ISSI Asynchronous SRAM

ISSI is committed to providing long-term support for our Asynchronous SRAMs, including 5V, High Speed/Low Power, Ultra-Low Power and Pseudo SRAM (PSRAM)/CellularRAM™. ISSI's Asynchronous SRAMs are used throughout Consumer, Industrial, Automotive, Telecom and Networking applications.

ISSI has a broad portfolio of 5V SRAMs ranging from 256Kb to 8Mb. Our strategy is to provide long-term commitment to the 5V legacy SRAM product family.

ISSI's High Speed Low Power SRAM offers significant power savings together with very fast speed at 8ns from 256Kb to 16Mb. We also introduced Error Correction (ECC) based High Speed Low Power Asynchronous SRAM in 1Mb, 2Mb, 4Mb and 8Mb densities.

The Ultra-Low Power SRAM offers significant power savings and very low operating current to address the needs from applications that are battery powered or battery-backed solutions. They are available in Industrial and Automotive temperature grades.

ISSI has an extensive family of Pseudo SRAM (PSRAM) / CellularRAM™ to offer designers an option of the best of both DRAM and SRAM features. The PSRAM/ CellularRAM™ has a SRAM-like interface. In contrast to DRAM, PSRAM has hidden refresh feature which does not require physical refresh. This family of products offers fast access, asynchronous, page and burst functions for different application requirements.

► Wide Variety of Applications

• Consumer
• Handheld/Wireless
• Industrial Products
• Automotive
• Telecom
• Networking
• Portable and Wired

► Key Features

<table>
<thead>
<tr>
<th>Asynchronous SRAMs</th>
<th>64K</th>
<th>256K</th>
<th>512K</th>
<th>1M</th>
<th>2M</th>
<th>3M</th>
<th>4M</th>
<th>8M</th>
<th>16M</th>
<th>32M</th>
<th>64M</th>
</tr>
</thead>
<tbody>
<tr>
<td>5V</td>
<td></td>
<td>■</td>
<td>■</td>
<td>■</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Speed Asynchronous</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
</tr>
<tr>
<td>Ultra Low Power</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
</tr>
<tr>
<td>Pseudo SRAMS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>■</td>
<td>■</td>
</tr>
</tbody>
</table>

► Features

• Broad Solution:
  - x8, x16, and x32 configurations available
  - 5V/3.3V/1.8V VDD Power Supply
  - Commercial, Industrial, and Automotive Temperature (-40 °C to 125 °C) support
  - BGA, SOJ, SOP, sTSOP, TSOP packages available
• ECC feature available for High Speed Asynchronous SRAMs
• Long-term support
ISSI’s latest Error Correction based 8Mb High Speed Low Power Asynchronous SRAM is in production. This innovative design reinforces ISSI’s long-term commitment to SRAMs with the highest quality and performance. This industry’s first Error Correction Code (ECC) based Asynchronous SRAM meets high quality requirements in automotive, industrial, military-aerospace, and other applications.

---

**Error Detection and Error Correction**
- Independent ECC with hamming code for each byte
- Detect and correct one bit error per each byte
- Better reliability than parity code schemes which can only detect an error but not correct an error
- Backward Compatible: Drop in replacement to current in industry standard devices (without ECC)

---

**Applications**
- Automotive
- Military-Aerospace/Medical
- Industrial
- Telecom/Networking

**Additional ECC Async SRAMs**
- 1Mb, 2Mb, 4Mb

---

**Key Features**

<table>
<thead>
<tr>
<th></th>
<th>IS64WV51216EDBLL [A1]</th>
<th>IS64WV51216EDBLL [A3]</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Temperature Support</strong></td>
<td>Industrial [-40°C to +85°C]</td>
<td>Automotive [-40°C to +125°C]</td>
<td>Contact ISSI for military temperature</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>65nm</td>
<td>65nm</td>
<td></td>
</tr>
<tr>
<td><strong>Standby Current</strong></td>
<td>15mA</td>
<td>35mA</td>
<td>Typical value 2mA</td>
</tr>
<tr>
<td><strong>Operating Current</strong></td>
<td>50mA</td>
<td>65mA</td>
<td>Typical value 15 mA</td>
</tr>
<tr>
<td><strong>Data Retention Current</strong></td>
<td>15mA</td>
<td>35mA</td>
<td>Typical value 2mA</td>
</tr>
<tr>
<td><strong>Packaging</strong></td>
<td>TSOP-II (44 pins) BGA [48 pins]</td>
<td>TSOP-II (44 pins) BGA [48 pins]</td>
<td>Pin compatible with industry standard 8Mb Async. SRAM</td>
</tr>
<tr>
<td><strong>Speed</strong></td>
<td>10ns</td>
<td>10ns</td>
<td></td>
</tr>
<tr>
<td><strong>Copper Leadframe</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Improved thermal performance</td>
</tr>
<tr>
<td><strong>Lead-free and Leaded</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>RoHS Compliant</td>
</tr>
<tr>
<td><strong>Availability</strong></td>
<td>Production</td>
<td>Production</td>
<td></td>
</tr>
</tbody>
</table>

---

**Nov 2014**
1623 Buckeye Drive, Milpitas, CA 95035 • Tel: 408.969.6600 • Support: sram@issi.com • [www.issi.com](http://www.issi.com)