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 $I_{SB\max}$ at 85°C 0.5 $\mu$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

www.infineon.com/SRAM
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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.

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, 44TSOPI | -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

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.

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