



### Abstract

This application note is to help users of Cypress 5V asynchronous SRAMs (Fast Async and Micropower SRAMs product family) migrate from existing technology to the latest 90 nm technology.

### Introduction

Cypress started qualifying its state-of-the-art 90 nm technology asynchronous SRAMs in early 2006. These products, offered in 1.8V, 3.3V and 5V ranges, have best-in-class specs and are form, fit, and functionally compatible with the older technology products (130 nm technology and earlier). They are drop-in replacements for the existing devices and there would be no application issues when migrating from the older generation products. Hence, Cypress strongly encourages its customers to migrate to 90 nm technology products. This application note discusses the migration of 5V asynchronous SRAMs from existing technology (250 nm and earlier) to 90 nm technology.

### Compatibility issues

Cypress' 90 nm asynchronous SRAMs (fast asynchronous and Micropower SRAMs) are compatible with their respective previous generation devices and can be replaced in applica-

tions without any issues. A comparison of data sheet specifications would illustrate this point.

The outputs (IO's during read operation) of the 5V, 90 nm devices do not pull up to a level as high as the previous generation products and Cypress is aware of this issue. This is because 90 nm products are limited by technology and design-related constraints so the outputs of the 5V products cannot rise beyond 3V. With 250 nm and wider dimensions, designs were not limited by technology constraints, and could accommodate wider output swings. However, Cypress' 90 nm products (like its previous generation products) are compliant with the TTL output standards, and there will be no application issues when interfacing these 5V products with other TTL level compatible devices. Cypress also does not foresee any compatibility issue when migrating from previous generation devices because the VOH data sheet specification for these products across all technologies is the same and is equal to 2.4V. So, even though the earlier designs pulled up closer to the supply rail, the guaranteed VOH is the same.

In March of 2007, Cypress recataloged all of its Application Notes using a new documentation number and revision code. This new documentation number and revision code (001-xxxxx, beginning with rev. \*\*), located in the footer of the document, will be used in all subsequent revisions

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