

65 nm SYNCHRONOUS TWO-PORT REGISTER FILE SRAM COMPILER

Version 1.1 | August 2007

Key Features

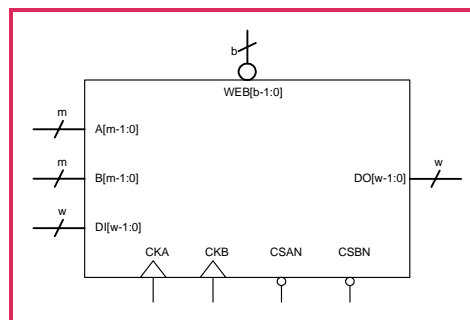
- Synchronous read and write operations
- Fully-customized layout density
- Available at $1.2\text{ V} \pm 10\%$
- Automatic power-down mechanism to eliminate the DC current
- Clocked address inputs and CSA(B)N to RAM at the CKA(B) rising edge
- Clocked WEB input pins to RAM at the CKB rising edge
- Clocked DI input pins to RAM at the CKB rising edge
- Supports the byte write and word write operations
- Verilog/VHDL timing simulation model generator
- SPICE netlist generator
- GDSII layout database
- Memaker preview UI
- Column MUX options for the best aspect ratio

General Description

FSEOK_A_SZ is a synchronous two-port register file SRAM compiler. It is created according to UMC 65 nm logic LL-RVT and HVT (LowK) process design rules and can be incorporated with Faraday 65 nm standard cells. Different combinations of words, bits, and aspect ratio can be used to generate the most desirable configuration.

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

Symbol Diagram



Quick Reference

Bit cell	UMC.65nm 8TSRAM0.974LLHVT
Read cycle time	690 MHz (Max.) under the worse case condition of 128 x 144
Address port	1 read port/1 write port
Variable capacity	72K bits (Max.)
Aspect ratios (Column Mux)	2, 4, 8
Applications	Configurable SRAM modules for the embedded design by using UMC 0.65 nm logic LL-RVT and HVT (LowK) process



HEADQUARTERS

Hsinchu, Taiwan,
Tel: 886-3-578-7888
Fax: 886-3-578-7889
twsales@faraday-tech.com

USA OFFICE

Sunnyvale, USA
Tel: 1-408-522-8888
Fax: 1-408-522-8889
ussales@faraday-tech.com

EUROPE OFFICE

Hoofddorp, Netherlands
Tel: 31-2356-20496
Fax: 31-2356-36297
eusales@faraday-tech.com

JAPAN OFFICE

Tokyo, Japan
Tel: 81-3-5214-0070
Fax: 81-3-5214-0076
jpsales@faraday-tech.com

CHINA OFFICE

Shanghai, P. R. China
Tel: 86-21-6406-7523
Fax: 86-21-6406-5327
cnsales@faraday-tech.com