

MB81G83222-010/-012/-015

CMOS 2 x 128K x 32 SYNCHRONOUS GRAM

CMOS 2 BANKS OF 131,072-WORDS x 32-BIT SYNCHRONOUS GRAPHIC RANDOM ACCESS MEMORY

The Fujitsu MB81G83222 is a CMOS Synchronous Graphic Random Access Memory (SGRAM) containing 8,388,608 memory cells accessible in an 32-bit format. The MB81G83222 features a fully synchronous operation referenced to a positive edge clock whereby all operations are synchronized at a clock input which enables high performance and simple user interface coexistence. The MB81G83222 SGRAM is designed to reduce the complexity of using a standard dynamic RAM (DRAM) which requires many control signal timing constraints, and may improve data bandwidth of memory as much as 5 times more than a standard DRAM.

The MB81G83222 is ideally suited for Graphics workstations, laser printers, high resolution graphic adapters, accelerators and other applications where an extremely large memory and bandwidth are required and where a simple interface is needed.

PRODUCT LINE & FEATURES

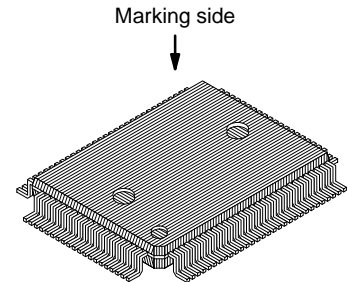
Parameters	MB81G83222-010	MB81G83222-012	MB81G83222-015
Clock Frequency	100 MHz max	84 MHz max	67 MHz max
Burst Mode Cycle Time	10 ns min	12 ns min	15 ns min
RAS Access Time	58 ns max	67 ns max	75 ns max
CAS Access Time	28 ns max	32 ns max	35 ns max
Access Time From Clock (CL=3)	9 ns max	11 ns max	12 ns max
Operating Current (Two banks active)	280 mA max	245 mA max	210 mA max
Power Down Mode Current	2 mA max		

- Single +3.3V Supply $\pm 10\%$ tolerance
- LVTTTL compatible I/O
- 1,024 refresh cycles every 16.4 ms
- Dual bank operation
- Byte control by DQM0 to DQM3
- Burst read/write operation and burst read/single write operation capability
- Programmable burst type, burst length, and CAS latency
- 8 column block write function
- Write per bit function (old mask)
- Auto-and Self-refresh
- CKE power down mode
- Output Enable and Input Data Mask

ABSOLUTE MAXIMUM RATINGS (See NOTE)

Parameters	Symbol	Value	Unit
Voltage of VCC supply relative to VSS	VCC, VCCQ	-0.5 to +4.6	V
Voltage at any pin relative to VSS	VIN, VOUT	-0.5 to +4.6	V
Short Circuit Output Current	IOUT	± 50	mA
Power Dissipation	PD	1.2	W
Storage Temperature	TSTG	-55 to +125	°C

NOTE: Permanent device damage may occur if the above **Absolute Maximum Ratings** are exceeded. Functional operation should be restricted to the conditions as detailed in the operational sections of this data sheet. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.



FPT-100P-M15

Plastic QFP Package

Package and Ordering Information

— 100-pin plastic QFP,
order as MB81G83222-xxxPQ

This device contains circuitry to protect the inputs against damage due to high static voltages or electric fields. However, it is advised that normal precautions be taken to avoid application of any voltage higher than maximum rated voltages to this high impedance circuit.