

Accutek Microcircuit Corporation

AK5324096W 4,194,304 Word by 32 Bit CMOS Dynamic Random Access Memory

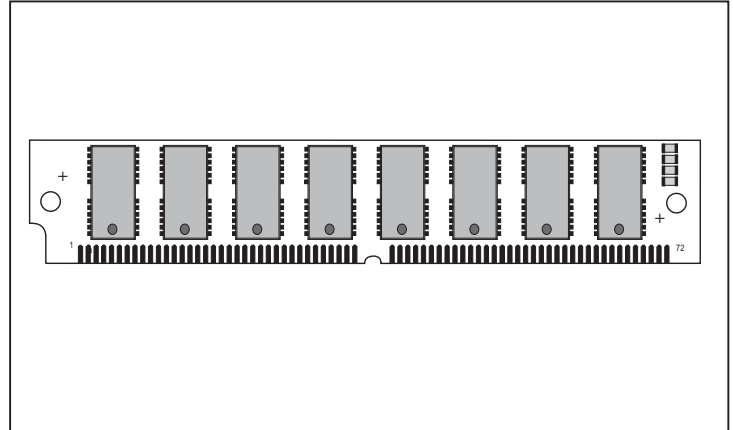
DESCRIPTION

The Accutek AK5324096W high density memory module is a CMOS Dynamic RAM organized in 4096K x 32 bit words. The module consists of eight standard 4 Meg x 4 DRAMs in plastic SOJ packages mounted on the front surface of a printed circuit board with a low profile height of only 0.875" in a 72 pin 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 AK5324096W is identical to eight 4 Meg x 4 drams. There are four $\overline{\text{CAS}}$ lines and two $\overline{\text{RAS}}$ lines. Independent byte control is accomplished by four $\overline{\text{CAS}}$ lines. Each separate $\overline{\text{CAS}}$ line controls two of the 4 Meg x 4 DRAMs to form an 8 bit byte. The bank of 32 bits is controlled by the two $\overline{\text{RAS}}$ lines. A sixteen bit data path can be produced by connecting $\overline{\text{DQ}}_0$ to $\overline{\text{DQ}}_{16}$, $\overline{\text{DQ}}_1$ to $\overline{\text{DQ}}_{17}$, etc. and alternately strobing $\overline{\text{RAS}}_0$ with $\overline{\text{RAS}}_2$.

FEATURES

- 4,194,304 x 32 bit organization
- Low profile board height of 0.875 inch
- 72 pad Single In-Line Module
- Multiple $\overline{\text{CAS}}$ and $\overline{\text{RAS}}$ lines allow x16 or x32 bit widths
- Power
 - 5.28 Watt Max Active (60nS)
 - 4.40 Watt Max Active (70 nS)
 - 44 mW Max Standby
- $\overline{\text{CAS}}$ -before- $\overline{\text{RAS}}$, $\overline{\text{RAS}}$ -only or hidden refresh
- Single 5 Volt Power Supply



- 2048 Refresh Cycles, 32 mSEC
- Available in Fast Page Mode and EDO
- Available in leadless SIM or leaded ZIP versions
- Downward compatible with AK5322048W, AK5321024W, AK532512W and AK536256W
- Upward compatible with AK5328192W, AK53216384 and AK53232768
- Operating free air temperature 0°C to 70°C

ADDITIONAL OPTIONS AVAILABLE

4 Meg x 32 version, using 4K Refresh Drams, AK5324096W4K

PIN NOMENCLATURE

A ₀ - A ₁₀	Address Inputs
$\overline{\text{DQ}}_0$ - $\overline{\text{DQ}}_{31}$	Data In/Data Our
$\overline{\text{CAS}}_0$ - $\overline{\text{CAS}}_3$	Column Address Strobe
$\overline{\text{RAS}}_0$, $\overline{\text{RAS}}_2$	Row Address Strobe
$\overline{\text{WE}}$	Write Enable
$\overline{\text{OE}}$	Output Enable
PD ₁ - PD ₄	Presence Detect
V _{cc}	5v Supply
V _{ss}	Ground
NC	No Connect

