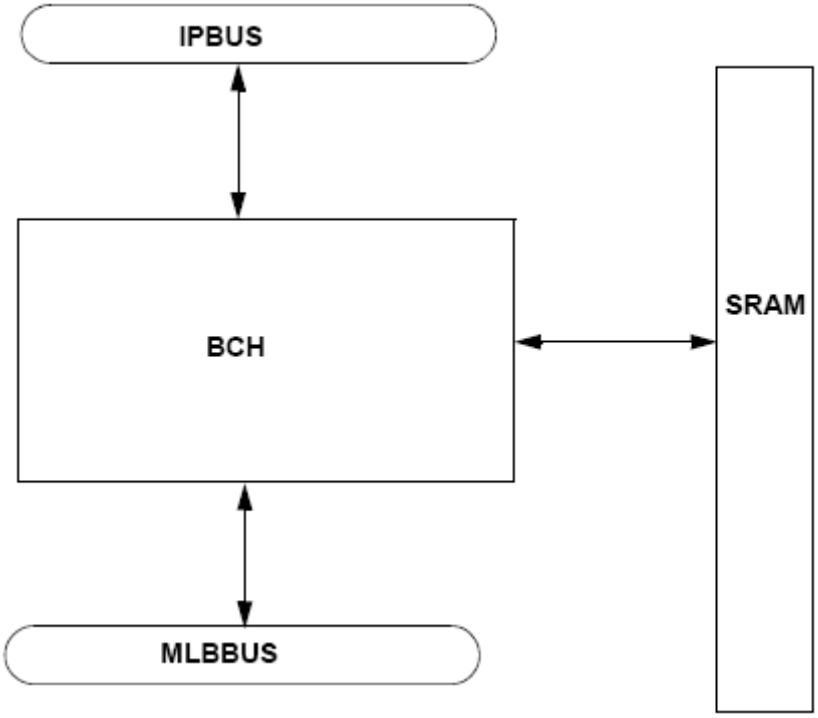
BCH

Introduction

The BCH module privides an ECC engine which performs BCH Correction Encoding/Decoding ’on the fly’ while data is being written to or read from the Nand-Flash ECC Data Channel. The ECC module supports 4 types of flash, which are a traditional type flash with (1024+14) bytes and newly developed with (1024+25) bytes,(1024+42) bytes and (1024+53) bytes.



Block Diagram of BCH

BCH Features

- Bose,Chaudury,Hocquenghem (BCH) Algorithm
- Hardware "On the fly" Encoding/Decoding
- Supports 528, 538, 539, 1070 bytes flash memory
- 14 bytes ECC codes for 528 bytes flash
- 25 bytes ECC codes for 538 bytes flash
- 25 bytes ECC codes for 539 bytes flash
- 42 bytes ECC codes for 1070 bytes flash
- 53 bytes ECC codes for 1080 bytes flash
- Can correct up to 8 bits error per page (514 bytes data + 14bytes ECC code).
- Can correct up to 14 bits error per page (513 bytes data + 25bytes ECC code).

- Can correct up to 14 bits error per page (514 bytes data + 25bytes ECC code).
- Can correct up to 24 bits error per page(1028 bytes data+ 42bytes ECC code).
- Can correct up to 30 bits error per page(1027 bytes data + 53bytes ECC code).
- Decoding parallel working with key equation solver and error location searching.
- Automatical error correction by hardware.

Performance and Characteristics

• Frequency (WCS)： 80 MHz
• Process： 0.18μm (WCS, 1.62V, 120°)
• Cell Size： 0.92 mm^2

Application Examples

• SD Card

Availability

• Q2, 2009

*To obtain more information about the BCH or other C*Core™ products, please contact the C*Core Technology Co., Ltd. by phone: 0512-68091375, email: support@china-core.com or web: http://www.china-core.com.*

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