



MCP

LPDDR2 DRAM + Serial NOR Flash

► LPDDR2 DRAM FEATURES:

- Densities: 256Mb, 512Mb, 1Gb
- 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]

► Package:

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

► SERIAL FLASH FEATURES:

- 64Mb, 128Mb
- Industry Standard Serial Interface
- VDD = 1.8V
- 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

► 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]

MCP [Multi-Chip Package] Part Numbers:

Density	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
512Mb DRAM + 128Mb Flash	IS71/72LD32160WP128	1.2/1.8V	533,400,333	1.8V	133	PoP[168]	S=NOW

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