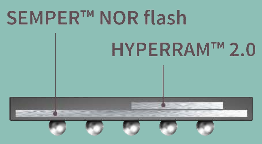


Product brief

Flash+RAM MCP Gen 2

Fewer components and simplified layout

Automotive cluster and industrial HMI applications typically implement NOR Flash for boot code and RAM for scratchpad expansion memory. Infineon Flash+RAM Multi-chip Package (MCP) Gen 2 combines SEMPER™ NOR Flash and HYPERRAM™ 2.0 in a single package for a high-performance, low pin-count, integrated solution. This next generation MCP improves on the prior generation HYPERBUS™ MCP with increased performance and reliability, and the addition of an Octal interface option.

Dashboard **Infotainment** **HMI**

SEMPER™ NOR Flash memory is Infineon's high-performance, safe, and reliable NOR Flash memory solution that integrates critical safety features for a broad range of applications spanning automotive, industrial, communications, and more. With SEMPER™ NOR Flash, Infineon delivers the industry's first ASIL B compliant and ASIL D ready NOR Flash device.

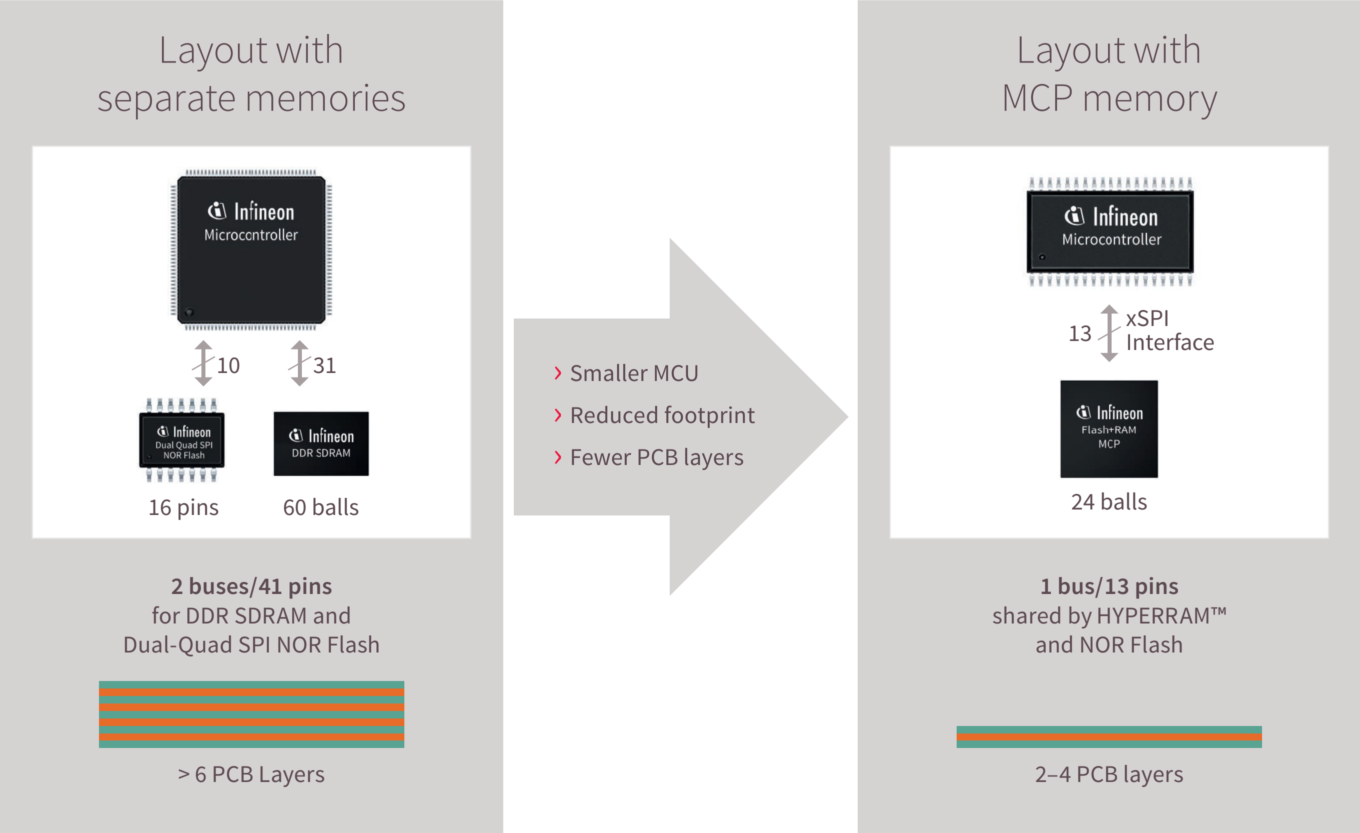
HYPERRAM™ 2.0 is a stand-alone pSRAM-based volatile memory that offers an easy and inexpensive way to add more RAM to your applications. These low-power devices deliver high performance and low pin count, making them ideal for applications requiring external RAM for buffering data, audio, images, and video, or as a scratchpad for math and data-intensive operations.

Key features

- Density configuration:
  512 Mb Flash + 64 Mb RAM
- Voltage: 1.8 V, 3.0 V
- Interface:
  - Octal (xSPI Profile 1)
  - HYPERBUS™ (xSPI Profile 2)
- Performance:
  400 MB/s read bandwidth
- Temperature range:
  Automotive Grade 2 (-40°C to +105°C)
- Package: 24-ball BGA (8 x 8 mm)

Flash+RAM MCP Gen 2

SEMPER™ Flash and HYPERRAM™ 2.0 in a single package



Layout with separate memories

16 pins

60 balls

2 buses/41 pins
for DDR SDRAM and
Dual-Quad SPI NOR Flash

> 6 PCB Layers

- Smaller MCU
- Reduced footprint
- Fewer PCB layers

Layout with MCP memory

24 balls

1 bus/13 pins
shared by HYPERRAM™
and NOR Flash

2–4 PCB layers

Flash+RAM MCP Gen 2 configurations

Flash density	RAM density	Interface	Voltage [V]	MPN
512 Mbit	64 Mbit	Octal (xSPI Profile 1)	1.8	S78HS512TC0BHB010
			3.0	S78HL512TC0BHB000
		HYPERBUS™ (xSPI Profile 2)	1.8	S76HS512TC0BHB010
			3.0	S76HL512TC0BHB000

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