MODULE OPTIONS

Leadless SIM: AK5324096W
Leaded ZIP: AK5324096Z

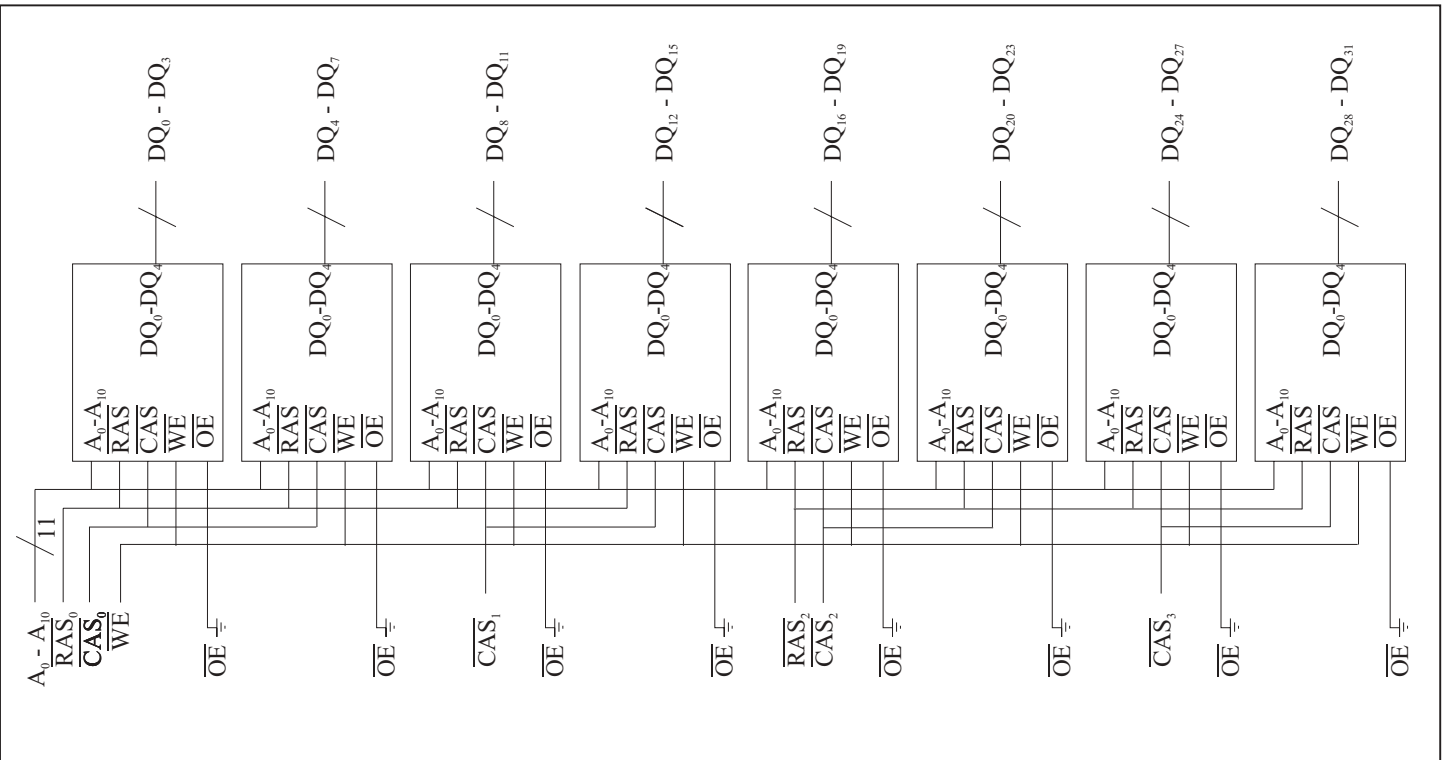
PIN ASSIGNMENT

PIN #	SYMBOL	PIN #	SYMBOL	PIN #	SYMBOL	PIN #	SYMBOL
1	V _{ss}	19	A ₁₀	37	NC	55	DQ ₁₁
2	DQ ₀	20	DQ ₄	38	NC	56	DQ ₂₇
3	DQ ₁₆	21	DQ ₂₀	39	V _{ss}	57	DQ ₁₂
4	DQ ₁	22	DQ ₅	40	CAS ₀	58	DQ ₂₈
5	DQ ₁₇	23	DQ ₂₁	41	CAS ₂	59	V _{cc}
6	DQ ₂	24	DQ ₆	42	CAS ₃	60	DQ ₂₉
7	DQ ₁₈	25	DQ ₂₂	43	CAS ₁	61	DQ ₁₃
8	DQ ₃	26	DQ ₇	44	RAS ₀	62	DQ ₃₀
9	DQ ₁₉	27	DQ ₂₃	45	NC	63	DQ ₁₄
10	V _{cc}	28	A ₇	46	NC	64	DQ ₃₁
11	NC	29	NC	47	WE	65	DQ ₁₅
12	A ₀	30	V _{cc}	48	NC	66	NC
13	A ₁	31	A ₈	49	DQ ₈	67	PD ₁
14	A ₂	32	A ₉	50	DQ ₂₄	68	PD ₂
15	A ₃	33	NC	51	DQ ₉	69	PD ₃
16	A ₄	34	RAS ₂	52	DQ ₂₅	70	PD ₄
17	A ₅	35	NC	53	DQ ₁₀	71	NC
18	A ₆	36	NC	54	DQ ₂₆	72	V _{ss}

