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ASolid Technology Co., Ltd.

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Datasheet: eMMC Controller AS2726

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1 Foreword

This document has been produced by ASolid Technology Co., Ltd., should the company modifies the contents of this specification, it will be re-released with an identifying change of release date and an increase in revision number as follows:

Revision mn.xy, where:

- mn the first two digit are incremented for major changes of substance, e.g., functional changes.
- xy the second two digits are incremented when minor changes have been incorporated into the specification, i.e., enhancements, corrections, updates, etc.

2 Statement of Scope

This Datasheet document is described the eMMC Controller's methods and abstractions of reliability. For more details, please contact service.asolid@asolid-tek.com directly.

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3 General Description

AS2726 is the eMMC Controller of ASolid Technology Co. Ltd. which uses UMC process technology. It has high performance, low power consumption features and supports eMMC4.5, eMMC5.01 and eMMC5.1 specifications. Product has single channel high speed flash interface with proprietary error correction code (ECC), and supports all kinds of NAND type flashes, including TLC, MLC and SLC.

3.1 Feature

- eMMC interface supports 1.8V/3.3V voltage
- Fully compatible with eMMC standard specification v4.5/v5.01/v5.1
 - Support Bus Speed Mode: Backward compatibility for legacy MMC card mode, High Speed SDR/DDR, HS200 and HS400
 - Support command class 0, 2, 4, 5, 6, 7, 8, 9, 10 and 11
 - Support RPMB security engine
- eMMC interface with programmable output drive capability
- Flash interface support:
 - Up to 8 flash chip selection and 8-bit flash I/O access
 - Support 1.8V/3.3V flash interface
 - Asynchronous mode: 50MB/s
 - Synchronous mode: 400MB/s
- Flash memory support:
 - Support ECC function to correct up to 12x-bits data errors per 1K bytes data automatically
 - Support SLC/MLC/TLC NAND type flash
 - Support flash with 4KB/8KB/16KB/32KB page architecture
 - Support four-plane operation for 16KB page and two-plane operation for 32KB page
 - Support Toggle Mode flash
 - Support ONFI3.1/ONFI2.3/ONFI2.2/ONFI2.1/ONFI2.0 flash
- Low power consumption
- Enhanced ESD design
- Non-Direct remap architecture
- Manufacturing utility ready

3.2 AS2726 Function Block Diagram

The internal block diagram of AS2726 is shown in the following.

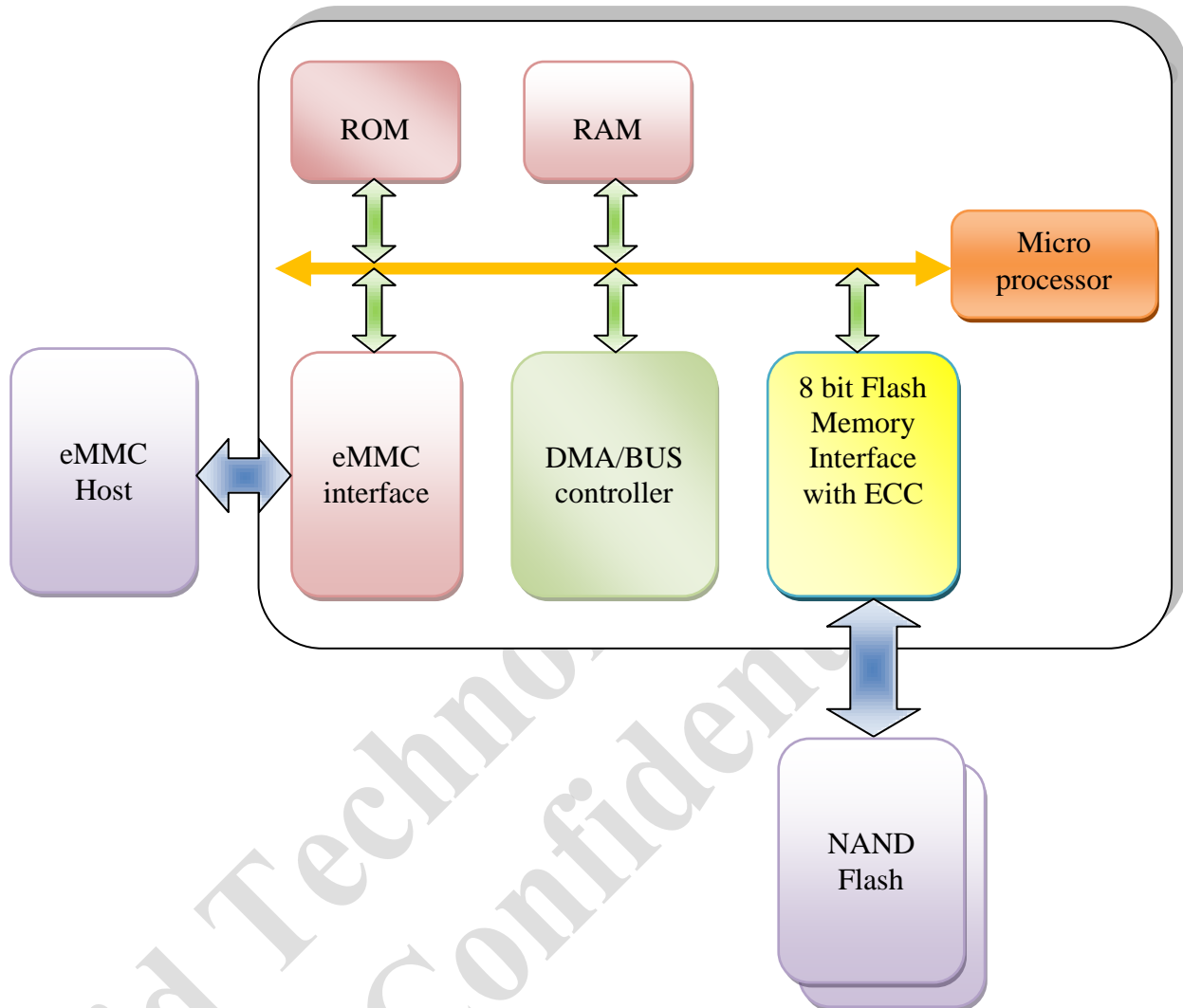


Figure 3-1 AS2726 Function Block Diagram