

AK5322048W

2,097,152 Word by 32 Bit CMOS

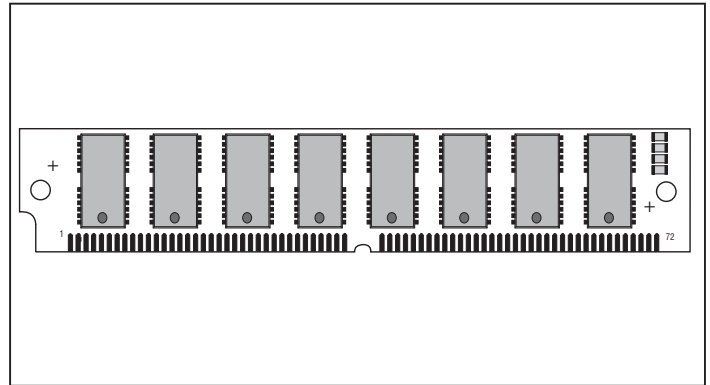
Dynamic Random Access Memory

DESCRIPTION

The Accutek AK5322048W high density memory module is a CMOS dynamic RAM organized in 2048 x 32 bit words. The module consists of sixteen standard 1 Meg x 4 DRAMs in plastic SOJ packages. The assembly has eight drams mounted on each side of a printed circuit board in a 72 pad leadless SIM configuration.

This configuration allows socket-mounting of large quantities of memory in applications where high density and ease of inserting additional memory are important.

The operation of the AK5322048 is identical to sixteen 1Meg x 4 Drams. There are four CAS lines and four RAS lines. On each bank of 1Meg x 32, independent byte control is accomplished by the four CAS lines, where each separate CAS line controls two 1Meg x 4 Drams. Two banks of 32 bits are controlled by the two pairs of RAS lines. A sixteen bit data path can be produced by connecting DQ₁ to DQ₁₇, DQ₂ to DQ₁₈, and alternately strobing RAS₀ with RAS₁ and RAS₂ with RAS₃.



FEATURES

- 2,097,152 x 32 bit organization
- 72 pad Single In-Line Module
- Multiple CAS and RAS lines allow x16 or x32 bit widths
- CAS-before-RAS, RAS-only or hidden refresh
- Operating free air temperature 0°C to 70°C
- Single 5 Volt Power Supply
- 2048 Refresh Cycles
- Available in Fast Page Mode EDO versions

- Power
 - 5.32 Watt Max Active (60nS)
 - 4.44 Watt Max Active (70 nS)
 - 3.79 Watt Max Active (80 nS)
 - 88 mW Max Standby
- Available in leadless SIM or leaded Zip versions
- Downward compatible with AK5321024, AK532512 and AK532256
- Upward compatible with AK5324096 and AK5328192

ADDITIONAL OPTIONS AVAILABLE

- 256K x 32 Version, AK532256
- 512K x 32 version, AK532512
- 1 Meg x 32 version, AK5321024
- 4 Meg x 32 version, AK5324096
- 8 Meg x 32 version, AK5328192

PIN NOMENCLATURE

DQ ₀ - DQ ₃₁	Data In/Data Out
A ₀ - A ₉	Address Inputs
CAS ₀ - CAS ₃	Column Address Strobe
RAS ₀ - RAS ₃	Row Address Strobe
WE	Write Enable
PD ₁ - PD ₄	Presence Detect
Vcc	5V Supply
Vss	Ground
NC	No Connect

PIN ASSIGNMENT

Pin #	Symbol	Pin #	Symbol	Pin #	Symbol	Pin #	Symbol
1	Vss	19	NC	37	NC	55	DQ11
2	DQ0	20	DQ4	38	NC	56	DQ27
3	DQ16	21	DQ20	39	Vss	57	DQ12
4	DQ1	22	DQ5	40	CAS0	58	DQ28
5	DQ17	23	DQ21	41	CAS2	59	Vcc
6	DQ2	24	DQ6	42	CAS3	60	DQ29
7	DQ18	25	DQ22	43	CAS1	61	DQ13
8	DQ3	26	DQ7	44	RAS0	62	DQ30
9	DQ19	27	DQ23	45	RAS1	63	DQ14
10	Vcc	28	A7	46	NC	64	DQ31
11	NC	29	NC	47	WE	65	DQ15
12	A0	30	Vcc	48	NC	66	NC
13	A1	31	A8	46	DQ8	67	PD1
14	A2	32	A9	50	DQ24	68	PD2
15	A3	33	RAS3	51	DQ9	69	PD3
16	A4	34	RAS2	52	DQ25	70	PD4
17	A5	35	NC	53	DQ10	71	NC
18	A6	36	NC	54	DQ26	72	Vss

