

THIS SPEC IS OBSOLETE

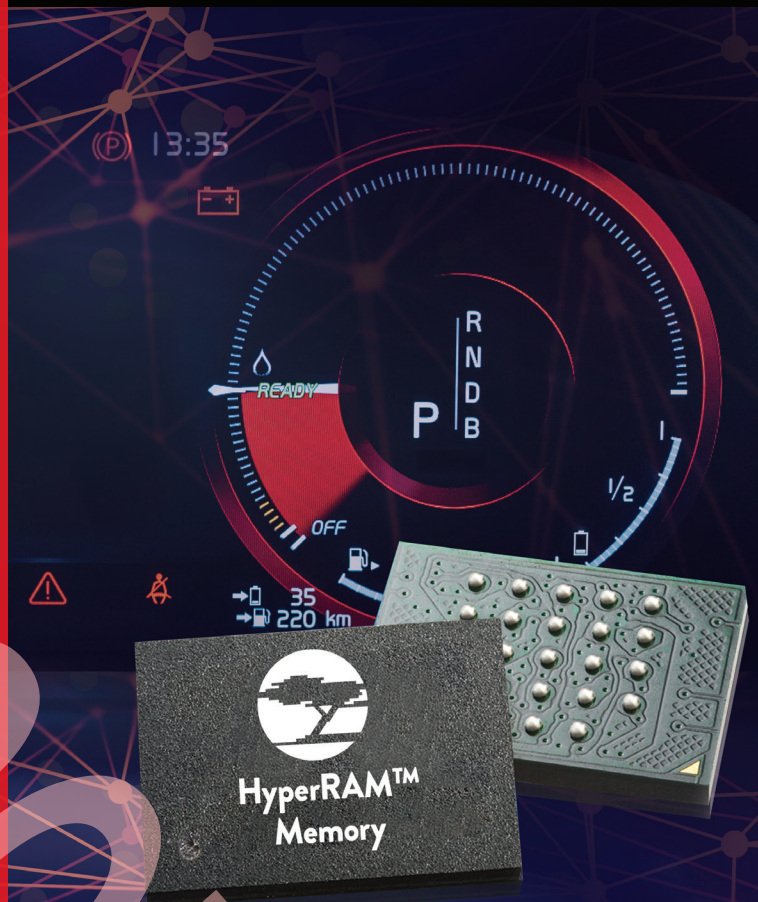
Spec No: 002-13538

Spec Title: CYPRESS 64MB TO 128MB KS.1 .1.8.V. / KL.1
.3.0.V. HYPERRAM MEMORY

Replaced by: NONE

CYPRESS 64MB TO 128MB KS-1 (1.8-V) / KL-1 (3.0-V) HYPERRAM™ MEMORY

Cypress HyperRAM devices are high-speed, self-refresh Dynamic RAM (DRAM) with a HyperBus™ interface for systems requiring expanded scratchpad memory. HyperRAM provides read/write bandwidth of up to 333 MBps in DDR mode. Available in the industry's smallest package, the 6 mm x 8 mm 24-ball BGA, HyperRAM shares a common footprint with HyperFlash™ NOR Flash Memory. For systems requiring higher temperature ranges, an industrial-plus operating temperature range of -40°C to +105°C is offered. Cypress applies stringent testing and qualification processes to ensure all parts meet our world-class quality requirements, and offers AEC-Q100 qualification.



FEATURES

Clock Rate (DDR)

- 166 MHz (KS-1)
- 100 MHz (KL-1)

READ/WRITE Bandwidth

- 333 MBps (KS-1)
- 200 MBps (KL-1)

Supply Voltage

- 1.70-V to 1.95-V Supply Voltage (KS-1)
- 2.70-V to 3.60-V Supply Voltage (KL-1)

Temperature Ranges

- Industrial: -40°C to +85°C
- Industrial Plus: -40°C to +105°C

Supply Voltage

- 1.70-V to 1.95-V Supply Voltage (KS-1)
- 2.70-V to 3.60-V Supply Voltage (KL-1)

Automotive Support

- AEC-Q100 Qualification
- PPAP Support

HYPERBUS INTERFACE

- HyperBus is a high-bandwidth, 12-signal interface that transfers information over 8 I/O signals at double data rate (DDR), delivering bandwidth of up to 333 MBps
- The HyperBus interface enables a small 48-mm² 24-ball package which shares a common footprint with HyperFlash products
- HyperBus is supported by a wide ecosystem of host controllers and memory types

