

AK48256S / AK48256G 262,144 X 8 Bit MOS **Dynamic Random Access Memory**

DESCRIPTION

The Accutek AK48256 high density memory modules is a random access memory organized in 256K x 8 bit words. The assembly consists of eight standard 256K x 1 DRAMs in plastic leaded chip carriers (PLCC) mounted on the front side of a printed circuit board. The module can be configured as a leadless 30 pad SIM or a leaded 30 pin SIP. This packaging approach provides a 6 to 1 density increase over standard DIP packaging.

The operation of the AK48256 is identical to eight 256K x 1 DRAMs. The data input is tied to the data output and brought out separately for each device, with common RAS, CAS and 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 (WE) signal must always go low before CAS in a write cycle, Read-Write and Read-Modify-Write operation is not possible.

FEATURES

- · 262,144 by 8 bit organization
- Optional 30 Pad leadless SIM (Single In-Line Module) or 30 Pin leaded SIP (Single In-Line Package)
- JEDEC standard pinout
- Each device has common D and Q lines with common RAS. CAS and WE control
- 2.8 Watt active and 180 mW standby (max)
- Operating free air temperature 0⁰C to 70⁰C
- Upward compatible with AK481024, AK581024, AK584096 and AK5816384
- Functionally and Pin compatible with AK58256A

| Front View | | | | | |
|---|--|--|--|--|--|
| | | | | | |
| 00 81 0114 | | | | | |
| 30-Pin SIM | | | | | |
| 0000 0000 0000 0000 0000 0000 0000 | | | | | |
| | | | | | |
| 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | |
| | | | | | |
| | | | | | |
| 30-Pin SIP | | | | | |
| 0000 0000 0000 0000 0000 0000 0000 0000 | | | | | |
| 0000 0000 0000 0000 0000 0000 0000 | | | | | |
| 100000000000000000000000000000000000000 | | | | | |

PIN NOMENCLATURE

| A ₀ - A ₈ | Address Inputs |
|-----------------------------------|-----------------------|
| DQ ₁ - DQ ₈ | Data In / Data Out |
| CAS | Column Address Strobe |
| RAS | Row Address Strobe |
| WE | Write Enable |
| Vcc | 5v Supply |
| Vss | Ground |
| NC | No Connect |

MODULE OPTIONS

| Leadless SIM: AK48256S |
|------------------------|
| Leaded SIP: AK48256G |
| |

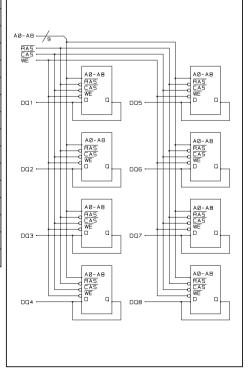
PIN ASSIGNMENT SYMBOL

PIN#

| 1114# | STINDOL | STMIDGE THE | | |
|--------------------------------------|-------------------------|--|-------------------------------|--|
| 1 | Vcc | 16 | DQ5 | |
| 2 | CAS | 17 | A8 | |
| 3 | DQ! | 18 | NC | |
| 4 | A0 | 19 | NC | |
| 5 | A1 | 20 | DQ6 | |
| 6 | DQ2 | 21 | WE | |
| 7 | A2 | 22 | Vss | |
| 8 | A3 | 23 | DQ7 | |
| 9 | Vss | 24 | NC | |
| 10 | DQ3 | 25 | DQ8 | |
| 11 | A4 | 26 | NC | |
| 12 | A5 | 27 | RAS | |
| 13 | DQ4 | 28 | NC | |
| 14 | A6 | 29 | NC | |
| 15 | A7 | 30 | Vcc | |
| 8 9 10 11 12 13 14 | A3 Vss DQ3 A4 A5 DQ4 A6 | 23 24 25 26 27 28 29 | DQ7 NC DQ8 NC RAS NC NC | |

PIN#

FUNCTIONAL DIAGRAM



ORDERING INFORMATION

PART NUMBER CODING INTERPRETATION

Position 1 2 3 4 5 6 7 8

Product

AK = Accutek Memory

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

Organization/Word Width

- $1 = by 1 \quad 16 = by 16$
- 4 = by 432 = by 32
- 8 = by 836 = by 36
- 9 = by 9
- Size/Bits Depth
 - 64 = 64K4096 = 4 MEG 256 = 256K8192 = 8 MEG 1024 = 1 MEG 16384 = 16 MEG

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
- Z = Zig-Zag In-Line Package (ZIP)

Special Designation

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

Separator

- = Commercial 0° C to + 70° C
- M = Military Equivalent Screened
- (-55°C to +125°C)
- = Industrial Temperature Tested $(-45^{\circ}C \text{ to } +85^{\circ}C)$

X = Burned In

Speed (first two significant digits) 8

| DRAMS SRAMS | | | | | |
|-------------|---|-------|----|---|-------|
| 50 | = | 50 nS | 8 | = | 8 nS |
| 60 | = | 60 nS | 10 | = | 10 nS |
| 70 | = | 70 nS | 12 | = | 12 nS |
| 80 | = | 80 nS | 15 | = | 15 nS |

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

EXAMPLES:

AK48256SP-10

256K x 8, 100 nSEC DRAM 30 pin SIM Configuration, Page Mode

AK48256GK-80

256K x 8, 80 nSEC DRAM 30 pin SIP Configuration, Static Column Mode



ACCUTEK MICROCIRCUIT CORPORATION

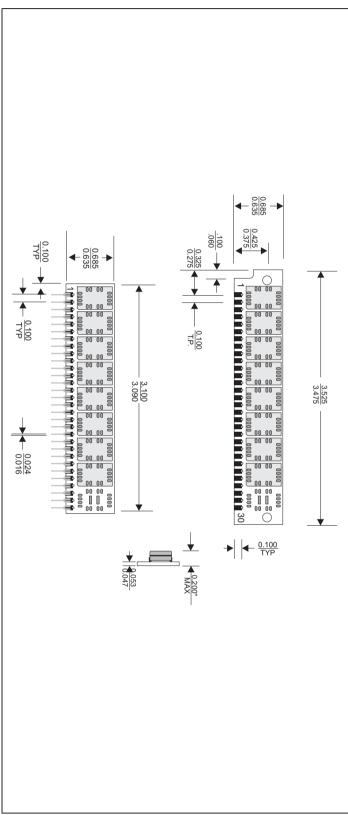
BUSINESS CENTER at NEWBURYPORT 2 NEW PASTURE ROAD, SUITE 1 NEWBURYPORT, MA 01950-4054

VOICE: 978-465-6200 FAX: 978-462-3396 Email:

sales@accutekmicro.com Internet: www.accutekmicro.com

MECHANICAL DIMENSIONS

Inches



Accutek reserves the right to make changes in specifications at any time and without notice. Accutek does not assume any responsibility for the use of any circuitry described; no circuit patent licenses are implied. Preliminary data sheets contain minimum and maximum limits based upon design objectives, which are subject to change upon full characterization over the specific operating conditions.