

# dc\_block\_ram.v

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## AUTHORS

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## DATES

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## INFORMATION

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### Brief

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Generic Dual Port RAM

### License MIT

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## dc\_block\_ram

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```
module dc_block_ram #(
  parameter
  RAM_DEPTH
  =
  1,
  parameter
  BYTE_WIDTH
  =
  1,
  parameter
  ADDR_WIDTH
  =
  1,
  parameter
```

```

    HEX_FILE
    =
    ""
    parameter
    RAM_TYPE
    =
    "block"
) ( input rd_clk, input rd_rstn, input rd_en, output [(BYTE_WIDTH*8)-1:0]

```

Generic Dual Port RAM

## Parameters

<b>RAM_DEPTH</b> <i>parameter</i>	Number of words using the size of BYTE_WIDTH.
<b>BYTE_WIDTH</b> <i>parameter</i>	Width of the data bus in bytes.
<b>ADDR_WIDTH</b> <i>parameter</i>	Width of the address bus in bits.
<b>HEX_FILE</b> <i>parameter</i>	Read a hex value text file as the initial state of the RAM.
<b>RAM_TYPE</b> <i>parameter</i>	Used to set the ram_style attribute.

## Ports

<b>rd_clk</b>	Read clock positive edge
<b>rd_rstn</b>	Read reset active low
<b>rd_en</b>	Read enable active high
<b>rd_data</b>	Read data output
<b>rd_addr</b>	Read data address select
<b>wr_clk</b>	Write clock positive edge
<b>wr_rstn</b>	Write reset active low
<b>wr_en</b>	Write enable active high
<b>wr_ben</b>	Write byte enable, each bit represents one byte of write data.
<b>wr_data</b>	Write data input
<b>wr_addr</b>	Write data address select