR2 DRAM +
Serial NOR Flash

LPDDR2 DRAM Features:

- Densities: 256Mb, 512Mb, 1Gb, 2Gb, 4Gb
- Low-voltage Core and I/O Power Supplies
- VDD2 = 1.2V, VDDCA/VDDQ = 1.2V, VDD1 = 1.8V
- Options: x16, x32
- High Speed Un-terminated Logic(HSUL_12) I/O Interface
- Clock Frequency Range : 10MHz to 533MHz [Data rate range: 20Mbps to 1066Mbps per I/O]
- Four-bit Pre-fetch DDR Architecture
- Multiplexed, double data rate, command/ address inputs
- 4 or 8 internal banks for concurrent operation
- Bidirectional/differential data strobe per byte of data [DQS/DQS#]
- Programmable Read/Write latencies [RL/WL] and burst lengths [4, 8 or 16]
- ZQ Calibration
- On-chip temperature sensor to control self refresh rate
- Partial -array self refresh [PASR]
- Deep power-down mode [DPD]

Serial Flash Features:

- 64Mb, 128Mb, 256Mb
- Industry Standard Serial Interface
- VDD = 1.8V or 3.3V
- 256 bytes per Programmable Page
- Supports standard SPI, Fast, Dual, Dual I/O, Quad, Quad I/O, SPI DTR, Dual I/O DTR, Quad I/O DTR, and QPI
- Supports Serial Flash Discoverable Parameters [SFDP]
- 50MHz Normal and 133MHz Fast Read
- 532 MHz equivalent QPI
- DTR [Dual Transfer Rate] up to 66MHz
- Selectable dummy cycles
- Configurable drive strength
- More than 100,000 erase/program cycles
- More than 20-year data retention
- Chip Erase with Uniform: Sector/Block Erase [4/32/64 Kbyte]
- Program 1 to 256 bytes per page
- Program/Erase Suspend & Resume
- Low Instruction Overhead Operations
- Continuous Read 8/16/32/64-Byte burst
- Selectable burst length
- QPI for reduced instruction overhead
- AutoBoot operation

Applications:

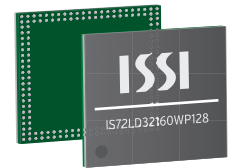
- Industrial scanners
- Health monitors
- Aggregation Nodes
- VoIP
- Consumer wearables
- Mobile Communications
- Network storage
- Automotive
- ADAS
- Tracking/logging
- And many more!

Temperature Grades:

- Commercial (0°C to 70°C)
- Industrial (-40°C to 85°C)
- Automotive, A1 (-40°C to 85°C)
- Automotive, A2 (-40°C to 105°C)
- Automotive, A25 (-40°C to 115°C)

Package:

- 168-ball PoP BGA
- Consistent footprint with density migration



MCP (Multi-Chip Package) LPDDR2 DRAM + Serial NOR Flash Part Numbers

Den	Part Number	DRAM Vcc	DRAM Speed (MHz)	Flash Vcc	Flash Speed (MHz)	Pkg [Pins]	Status
256Mb DRAM + 64Mb Flash	IS71/72LD32800WP064	1.2/1.8V	533, 400, 333	1.8V	133	PoP [168]	S=NOW
256Mb DRAM + 128Mb Flash	IS71/72LD32800WP128	1.2/1.8V	533, 400, 333	1.8V	133	PoP [168]	S=NOW
512Mb DRAM + 128Mb Flash	IS71/72LD32160WP128	1.2/1.8V	533, 400, 333	1.8V	133	PoP [168]	S=NOW
1Gb DRAM + 256Mb Flash	IS71/72LD3230WP256	1.2/1.8V	533, 400, 333	1.8V	133	PoP [168]	S=NOW

Contact us at MCP@issi.com for additional options.

MCP Offering

LPDDR2 DRAM	Serial NOR Flash (168-ball PoP BGA)			
	64Mbit	128Mbit	256Mbit	512Mbit
256Mbit	✓	✓	✓	
512Mbit	✓	✓	✓	
1Gbit	✓	✓	✓	✓
2Gbit	✓	✓	✓	✓
4Gbit	✓	✓	✓	✓