MODULE OPTIONS

Leadless SIM: AK5322048W

Leaded ZIP: AK5322048Z

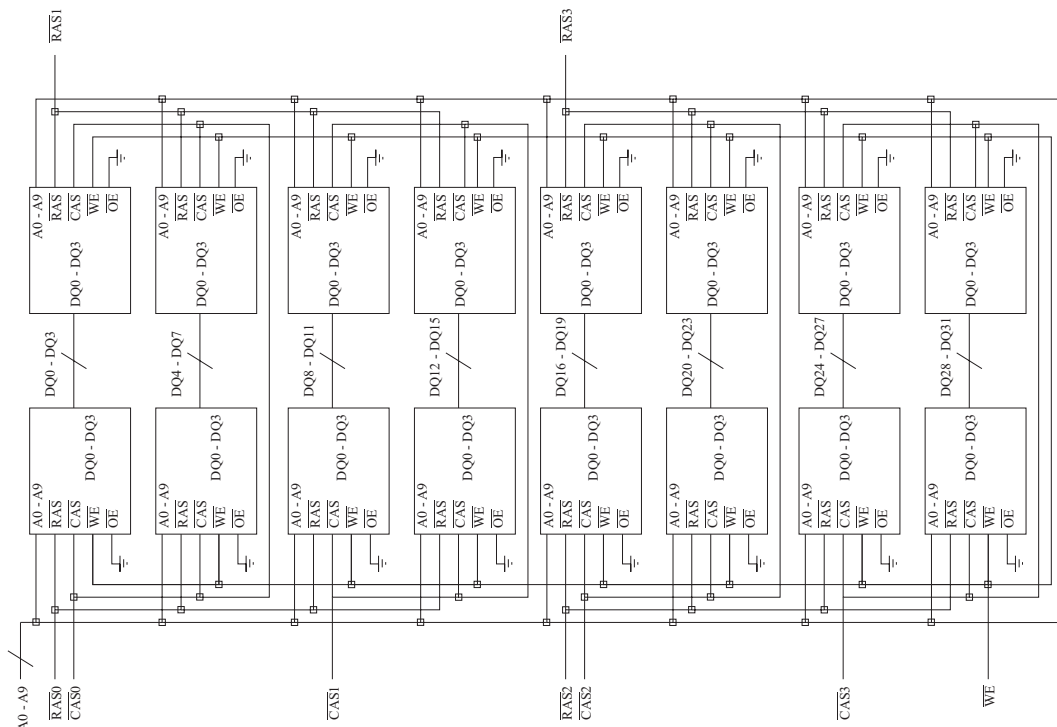
Presence Detect -1 Meg x 32

	-60	-70	-80
PD1	Vss	Vss	Vss
PD2	Vss	Vss	Vss
PD3	NC	Vss	NC
PD4	NC	NC	Vss

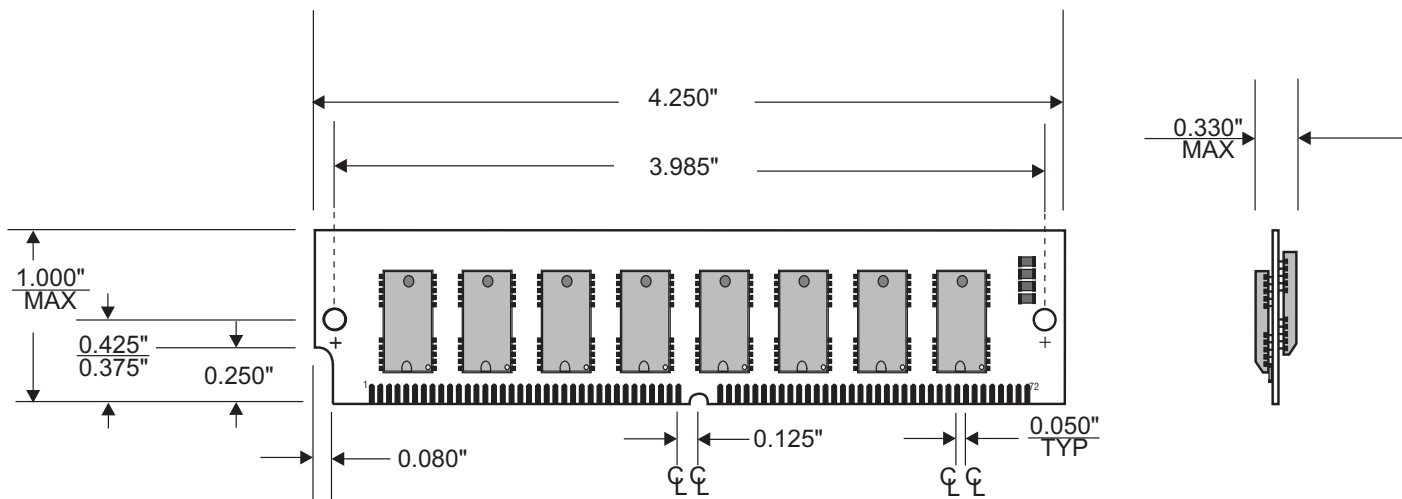
Presence Detect - 2 Meg x 32

	-60	-70	-80
PD1	NC	NC	NC
PD2	NC	NC	NC
PD3	NC	Vss	NC
PD4	NC	NC	Vss

FUNCTIONAL DIAGRAM



MECHANICAL DIMENSIONS



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