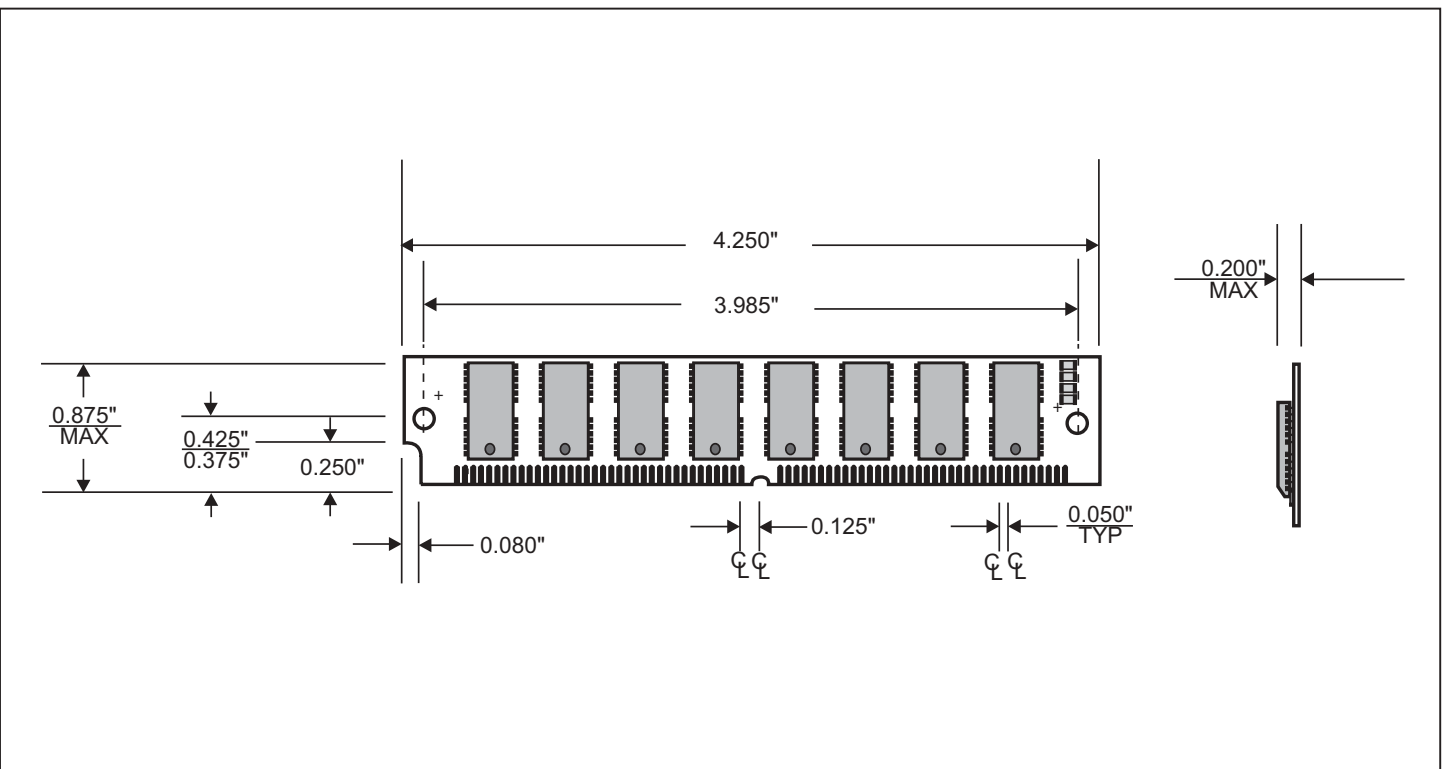
Presence Detect -

	-60	-70
PD ₁	V _{ss}	V _{ss}
PD ₂	NC	NC
PD ₃	NC	V _{ss}
PD ₄	NC	NC

FUNCTIONAL DIAGRAM



MECHANICAL DIMENSIONS



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