

1 M × 1 Very Low Power CMOS SRAM

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Introduction

The M65601 is a very low power CMOS static RAM organized as 1048576x1 bits. It is manufactured using the MHS high performance 0.5 μm CMOS technology named SCMOS.

With this process, MHS brings the optimal solution to applications where fast computing is as mandatory as low consumption, such as aerospace electronics, portable instruments, or embarked systems.

Utilizing an array of six transistors (6T) memory cells, the M65601 combines an extremely low standby supply

current (Typical value = 0.2 μA) with a fast access time at 25 ns over the full commercial temperature range. The high stability of the 6T cell provides excellent protection against soft errors due to noise.

Extra protection against heavy ions is given by the use of an epitaxial layer of a P substrate.

For military/space applications that demand superior levels of performance and reliability the M65601 is processed according to the methods of the latest revision of the MIL STD 883 (class B or S) and/or ESA SCC 9000.

Features

- Access time : commercial : 25/35/45/55 ns
Industrial and military : 25/30/35/45 ns
- Very low power consumption
Active : 250 mW (typ)
Standby : 1 μW (typ)
Data retention : 0.5 μW (typ)
- Wide temperature range :
-55 TO + 125° C
- 400 mils width package
- TTL compatible inputs and outputs
- Asynchronous
- Single 5 volt supply
- Equal cycle and access time
- Gated inputs :
No pull-up/down
Resistors are required

See 65608 for A.C. and D.C. specifications

Ordering Information

TEMPERATURE RANGE	PACKAGE	DEVICE	GRADE	SPEED	FLOW	
M	M	CJ	- 65601	V	- 45	/883
C = Commercial I = Industrial M = Military S = Space	0° to +70°C -40° to +85°C -55° to +125°C -55° to +125°C			L = Low power V = Very low power	25 ns 30 ns 35 ns 45 ns	
	C9 = Side Brazed 28 pins 400 mils DJ = Flat Package 32 pins 400 mils 4J = Dual LCC 32 pins 39 = Plastic DIL 32 pins 400 mils T1 = 32 pins SOIC 400 mils U1 = 32 pins SOJ 400 mils 0 = die	1M x 1 SRAM			blank = MHS standards /883 = MIL-STD 883 Class B or S P883 = /883 + PIND Test SB/SC = SCC 9000 level B/C SHXXX = Special customer request FHXXX = Flight models (space) EHXXX = Engineering models (space) MHXXX = Mechanical parts (space) LHXXX = Life test parts (space) : R = Tape & Reel : RD = Tape & Reel and Dry pack : D = Dry pack	

Military and Space Versions

The following table gives package/consumption/access time/process flow available combinations

Temp. range	Packages	Consumption		Access Time (ns)				MIL process 66001		MIL process 88001	
		V	L	25	30	35	45	Mil flows	Mil flows	Space flows	
M	C9	X	X	X	X	X	X	X			
	DJ	X	X	X	X	X	X	X			
	4J	X	X	X	X	X	X	X			
	0	X	X	X				X			
S	C9	X	X		X	X	X		X	X	
	DJ	X			X	X	X		X	X	
	4J	X			X	X	X		X	X	
	0	X			X				X	X	

X = call sales office for availability.

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