

Re: Nor flash menroy

Source:

<http://www.tech-archive.net/Archive/WindowsCE/microsoft.public.windowsce.platbuilder/2008-07/msg00387.html>

- *From:* chang <chinmoy.chittaranjan@xxxxxxxxxx>
 - *Date:* Fri, 18 Jul 2008 20:26:45 -0700 (PDT)
-

thankstoo much ...i have got it .

chinmoy

On Jul 17, 2:13 pm, Saga <S...@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote:

Hi chang

the erase block is the sector in yourflash. The chip uses the bank for simultaneous read/erase or read/write. You can erase a complete sector only.

I've looked in the spec and hope i've understood the following correctly:

The chip is divided in 16 Banks, Bank 15 has a different layout than the other ones. This must be considered, when writing a driver for thatflash. Otherflashtypes like intel p30 have such blocks, with a different layout than the other ones too.

Every Bank of the 128MB chip is organized in 8,388,608 bytes(8MB- see General description in spec) , and sector 0-14 consists of 120 Sector which results to 120 MBFlashmemory. So every sector in bank 0 - 14 must have a size of 1MB.

The sector itself is addressable via 64Kwords Addresses, so the least unit you can address is 16 Byte.

The filesystem operates on sectors. You can split you sectors (erase blocks) into smaller units (512 bytes units + sector info) for file system access..

best regards

Hi ,

Enough thanks to all of you

Hi saga/ALL,

As per you the bank and block are same? and i am using a oldnorwhich is already in market "S29NS128N" and it is showing the layout like this

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way :
S29NS128N:

->Bank 0-14 Sectors
120 Mb total:
.Quantity =120 Size =64 Kwords

->Bank 15 Sectors
8 Mb total:
A)Quantity=4 Size =16 Kwords
B)Quantity=7 Size =64 Kwords

I am using it for flash media but i am just confused that if this is layout then what will be the block size and are there different types(density) of blocks are present ?

Please help me to show the right way to read this nor.

On Jul 15, 4:23 pm, "JamesCool via PocketPCJunkies.com" <u42351@uwe> wrote:

Hi Chinmoy,

As you mentioned, the FAL will write the metadata into sector info area, if this location is not being erased first, it still can write somethings on it?

Best regards,
James

Saga wrote:

Hi chang

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i hope this very short description will help you:

Nor flash memory consists of multiple erase blocks (your bank) and one block is divided into multiple sectors plus block metadata. Every Sector is divided in sector data to save the data and sector metadata to save the state of a sector.

You can read or write from/ to any memory position inside the block, but to erase something, you must erase the complete block. This is NOR design. Filesystems operate always on sectors, which is the single unit of a block. But the filesystem does not operate on the NOR directly, it uses a component called FAL, which is the interface to the flash. and manages all flash sectors. If the filesystem erase something, the appropriate sector will be marked (in the metadata area). There is a FAL mechanism called background reclaiming, which checks all the sectors on flash and, if it is necessary move sectors of one block to another one to erase the old block and free resources. The Filesystem does not notice the changes, because it uses the FAL to access to the flash. The FAL translate the Filesystem flash sector address to the real sector address.

So, on NOR you can only erase blocks, the Filesystems access Sectors, which is a unit of a block. The OS manages the sectors and delete blocks if necessary.

regards

Hi ,
I am a very new

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innordesigning . While
reading the spec/datsheet i

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Thanks
Chinmoy

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