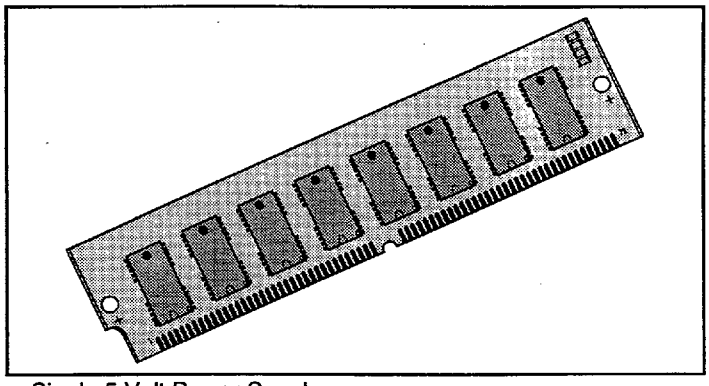
ACCUTEK
MICROCIRCUIT CORPORATION

AK5361024WP
1,048,576 Word by 36 Bit CMOS Dynamic Random Access Memory



DESCRIPTION

The Accutek AK5361024WP high density memory module is a CMOS Dynamic RAM organized in 1024K x 36 bit words. The module consists of eight standard 1 Meg x 4 DRAMs and four 1 Meg x 1 DRAMs in plastic SOJ packages. The 1 Meg x 4 DRAMs are mounted on the front surface and the 1 meg x 1 parity DRAMs are mounted on the back surface of a printed circuit board with a low profile height of only 0.875 inch 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 AK5361024 is identical to eight 1Meg x 4 plus four 1Meg x 1 DRAMs. There are four $\overline{CAS}$ lines and two $\overline{RAS}$ lines. Independent byte control is accomplished by four $\overline{CAS}$ lines. Each separate $\overline{CAS}$ line controls two 1Meg x 4 DRAMs, along with a 1Meg x 1 DRAM with data in tied to data out to form a 9 bit byte. The bank of 36 bits is controlled by the two $\overline{RAS}$ lines. An eighteen bit data path can be produced by connecting DQ_0 to DQ_{18}, DQ_1 to DQ_{19}, etc. and alternately strobing $\overline{RAS_0}$ with $\overline{RAS_2}$.

FEATURES

- 1,048,576 x 36 bit organization
- Low profile board height of 0.875 inch
- 72 pad Single In-Line Module
- Multiple $\overline{CAS}$ and $\overline{RAS}$ lines allow x18 or x36 bit widths
- $\overline{CAS}$-before-$\overline{RAS}$, $\overline{RAS}$-only or hidden refresh
- Power
  7.26 Watt Max Active (60nS)
  6.16 Watt Max Active (70 nS)
  5.28 Watt Max Active (80 nS)
  66 mW Max Standby
- Single 5 Volt Power Supply
- 1024 Refresh Cycles, 16 mSEC
- Available in Fast Page Mode and Static Column Mode versions
- Available in leadless SIM or leaded ZIP versions
- Downward compatible with AK536512W and AK536256W
- Upward compatible with AK5362048W, AK5364096W and AK5368192
- Operating free air temperature 0^0C to 70^0C

EXAMPLE

AK5361024WP-70

1Meg x 36 CMOS Dynamic RAM, SIM, Page Mode, Commercial 70nSEC Access TimeADDITIONAL OPTIONS AVAILABLE

- 1 Meg x 32 version, no parity, AK5321024W

PIN NOMENCLATURE

DQ_0 - DQ_{35}	Data In/Data Out
A_0 - A_9	Address Inputs
$\overline{CAS_0}$ - $\overline{CAS_3}$	Column Address Strobe
$\overline{RAS_0}$ & $\overline{RAS_2}$	Row Address Strobe
$\overline{WE}$	Write Enable
PD_1 - PD_4	Presence Detect
Vcc	5v Supply
Vss	Ground
NC	No Connect

