

# SYNCHRONOUS SINGLE-PORT REGISTER FILE COMPILER

## Key Features

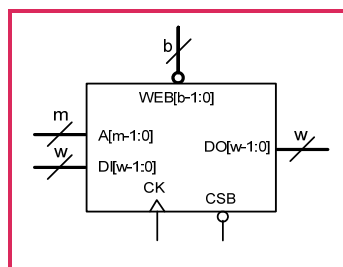
- Operating voltage range: 1.62 V ~ 1.98 V
- Operating junction temperature range: -40 °C ~ 125 °C
- Minimum metal requirement: 4 metal layers
- Synchronous read and write operations
- Fully-customized layout density available at 1.8 V ± 10%
- Automatic power-down mechanism to eliminate the DC current
- Clocked address inputs and CSB to RAM with the CK rising edge
- Clocked WEB input pin to RAM with the CK rising edge
- Clocked DI input pins to RAM with the CK rising edge
- Byte write or word write operations available
- Verilog/VHDL timing/simulation model generator
- SPICE netlist generator
- GDSII layout database
- Memaker preview UI
- Supports the BIST code
- Column Mux options for the best aspect ratio

## General Description

FSLOA\_C\_SY is a synchronous, single-port register file compiler. It is implemented according to the UMC 0.153 μm logic process design rules and can be incorporated with Faraday 0.153 μm standard cells. Different combinations of words, bits, and aspect ratios can be used to generate the most desirable configurations.

Given the desired size and timing constraints, the FSLOA\_C\_SY compiler is capable of providing suitable synchronous RAM layout instances within minutes. It automatically generates the data sheets, Verilog/VHDL behavioral simulation models, Place & Route models, and test patterns used in ASIC designs. The length of the duty cycle can be neglected as long as the setup/hold time and minimum high/low pulse widths are satisfied. This provides a more flexible CK falling edge during each operation. Both word write and byte write operations are supported.

## Logic Symbol



## Quick Reference

Maximum capacity	72k bits
Maximum words	2k
Minimum words	8
Maximum bits	144
Minimum bits	1
Bit increment	1
Aspect ratio (Column Mux options)	2, 4, 8

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