



Advanced Memory

Datasheet: SD Memory Card Controller AM2691LT

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ADVANCED MEMORY TECHNOLOGY CO., LTD.

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1. Foreword

This document has been produced by Advanced Memory 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.

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2. Statement of Scope

This Data Book describes the main features and the applications of SD Memory Card Controller AM2691LT. For more details, please contact service.asolid@asolid-tek.com directly.

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3. General Description

SD Memory Card Controller AM2691LT is the SD controller of Advanced Memory Technology Co., Ltd., which uses UMC process technology. It has higher performance, lower power consumption and supports SD1.01, SD1.10 and SD2.02. Product has single channel high speed flash interface with BCH error correction code, and support all kinds of NAND type flash, includes TLC, MLC and SLC.

3.1. Feature

- Fully compatible with SD Card standard specification v1.01/v1.1/v2.02.
 - Supports SPI mode.
 - Supports Bus Speed Mode: Default Speed mode and High Speed mode.
 - Copyright Protection Mechanism-Complies with highest security of SDMI standard.
 - Supports standard capacity SD memory card ($\leq 2\text{GB}$).
 - Supports SDHC capacity (4GB to 32GB).
 - Supports SD command class 0, 2, 4, 5, 6, 7, 8 and 10.
 - Supports password protection and built-in write protection features.
 - SD card interface with programmable output drive capability
 - Flash interface support:
 - Supports up to one flash chip selection and 8-bit flash IO access
 - Supports only 3.3V flash for SD card
 - 1.8V flash is Supports if flash chips are powered independently
 - Flash memory support:
 - Supports ECC function to correct up to 56-bits data errors per 1K bytes data automatically
 - Supports SLC/MLC/TLC NAND type flash
 - Supports flash with 2KB/4KB/8KB/16KB page architecture
 - Supports four-plane operation
 - Supports Toggle Mode flash
 - Supports ONFI2.3/ONFI2.2/ONFI2.1/ONFI2.0 flash
 - Low power consumption
 - Enhanced ESD design
 - Non-Direct remap architecture
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- Manufacturing utility ready
- Supports die and LGA46 package

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3.2. AM2691LT Function Block Diagram

The following diagram is the internal block diagram of AM2691LT.

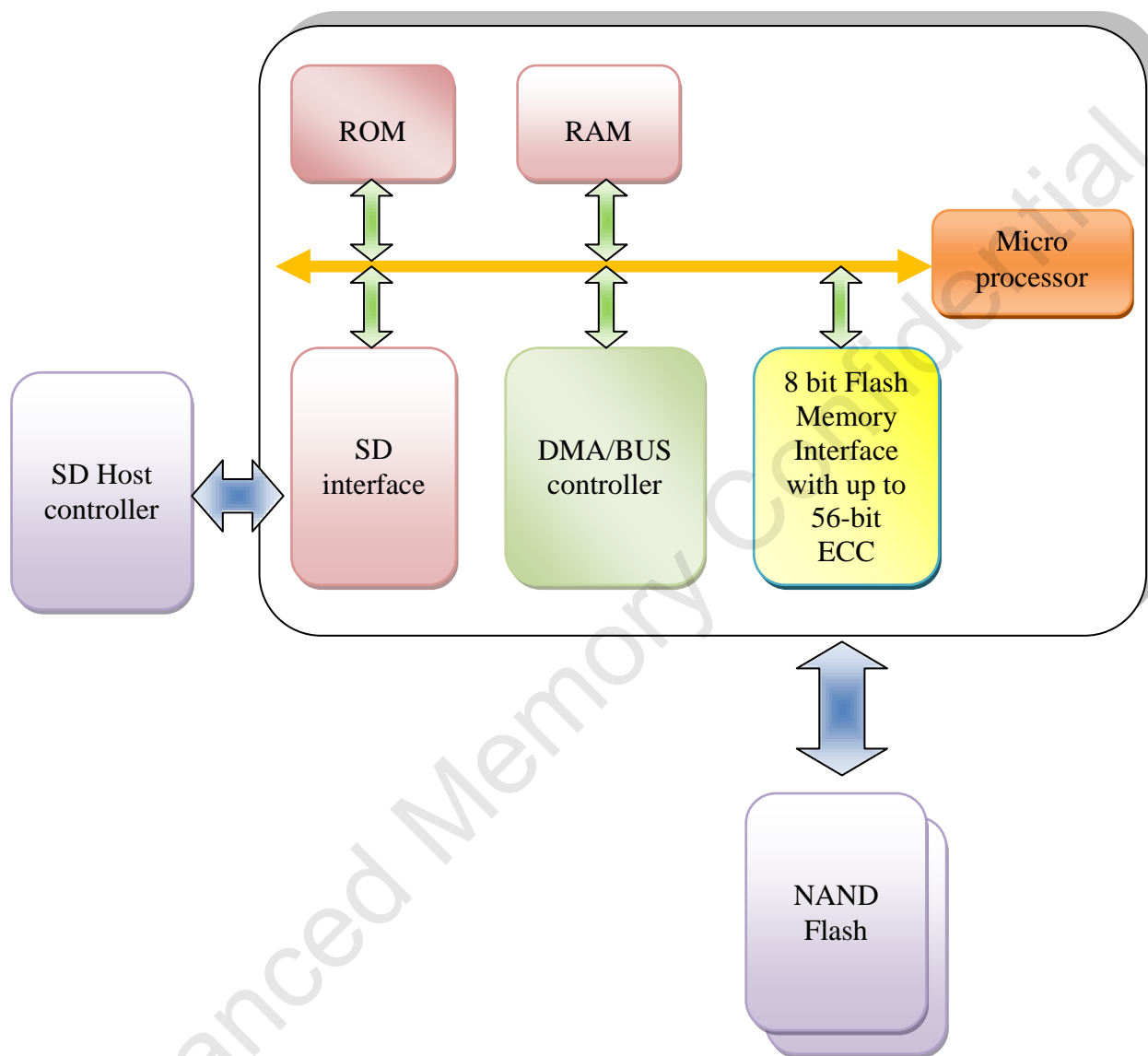


Figure 3-1 AM2691LT Function Block Diagram