MODULE OPTIONS

Leadless SIM: AK5361024W
Leaded ZIP: AK5361024Z

PIN ASSIGNMENT

Pin #	Symbol	Pin #	Symbol	Pin #	Symbol	Pin #	Symbol
1	Vss	19	NC	37	DQ17	55	DQ12
2	DQ0	20	DQ4	38	DQ35	56	DQ30
3	DQ18	21	DQ22	39	Vss	57	DQ13
4	DQ1	22	DQ5	40	$\overline{CAS0}$	58	DQ31
5	DQ19	23	DQ23	41	$\overline{CAS2}$	59	Vcc
6	DQ2	24	DQ6	42	$\overline{CAS3}$	60	DQ32
7	DQ20	25	DQ24	43	$\overline{CAS1}$	61	DQ14
8	DQ3	26	DQ7	44	$\overline{RAS0}$	62	DQ33
9	DQ21	27	DQ25	45	NC	63	DQ15
10	Vcc	28	A7	46	NC	64	DQ34
11	NC	29	NC	47	$\overline{WE}$	65	DQ16
12	A0	30	Vcc	48	NC	66	NC
13	A1	31	A8	46	DQ9	67	PD1
14	A2	32	A9	50	DQ27	68	PD2
15	A3	33	NC	51	DQ10	69	PD3
16	A4	34	$\overline{RAS2}$	52	DQ28	70	PD4
17	A5	35	DQ26	53	DQ11	71	NC
18	A6	36	DQ8	54	DQ29	72	Vss

Presence Detect

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

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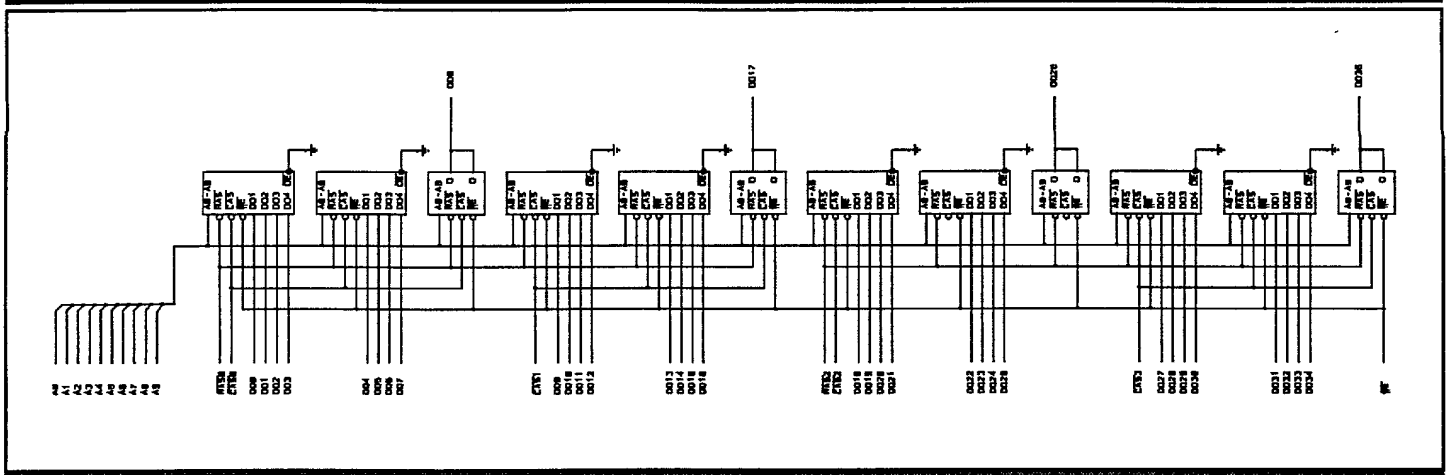
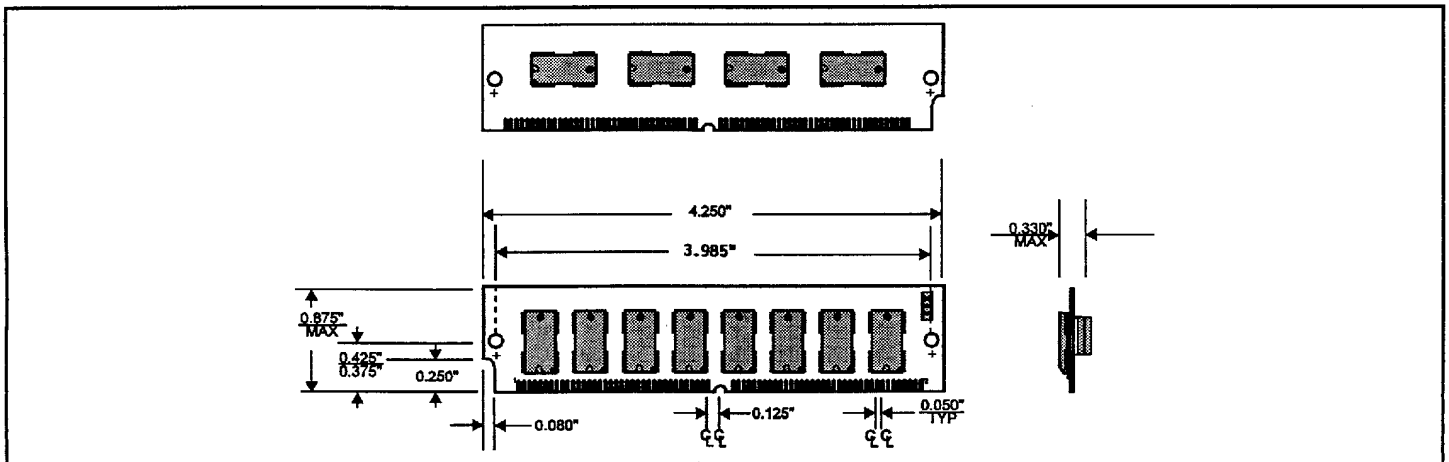
FUNCTIONAL DIAGRAM