HIGH RELIABILITY

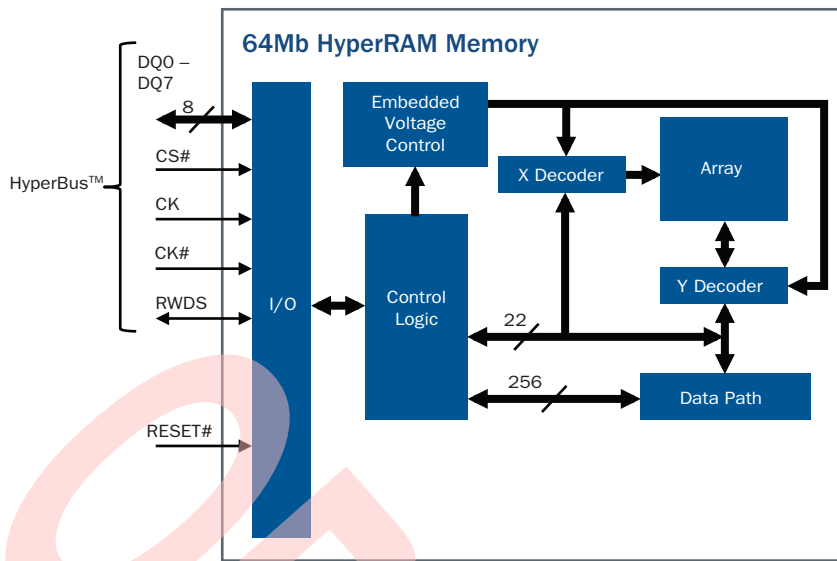
- An industrial-plus temperature range of -40°C to +105°C is offered
- AEC-Q100-qualified parts and PPAP support available

DRAM AND FLASH ON THE SAME BUS

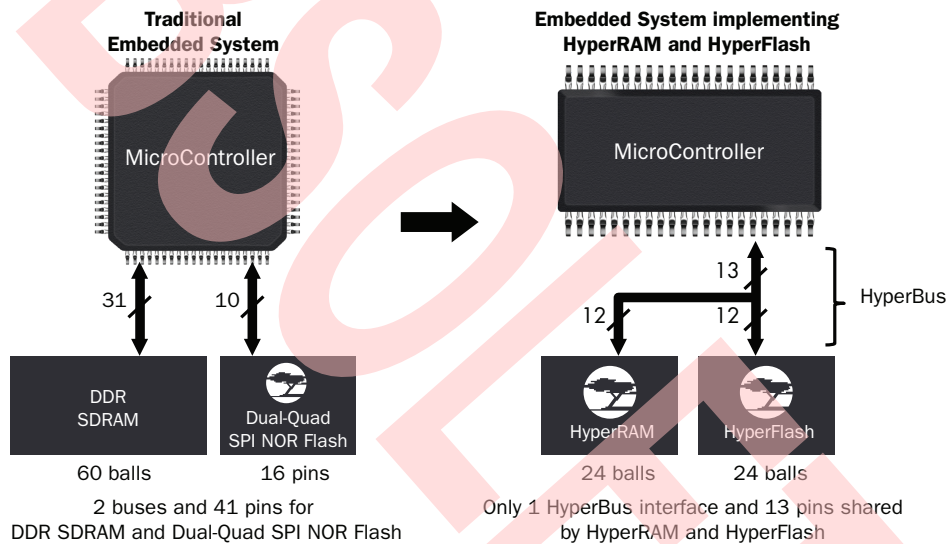
- Reducing pin count simplifies design complexity and decreases system cost
- HyperFlash and HyperRAM can be placed on the same bus and only require 13-pins for data transactions (12-pin HyperBus + 1 additional chip select for the second memory device)

TARGET APPLICATIONS

- Automotive instrument clusters and infotainment systems
- Networking devices
- Industrial applications



64Mb HyperRAM Memory Block Diagram



Operating on a Single HyperBus Simplifies Designs and Reduces Pin Count

HYPERRAM MEMORY DEVICE PORTFOLIO

| MPN | Density | Voltage | Speed (DDR) | Bandwidth | Package | Temperature Range |
|-----------|----------|---------|-------------|-----------|------------------------------|--|
| S27KS0641 | 64 Mbit | 1.8-V | 166 MHz | 333 MBps | 24-ball BGA (6 mm x 8 mm) | I = Industrial (–40°C to +85°C) V = Industrial Plus (–40°C to +105°C) |
| S70KS1281 | 128 Mbit | | | | | |
| S27KL0641 | 64 Mbit | 3.0-V | 100 MHz | 200 MBps | | |
| S70KL1281 | 128 Mbit | | | | | |



GET STARTED NOW

To learn more about HyperRAM Memory products, visit <http://www.cypress.com/HyperRAM>

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