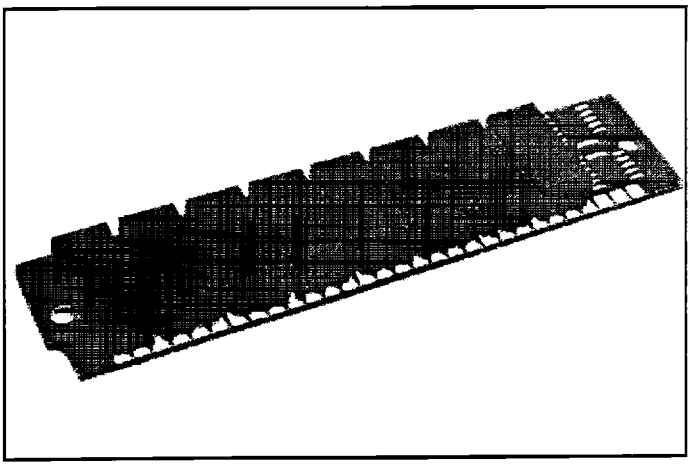
ACCUTEK
MICROCIRCUIT

AK584096AS/AK584096AG
4,194,304 Word by 8 Bit CMOS Dynamic Random Access Memory

DESCRIPTION

The Accutek AK584096AS or AK584096AG high density memory module is a CMOS dynamic RAM organized in 4 Meg x 8 bit words. The assembly consists of eight 4 Meg x 1 DRAMs in plastic SOJ packages mounted to a printed wiring board in 30 pad SIM (leadless) or SIP (leaded) configuration. The module is only 0.8 inch high (same height as standard 1 Meg modules), making it ideally suited for applications with low height restrictions.

The operation of the AK584096A is identical to eight 4 Meg x 1 dynamic RAMs. The data input is tied to the data output and brought out separately for each device, with common $\overline{RAS}$, $\overline{CAS}$ and $\overline{WE}$ control. This common I/O feature dictates the use of early-write cycles to prevent contention of D and Q. Since the Write-Enable ($\overline{WE}$) signal must always go low before $\overline{CAS}$ in a write cycle, Read-Write and Read-Modify-Write operation is not possible.



FEATURES

- 4,194,304 x 8 bit organization
- 30 pad (SIM) Single In-Line Module or (SIP) Single In-Line Package
- JEDEC approved pinout
- Each device (data bit) has common DQ lines with common $\overline{CAS}$ and $\overline{RAS}$ controls
- $\overline{CAS}$-before-$\overline{RAS}$ refresh
- Downward compatible with AK481024 and AK58256/48256
- Power
  4.40 Watt Max Active (80 nS)
  3.75 Watt Max Active (100 nS)
  44 mWatt Max Standby
- Operating free air temperature 0°C to 70°C
- Available in leadless (S) or leaded version (G)
- Fast Page Mode, Nibble Mode and Static Column Mode versions available
- 9 Bit version (with parity bit) also available

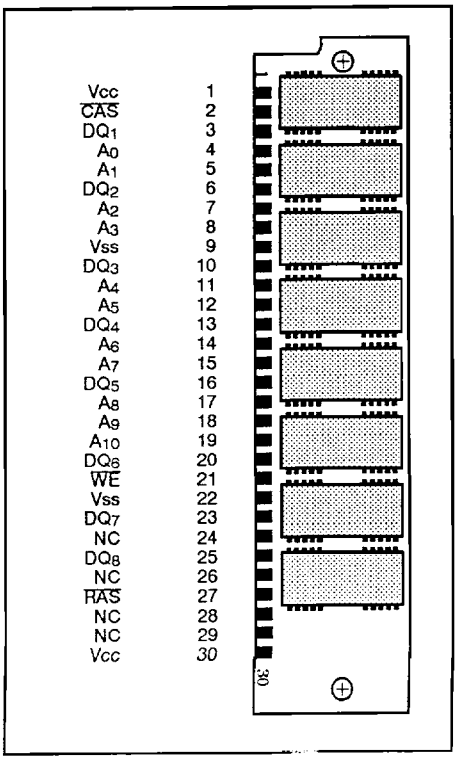
PIN NOMENCLATURE

DQ_1 - DQ_8	Data In/Data Out
A_0 - A_{10}	Address Inputs
$\overline{CAS}$	Column Address Strobe
$\overline{RAS}$	Row Address Strobe
$\overline{WE}$	Write Enable
Vcc	5v Supply
Vss	Ground
NC	No Connection

