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    what is the diff between dual port & single port RAM?

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FvM (38752), alexan_e (11886), BradtheRad (11119), keith1200rs (10877), betwixt (10254)

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what is the diff between dual port & single port RAM?

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20th May 2005, 09:13   #1

abhineet22
abhineet22 is offline
Full Member level 1

Join Date: Jan 2005
Location: bangalore
Posts: 105
Helped: 0 / 0
Points: 1,993
Level: 10

Send a message via Yahoo to abhineet22

what is the diff between dual port & single port RAM?

what is the benefits of using dual port ram?is it only use in fifo ram?

20th May 2005, 11:20   #2

eda_wiz   eda_wiz is offline
Advanced Member level 2

Join Date: Nov 2001
Posts: 654
Helped: 57 / 57
Points: 7,781
Level: 21

what is the diff between dual port & single port RAM?

single port memory : has only one data/address port , can either read or write at a time.

dual port memory : has 2 data/address ports , can read and write at same time using both ports.

20th May 2005, 13:29   #3

spauls   spauls is offline
Advanced Member level 2

Join Date: Dec 2002
Posts: 524
Helped: 27 / 27
Points: 3,562
Level: 14

Re: what is the diff between dual port & single port RAM

DPRAM is widely used for sync,
it is basically a FIFO and SRAM can only act as a RAM

Alt 20th May 2005, 13:29

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21st May 2005, 00:54   #4

billjoe   billjoe is offline
Member level 1

Join Date: May 2005
Posts: 34
Helped: 1 / 1
Points: 1,560
Level: 9

Re: what is the diff between dual port & single port RAM

==>I port ram?is it only use in fifo ram?
not exactly
for instance

LCD controller
one port for MCU access
one port for LCD driver access

21st May 2005, 12:55   #5

AlexWan AlexWan is offline

Full Member level 5

Join Date: Dec 2003
Posts: 304
Helped: 8 / 8
Points: 3,266
Level: 13

what is the diff between dual port & single port RAM?

Hi, whizkid,

I am confused with your answer.
single port memory : has only one data/address port , can
either read or write at a time.

two port memory : has 2 data/address ports , can read
and write at same time using both ports. But only one
clock.

dual port memory : has 2 data/address ports , can read
and write at same time using both ports. Bus two different
clocks.

Good Luck

23rd May 2005, 07:29   #6

andromeda

andromeda is offline

Member level 3

Join Date: Sep 2002
Posts: 65
Helped: 2 / 2
Points: 2,190
Level: 10

what is the diff between dual port & single port RAM?

Which types of memory you could use depends on memory
compiler your company has (notice that memory compilers
are extremelly expencive tools).
Still usage of 1-port memory is the best whenever it is
possible, because small arbitration logic is much less
costly that memory area increase (it is up to 50% for
memories with 1R, 1W port, single clock). Personally I
have never seen support for full dual-port memory (2
RD/WR ports on trully asynchronous clocks) - except on
FPGA, of course.
One typical usage of 2-port memory (1 RD, 1 WR port)
with 2 asynchronous clocks is resynchronization between
different clock domains.
Reasons for usage of 2-port memories in real designs are
almost infinite, but frequently it is designers lazzyness to
do arbitration between different clients even there are
enough bandwidth. Somethimes type of design requires lot
of dual-port memories, but usually 90+% of memories are
1-port in good designs.

Alt 23rd May 2005, 07:29

advertisin

24th May 2005, 03:14   #7

Yun Lin Yun Lin is offline

Member level 4

Join Date: Apr 2005
Location: China
Posts: 78
Helped: 5 / 5
Points: 1,691
Level: 9

what is the diff between dual port & single port RAM?

one port has only one core. two port is one core shared by
two independent address.

24th May 2005, 12:07   #8

lijian_18 lijian_18 is offline

Junior Member level 3

Join Date: Oct 2004
Posts: 26
Helped: 1 / 1
Points: 1,591
Level: 9

what is the diff between dual port & single port RAM?

yes, core bit array is shared between two ports.

only sense amplifier and read/write mux is duplicated.

