# Asynchronous SRAM



# **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<sup>™</sup>. 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<sup>™</sup> to offer designers an option of the best of both DRAM and SRAM features. The PSRAM/ CellularRAM<sup>™</sup> 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.



Telecom

Networking

• Portable and Wired

#### Wide Variety of Applications

- Consumer
- Handheld/Wireless
- Industrial Products
- Automotive

## 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

Asynchronous SRAMs	64K	256K	512K	1M	2M	3М	4M	8M	16M	32M	64M
5V		-	-	•			-	-			
High Speed Asynchronous		•	•	ECC	ECC	-	ECC	ECC	-		
Ultra Low Power		•		•			•	•	-		
Pseudo SRAMS									-	-	

## Key Features



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)



# 8Mb High Speed Low Power Asynchronous SRAM with Error Correction Code (ECC)



#### Applications

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

#### Additional ECC Async SRAMs

• 1Mb, 2Mb, 4Mb

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

## Key Features