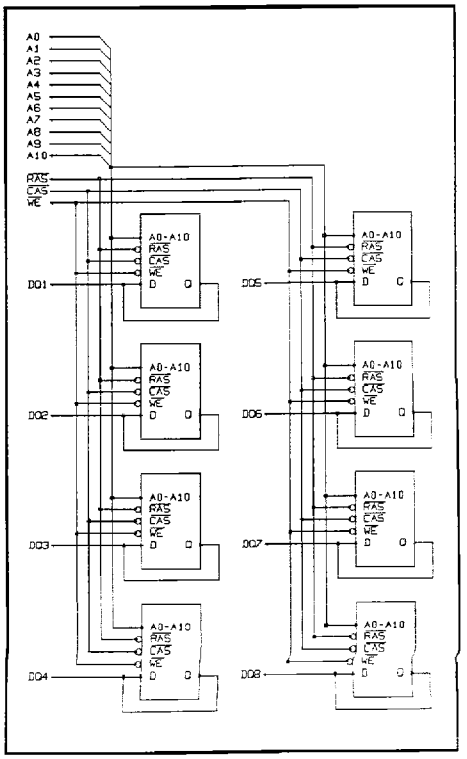
MODULE OPTIONS

Leadless SIM: AK584096AS Single In-Line Module
Leaded SIP: AK584096AG Single In-Line Package

PIN ASSIGNMENT



FUNCTIONAL DIAGRAM



ORDERING INFORMATION

PART NUMBER CODING INTERPRETATION

Position: 1 2 3 4 5 6 7 8

1 - Product
AK = Accutek Memory

2 - Type
4 = Dynamic RAM
5 = CMOS Dynamic RAM
6 = Static RAM

3 - Organization/Word Width
1 = by 1
4 = by 4
8 = by 8
9 = by 9

4 - Size/Bits Depth
256 = 256K
1024 = 1 MEG
4096 = 4 MEG

5 - Package Type
G = Single In-Line Package (SIP)
S = Single In-Line Module (SIM)
D = Dual In-Line Package(DIP)
W = .050 inch Pitch Edge Connect Module

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

7 - Separator
- = Commercial (0°C to +70°C)
M = Military Equivalent Screened (-55°C to +125°C)
I = Industrial Temperature Tested (-45°C to +85°C)
X = Burned In

8 - Speed (first two significant digits)
60 = 60 nS
70 = 70 nS
80 = 80 nS
10 = 100 nS
12 = 120 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.

EXAMPLES

AK584096ASP-80

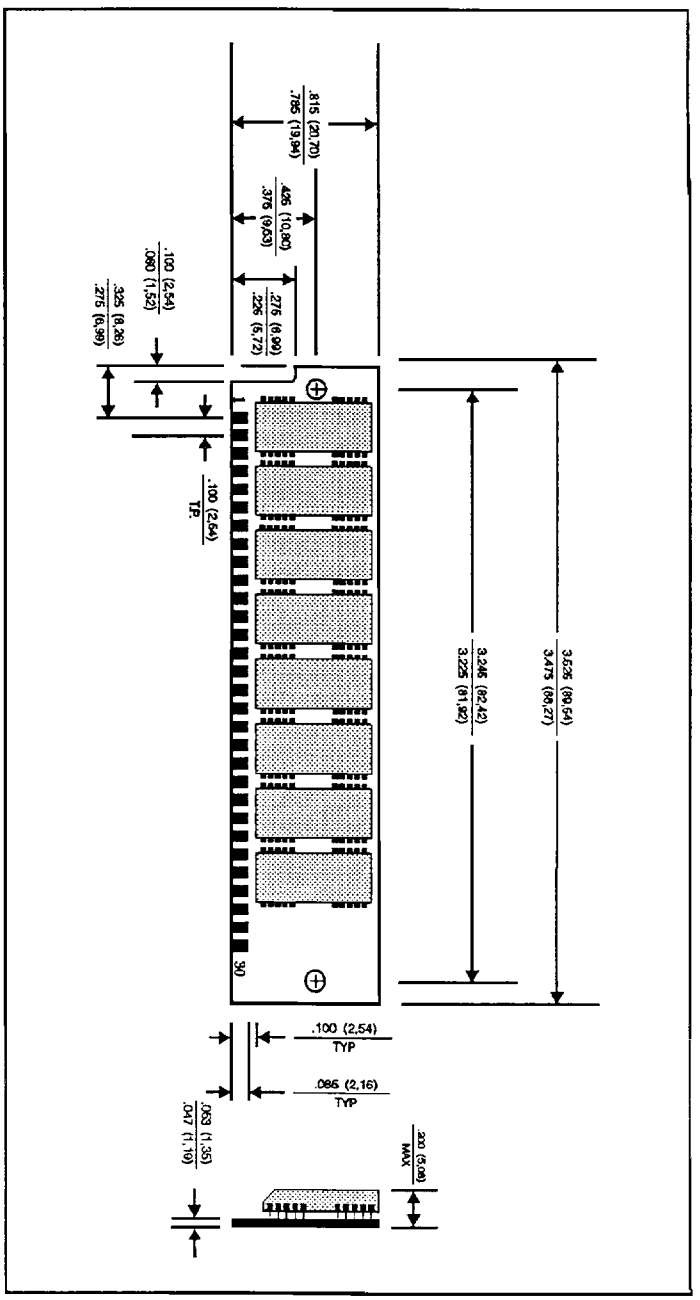
4 Meg x 8 CMOS Dynamic RAM, Leadless SIM, Page Mode, Commercial, 80 nS Access Time

AK594096AGK-70

4 Meg x 9 CMOS Dynamic RAM, Leaded SIP, Static Column Mode, Commercial, 70 nS Access Time

MECHANICAL DIMENSIONS

inches (millimeters)



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

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