Long-Term Support
World Class Quality

Octal Memory

Octal Flash | Octal RAM | Octal MCP

ISSI's Octal Memory is a portfolio of high-speed, low pin count memory products that utilize the JEDEC xSPI interface. The Octal (xSPI) interface enhances system performance, simplifies design, and reduces system cost. ISSI's new family of Octal products include: Octal (xSPI) Flash, Octal RAM, and Octal MCP solutions.

Octal (xSPI) Flash memory delivers the performance needed from embedded systems that require fast instant boot times. ISSI's Octal flash delivers 400 MB/s of read bandwidth, which is over 4x times faster than a Quad SPI Flash. Octal RAM memory also delivers 400 MB/s of read throughput in a space savings package. These devices are ideal for SoCs with limited on-board RAM and provide the system with fast read and write operations.

Applications

- Instrument Clusters
- Infotainment consoles
- Telematics
- Safety Systems (ADAS)
- Smart TV STB
- HDD
- Printers
- Gaming
- Industrial Controls
- Medical Devices
- Military & Aerospace
- Wireless Access Points
- 4G LTE Base Stations
- Routers & Switches
- Home Networking
- Smart Grid

MCP solutions that implement both Octal (xSPI) Flash and Octal RAM devices are available from ISSI. The combined solution further shrinks the necessary footprint needed by having two separate devices combined into one on the board. The combined devices share a single xSPI bus and are available in a space savings 24-BGA package.

The new family of Octal Bus xSPI compliant devices meet the demand for instant-on high performance applications that are required by the Automotive, Industrial, Medical, Networking, and Consumer Markets. AEC-Q100 support with temperatures up to 125ºC are available.

Key Features

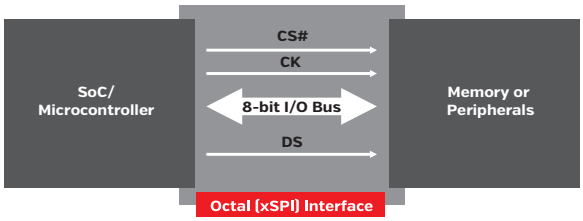
- Interface: JEDEC xSPI standard compliant
- Single Supply Voltage:
  1.8V (1.7–1.95V) or 3V (2.7–3.6V) support
- Densities:
  xSPI Flash: 32Mb to 2Gb
  Octal RAM: 128Mb – 256Mb
- Performance:
  Up to 200 MHz in x8 double data rate (DDR) with DQS (data strobe), up to 400 MB/s read throughput

Temperature Grades

- Industrial Temp Grade (-40ºC to +85ºC)
- Extended Temp Grade (-40ºC to +105ºC)
- Automotive Grade A3 (-40ºC to +125ºC)

Industry Standard Package

- 24-TFBGA



Octal (xSPI) Interface – Low Pin Count

xSPI (Octal) Flash

Den	Part Number	Type	Vcc	Frequency	Temp. Range	Package Type	ECC available
32M	IS25LX032	xSPI	2.7-3.6V	133Mhz	-40 to 125°C	24-TFBGA	YES
	IS25WX032	xSPI	1.7-2.0V	200Mhz	-40 to 125°C	24-TFBGA	YES
64M	IS25LX064	xSPI	2.7-3.6V	133Mhz	-40 to 125°C	24-TFBGA	YES
	IS25WX064	xSPI	1.7-2.0V	200Mhz	-40 to 125°C	24-TFBGA	YES
128M	IS25LX128	xSPI	2.7-3.6V	133Mhz	-40 to 125°C	24-TFBGA	YES
	IS25WX128	xSPI	1.7-2.0V	200Mhz	-40 to 125°C	24-TFBGA	YES
256M	IS25LX256	xSPI	2.7-3.6V	133Mhz	-40 to 125°C	24-TFBGA	YES
	IS25WX256	xSPI	1.7-2.0V	200Mhz	-40 to 125°C	24-TFBGA	YES
512M	IS25LX512MB	xSPI	2.7-3.6V	166Mhz	-40 to 125°C	24-TFBGA	YES
	IS25WX512MB	xSPI	1.7-2.0V	200Mhz	-40 to 125°C	24-TFBGA	YES
1G	IS25LX01GB	xSPI	2.7-3.6V	133Mhz	-40 to 125°C	24-TFBGA	YES
	IS25WX01GB	xSPI	1.7-2.0V	200Mhz	-40 to 125°C	24-TFBGA	YES
2G	IS25LX02GB	xSPI	2.7-3.6V	133Mhz	-40 to 125°C	24-TFBGA	YES
	IS25WX02GB	xSPI	1.7-2.0V	200Mhz	-40 to 125°C	24-TFBGA	YES

