ULTRA-LOW-POWER SRAM

Performance, Reliability, and Industry-leading Low Power Consumption

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 Mb to 64 Mb densities to meet the industry’s growing need for reliable low-power SRAMs.

FEATURES

HIGH PERFORMANCE

- 45 nsec access times
- x8, x16, x32 parallel interfaces
- Operating voltage range 2.2V – 3.6V and 1.65V – 2.25V
- Standby current ISB2 max at 85°C 0.5 µA/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 and -40°C to +125°C

PACKAGE OPTIONS

- 48 TSOP I
- 48 BGA
- 119 BGA
- 44 TSOP II

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

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:
Cypress’ 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.

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

ULP SRAM PORTFOLIO

<table>
<thead>
<tr>
<th>Density</th>
<th>Part Number</th>
<th>Organization</th>
<th>Voltage Range</th>
<th>Speed</th>
<th>Package</th>
<th>Temperature</th>
<th>AEC-Q100</th>
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<tbody>
<tr>
<td>8Mbit</td>
<td>CY6215x</td>
<td>x8, x16</td>
<td>1.6V - 2.25V, 2.2V - 3.6V</td>
<td>45ns</td>
<td>48FBGA, 48TSOPI, 44T5OPI</td>
<td>-40C to +85C, -40C to +125C</td>
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<td>CY6216x</td>
<td>x8, x16, x32</td>
<td>2.2V - 3.6V</td>
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<td>-40C to +85C</td>
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<td>32Mbit</td>
<td>CY6217x</td>
<td>x8, x16</td>
<td>2.2V - 3.6V</td>
<td>55ns</td>
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<td>64Mbit</td>
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<td>x16</td>
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<td>48FBGA</td>
<td>-40C to +85C</td>
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</table>

LEARN MORE
WWW.CYPRESS.COM/PRODUCTS/ASYNCHRONOUS-SRAM