

Product brief

Ultra-Low-Power SRAM

Performance, Reliability, and Industry-leading Low Power Consumption

Overview

The Ultra-Low-Power MoBL™ SRAM family with on-chip ECC is Cypress' newest ultra-low-power, high-performance, reliable asynchronous SRAM solution specifically designed for mission-critical industrial and consumer systems. This family takes advantage of advanced 65-nm technology to offer SRAMs from 8-Mbit to 64-Mbit densities to meet the industry's growing need for reliable low-power SRAMs.

Ultra-Low-Power SRAM advantages

ULP SRAM memories support high reliability, low-power, battery-backed applications:

- > Best-in-class standby power
- > Highest reliability using embedded ECC
- > Package compatibility with legacy SRAMs supports footprint-compatible upgrade path
- > Drop-in compatibility with legacy SRAMs

ULP SRAM is Infineon's next-generation memory family purpose-built to operate in harsh industrial and energy-saving battery-backed systems, without compromising performance or reliability. Infineon's advanced design and process set the industry standard in SRAM technology.

Applications

Infineon's Ultra-Low-Power SRAM is an ideal solution for a variety of industrial applications, including:

- > Industrial Automation
- > Data Logging
- > Point-of-Sale
- > Programmable Logic Controllers
- > Test and Measurement
- > Motor Controls
- > Automotive

Features

High Performance

- > 45 nsec access times
- > x8, x16 parallel interfaces
- > Operating voltage range 2.2V – 3.6V and 1.65V – 2.25V
- > Standby current I_{SB2} max at 85°C 0.5 μ A/Mb

Reliable

- > On-chip ECC
- > Bit interleaving to prevent multi-bit errors
- > Industrial grade: -40°C to +85°C
- > Automotive grades: -40°C to +85°C

Package Options

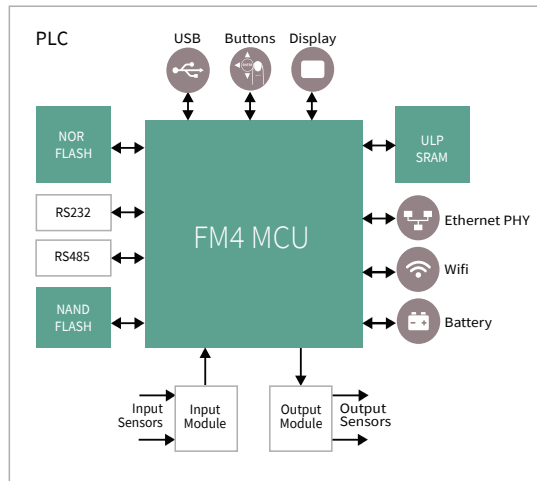
- > 48 TSOP I
- > 48 BGA
- > 44 TSOP II



Ultra-Low-Power SRAM

Performance, Reliability, and Industry-leading Low Power Consumption

Industrial automation systems



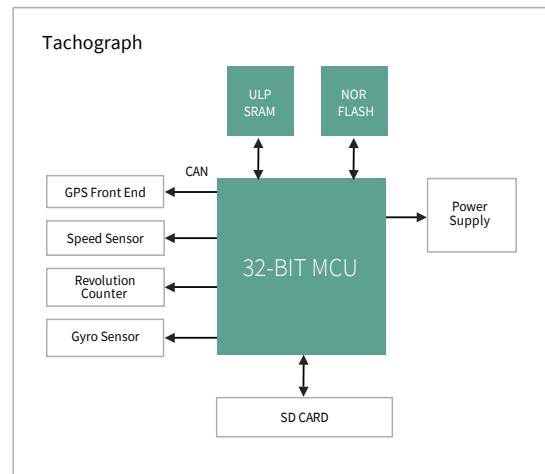
Problem

I'm developing a controller for use in harsh factory automation environments that must retain data when power is lost, but must operate at high speed with 32-bit microcontrollers and have perfect data integrity.

Solution

Infineon's Ultra-Low-Power SRAMs support high performance parallel I/Os with on-chip ECC while delivering best-in-class standby power for exceptional battery-backed data retention.

Automotive systems



Problem

I need a fixed-function system to track driving speed and work-related operations on a vehicle. The low-power expansion memory must offer high reliability.

Solution

Infineon's 65-nm Async SRAM is a high-capacity (8-Mbit to 64-Mbit) parallel SRAM with <0.1FIT/Mb. It provides AEC-Q100-qualified memory components, and operates at ultra-low-power.

ULP SRAM portfolio

Density	Part Number	Organization	Voltage Range	Speed	Package	Temperature	AEC-Q100
8-Mbit	CY6215x	x8, x16	1.65V - 2.25V, 2.2V - 3.6V	45ns	48FBGA, 48TSOPI, 44TSOPII	-40°C to +85°C	Yes
16-Mbit	CY6216x	x8, x16	2.2V - 3.6V	45ns	48FBGA, 48TSOPI	-40°C to +85°C	No
32-Mbit	CY6217x	x16	2.2V - 3.6V	55ns	48FBGA, 48TSOPI	-40°C to +85°C	No
64-Mbit	CY6218x	x16	2.2V - 3.6V	55ns	48FBGA	-40°C to +85°C	No

To learn more about Ultra-Low-Power SRAM products, visit www.infineon.com/SRAM

Published by
Infineon Technologies AG
81726 Munich, Germany

© 2021 Infineon Technologies AG.
All Rights Reserved.

Please note!

This Document is for information purposes only and any information given herein shall in no event be regarded as a warranty, guarantee or description of any functionality, conditions and/or quality of our products or any suitability for a particular purpose. With regard to the technical specifications of our products, we kindly ask you to refer to the relevant product data sheets provided by us. Our customers and their technical departments are required to evaluate the suitability of our products for the intended application.

We reserve the right to change this document and/or the information given herein at any time.

Additional information

For further information on technologies, our products, the application of our products, delivery terms and conditions and/or prices, please contact your nearest Infineon Technologies office (www.infineon.com).

Warnings

Due to technical requirements, our products may contain dangerous substances. For information on the types in question, please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by us in a written document signed by authorized representatives of Infineon Technologies, our products may not be used in any life-endangering applications, including but not limited to medical, nuclear, military, life-critical or any other applications where a failure of the product or any consequences of the use thereof can result in personal injury.