Alt 24th May 2005, 12:07

advertising

24th May 2005, 14:53   #9

tutx tutx is offline

Full Member level 2

Join Date: Mar 2004
Posts: 121
Helped: 17 / 17
Points: 2,269
Level: 11

what is the diff between dual port & single port RAM?

It should be consider to dual port and two port. It is not the same. Their different is one clock or two clocks are used.

25th May 2005, 12:21   #10

gaonkc gaonkc is offline

Full Member level 1

Join Date: Jul 2004
Posts: 104
Helped: 2 / 2
Points: 1,835
Level: 9

what is the diff between dual port & single port RAM?

two port , read/write can be operate at the same time, one port, read /wrtie operation respestively.

25th May 2005, 13:26   #11

blueant blueant is offline

Member level 1

Join Date: Jul 2004
Posts: 34
Helped: 0 / 0
Points: 1,657
Level: 9

what is the diff between dual port & single port RAM?

In our memory compiler I find one port , tow port, and dual port . I dont know what means.

26th May 2005, 12:28   #12

haosg haosg is offline

Full Member level 1

Join Date: Nov 2004
Posts: 103
Helped: 2 / 2
Points: 1,876
Level: 10

what is the diff between dual port & single port RAM?

the fifo generally use two ports register-file.
it have seperatly write and read ports.
the single ports have a shared R/W ports,
the dual ports have two R/W ports,
each can read/writed.

26th May 2005, 12:55   #13

nemolee nemolee is offline

Full Member level 3

Join Date: Dec 2004
Posts: 154
Helped: 2 / 2
Points: 3,030
Level: 12

Re: what is the diff between dual port & single port RAM

If you want to implement FIFO by SRAM. You can use two-port SRAM and dual-port SRAM. But I prefer to use two-port SRAM, because the RAM size is smaller than dual-port one.

27th May 2005, 03:32   #14

zhangpengyu

zhangpengyu is offline

Full Member level 3

what is the diff between dual port & single port RAM?

Join Date: Jun 2004
Posts: 172
Helped: 3 / 3
Points: 2,197
Level: 10

With dual ram,you have dual bandwidth,so the performance is rised.

7th June 2005, 15:38   #15

Kulprashant

Kulprashant is offline

Member level 3

Join Date: Mar 2005
Posts: 59
Helped: 3 / 3
Points: 1,629
Level: 9

what is the diff between dual port & single port RAM?

hi,
dual port is having two clks.while single port ram having single clk.

with regards,
kul.
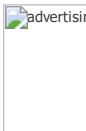
8th June 2005, 07:27   #16

Prasanna Kumar

Prasanna Kumar is offline

Member level 3

Join Date: Dec 2004
Posts: 58
Helped: 3 / 3
Points: 2,394
Level: 11

Re: what is the diff between dual port & single port RAM

DPRAM has an advantage that it can simultaneously read and write on a single clock, and latency is less for a high bandwidth designs. But to the hardware point of view it generates more number of flip flops,

---

Alt 8th June 2005, 07:27

10th June 2005, 10:20   #17

jjww110 jjww110 is offline

Full Member level 5

Join Date: Apr 2005
Location: china
Posts: 258
Helped: 8 / 8
Points: 2,750
Level: 12

what is the diff between dual port & single port RAM?

single port memory : has only one data/address port , can either read or write at a time.

two port memory : has 2 data/address ports , can read and write at same time using both ports. But only one clock.

dual port memory : has 2 data/address ports , can read and write at same time using both ports. But two different clocks.

10th June 2005, 13:40   #18

power-twq

power-twq is offline

Full Member level 6

Join Date: Jun 2005
Posts: 373
Helped: 8 / 8
Points: 2,793
Level: 12

Re: what is the diff between dual port & single port RAM

single port ram: ram array can be accessed by one address port;

two port ram: ram array can be accessed by two address port;

> Quote Originally Posted by **abhineet22**
>
> *what is the benefits of using dual port ram?is it only use in fifo ram?*

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