MECHANICAL DIMENSIONS

Inches



ORDERING INFORMATION

PART NUMBER CODING INTERPRETATION

Position: 1 2 3 4 5 6 7 8

1 - Product
AK = Accutek Memory

2 - Type
5 = CMOS Dynamic RAM

3 - Organization/Word Width
8 = by 8 18 = by 18
9 = by 9 32 = by 32
16 = by 16 36 = by 36

4 - Size/Bits Depth
256 = 256K 8192 = 8 MEG
1024 = 1 MEG 16384 = 16 MEG
4096 = 4 MEG

5 - Package Type
G = Single In-Line Package (SIP)
S = Single In-Line Module (SIM)
W = .050 inch Pitch Edge Connect Module
Z = Zig-Zag In-Line Package (ZIP)

Position: 1 2 3 4 5 6 7 8

6 - Special Designation
P = Page Mode
N = Nibble Mode
K = Static Column Mode
W = Write Per Bit Mode
V = Video Ram

7 - Separator
- = Commercial (0°C to +70°C)
I = Industrial Temperature Tested (-45°C to +85°C)
X = Burned In

8 - Speed (first two significant digits)
DRAMS
60 = 60 nS
70 = 70 nS
80 = 80 nS
10 = 100 nS
ETC.

The numbers and coding on this page do not include all variations available, but are shown as examples of the most widely used variations. Contact Accutek if other information is required.

ACCUTEK MICROCIRCUIT CORPORATION
BUSINESS CENTER at NEWBURYPORT
2 NEW PASTURE ROAD
NEWBURYPORT, MA 01950

PHONE: 508-465-6200
FAX: 508-462-3396

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