Octal RAM

Den	Part Number	Vcc	Frequency	Temp. Range	Package Type	ECC available
32M	IS66/67WVO4M8FALL	1.7-1.95V	200Mhz	-40 to 125°C	BGA[24]	NO
	IS66/67WVO4M8FBLL	2.7-3.6V	200Mhz	-40 to 125°C	BGA[24]	NO
64M	IS66/67WVO8M8FALL	1.7-1.95V	200Mhz	-40 to 125°C	BGA[24]	NO
	IS66/67WVO8M8FBLL	2.7-3.6V	200Mhz	-40 to 125°C	BGA[24]	NO
	IS66/67WVO8M8EDALL	1.7-1.95V	166Mhz	-40 to 105°C	BGA[24]	YES
	IS66/67WVO8M8EDBLL	2.7-3.6V	166Mhz	-40 to 105°C	BGA[24]	YES
128M	IS66/67WVO16M8DALL	1.7-1.95V	200Mhz	-40 to 125°C	BGA[24]	NO
	IS66/67WVO16M8DBLL	2.7-3.6V	166Mhz	-40 to 125°C	BGA[24]	NO
	IS66/67WVO16M8EDALL	1.7-1.95V	166Mhz	-40 to 105°C	BGA[24]	YES
	IS66/67WVO16M8EDBLL	2.7-3.6V	133Mhz	-40 to 105°C	BGA[24]	YES
256M	IS66/67WVO32M8DALL	1.7-1.95V	200Mhz	-40 to 105°C	BGA[24]	NO
	IS66/67WVO32M8DBLL	2.7-3.6V	166Mhz	-40 to 105°C	BGA[24]	NO
512M	IS66/67WVO64M8EALL	1.7-1.95V	250, 200Mhz	-40 to 105°C	BGA[24]	NO
	IS66/67WVO64M8EBLL	2.7-3.6V	200Mhz	-40 to 125°C	BGA[24]	NO
1G	IS66/67WVO128M8EALL	1.7-1.95V	250, 200Mhz	-40 to 105°C	BGA[24]	NO

Octal MCP

Part Number	Description	Vcc	Freq.	Temp. Range	Package
IS72WVO16M8AWO256-200HLA2	1.8V 128Mb OctalRAM + 1.8V 256Mb xSPI Flash	1.7-1.95V	200Mhz	-40 to 105°C	24-TFBGA
IS72WVO16M8AWO256-166HLA3	1.8V 128Mb OctalRAM + 1.8V 256Mb xSPI Flash	1.7-1.95V	166Mhz	-40 to 125°C	24-TFBGA
IS72WVO16M8AWO512-166HLA3	1.8V 128Mb OctalRAM + 1.8V 512Mb xSPI Flash	1.7-1.95V	166Mhz	-40 to 125°C	24-TFBGA
IS72WVO32M8AWO256-200HLA2	1.8V 256Mb OctalRAM + 1.8V 256Mb xSPI Flash	1.7-1.95V	200Mhz	-40 to 105°C	24-TFBGA
IS72WVO32M8AWO512-200HLA2	1.8V 256Mb OctalRAM + 1.8V 512Mb xSPI Flash	1.7-1.95V	200Mhz	-40 to 105°C	24-TFBGA
IS72WVO16M8BLO256-133HLA2	3.0V 128Mb OctalRAM + 3.0V 256Mb xSPI Flash	2.7-3.6V	133Mhz	-40 to 105°C	24-TFBGA
IS72WVO16M8BLO256-133HLA3	3.0V 128Mb OctalRAM + 3.0V 256Mb xSPI Flash	2.7-3.6V	133Mhz	-40 to 125°C	24-TFBGA
IS72WVO16M8BLO512-133HLA3	3.0V 128Mb OctalRAM + 3.0V 512Mb xSPI Flash	2.7-3.6V	133Mhz	-40 to 125°C	24-TFBGA
IS72WVO32M8BLO256-133HLA2	3.0V 256Mb OctalRAM + 3.0V 256Mb xSPI Flash	2.7-3.6V	133Mhz	-40 to 105°C	24-TFBGA
IS72WVO16M8BLO512-133HLA2	3.0V 256Mb OctalRAM + 3.0V 512Mb xSPI Flash	2.7-3.6V	133Mhz	-40 to 105°C	24-TFBGA

Hyper+ Octal MCP

Part Number	Description	Vcc	Freq.	Temp. Range	Package
IS72WVH16M8AWO256-200HLA2	1.8V 128Mb HyperRAM + 1.8V 256Mb xSPI Flash	1.7-1.95V	200Mhz	-40 to 105°C	24-TFBGA
IS72WVH32M8AWO256-200HLA2	1.8V 256Mb HyperRAM + 1.8V 256Mb xSPI Flash	1.7-1.95V	200Mhz	-40 to 105°C	24-TFBGA
IS72WVH32M8AWO512-200HLA2	1.8V 256Mb HyperRAM + 1.8V 512Mb xSPI Flash	1.7-1.95V	200Mhz	-40 to 105°C	24-TFBGA
IS72WVH16M8BLO256-133HLA2	3.0V 128Mb HyperRAM + 3.0V 256Mb xSPI Flash	2.7-3.6V	133Mhz	-40 to 105°C	24-TFBGA
IS72WVH32M8BLO256-133HLA2	3.0V 256Mb HyperRAM + 3.0V 256Mb xSPI Flash	2.7-3.6V	133Mhz	-40 to 105°C	24-TFBGA
IS72WVH32M8BLO512-133HLA2	3.0V 256Mb HyperRAM + 3.0V 512Mb xSPI Flash	2.7-3.6V	133Mhz	-40 to 105°C	24-TFBGA
IS72WVH16M8AWO256-166HLA3	1.8V 128Mb HyperRAM + 1.8V 256Mb xSPI Flash	1.7-1.95V	166Mhz	-40 to 125°C	24-TFBGA
IS72WVH16M8AWO512-166HLA3	1.8V 128Mb HyperRAM + 1.8V 512Mb xSPI Flash	1.7-1.95V	166Mhz	-40 to 125°C	24-TFBGA
IS72WVH16M8BLO256-133HLA3	3.0V 128Mb HyperRAM + 3.0V 256Mb xSPI Flash	2.7-3.6V	133Mhz	-40 to 125°C	24-TFBGA
IS72WVH16M8BLO512-133HLA3	3.0V 128Mb HyperRAM + 3.0V 512Mb xSPI Flash	2.7-3.6V	133Mhz	-40 to 125°C	24-TFBGA