

MOTOROLA BURSTRAM

FAST STATIC RAMS FOR LEVEL 2 CACHE AND THE COMMUNICATIONS MARKET

The BurstRAM is a synchronous fast static RAM designed to provide a burstable, high performance, Level 2 (L2) secondary cache for the PowerPC™, Pentium™, and other high performance microprocessors. For the communications market, the BurstRAM also provides storage for data and program information for various ASICs and DSPs.

Product Description

BurstRAMs are available in 1-megabit, 3.3 V: 64K x 18 and 32K x 36; as well as 4-megabit, 3.3 V: 256K x 18, 128K x 36, and 128K x 32 configurations. A new 4-megabit SRAM will be available in both 3.3 V and 1.8 V versions; and a new 8-megabit SRAM will be available in 3.3 V, configured as both 256K x 36 and 512K x 18. All BurstRAM densities are available in both flow-through and pipelined functionalities.

Write cycles are internally self-timed and initiated by the rising edge of the clock input. This feature eliminates complex off-chip write pulse generation and provides increased timing flexibility for incoming signals. Synchronous byte write, synchronous global write, and synchronous write enable allows writes to either individual bytes or to all bytes.

For read cycles, the flow-through configuration allows data to simply flow freely and quickly from the memory array. In the pipelined configuration, data is temporarily stored by an output register and then released to the output buffers at the next rising edge of the clock.

Features

- 3.3 V and 1.8 V Power Supplies
- Selectable Burst Order (Linear or Interleaved)
- Internally Self-Timed Write
- One-Cycle and Two-Cycle Deselect
- Byte Write Control
- Global Write Control
- Up to 250 MHz Pipelined Operating Frequency
- Fast 6.5 ns Flow-Through Access Time
- Sleep Mode
- 119-Pin PBGA, 100-Pin TQFP

Suggested Applications

- Switch/Hub Shared Fabric and Router Tables
- Data/Storage for DSP
- LAN and WAN Switches
- Secondary Cache for Microprocessors
- Voice Over IP, Layer 3, and Gigabit Switches
- Shared Memory Between ASICs and Controllers
- Shared Memory Between Microprocessors
- Wireless Infrastructure Switches
- Remote Access Servers

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Freescale Semiconductor, Inc.

Available Products (For Ordering Information, see data sheet on web site)

Part Number	Configuration	VDD	VDDQ	Speed	Package	Description	
MCM69F536C	32K x 36	3.3 V	N/A	7.5 – 12 ns	TQ	Flow-Through	
MCM69P536C				75 – 133 MHz		Pipelined	
MCM69F618C	64K x 18			7.5 – 12 ns		TQ	Flow-Through
MCM69P618C				75 – 133 MHz			Pipelined
MCM63F733A	128K x 32		2.5/3.3 V	2.5/3.3 V	8.5 – 11 ns	TQ, ZP	Flow-Through
MCM63P733A					90 – 150 MHz		Pipelined
MCM69F737	128K x 36		2.5/3.3 V	2.5/3.3 V	7.5 – 11 ns	TQ, ZP	Flow-Through
MCM69P737					133 – 200 MHz		Pipelined
MCM69F819	256K x 18	2.5/3.3 V	2.5/3.3 V	7.5 – 11 ns	TQ, ZP	Flow-Through	
MCM69P819				133 – 166 MHz		Pipelined	

New Products (Samples 3Q99)

Part Number	Configuration	VDD	VDDQ	Speed	Package	Description			
MCM63F733B	128K x 32	3.3 V	2.5/3.3 V	6.5 – 8 ns	TQ, ZP	Flow-Through			
MCM63P733B				200 – 250 MHz		Pipelined			
MCM63F737A	128K x 36			6.5 – 8 ns		TQ, ZP	Flow-Through		
MCM63P736A				133 – 200 MHz			Pipelined, Dual Cycle Deselect		
MCM63P737A				200 – 250 MHz			Pipelined		
MCM63F819A				6.5 – 8 ns			Flow-Through		
MCM63P818A	256K x 18			3.3 V		2.5/3.3 V	133 – 200 MHz	TQ, ZP	Pipelined, Dual Cycle Deselect
MCM63P819A							200 – 250 MHz		Pipelined
MCM65F737A	128K x 36	1.8 V	1.8 V	6.5 – 8 ns	TQ, ZP	Flow-Through			
MCM65P737A				200 – 250 MHz		Pipelined			
MCM65F819A	256K x 18			6.5 – 8 ns		TQ, ZP	Flow-Through		
MCM65P819A				200 – 250 MHz			Pipelined		
MCM63B837	256K x 36	3.3 V	2.5/3.3 V	7 ns/225 MHz	TQ, ZP	Flow-Through/ Pipelined			
MCM63B919	512K x 18			7 ns/225 MHz		Flow-Through/ Pipelined			

Contact Information

- Motorola offers data sheets, application notes, and models for Fast Static RAM products. In addition, more information is provided for these products at:

<http://motorola.com/fastsrms>

- For all other inquiries about Motorola products, please contact the Motorola Customer Response Center:

Phone: 800-521-6274

Email: crc@crc.email.sps.mot.com