

Accutek Microcircuit Corporation

AK5816384S / AK5816384G
16,777,216 Word by 8 Bit CMOS
Dynamic Random Access Memory

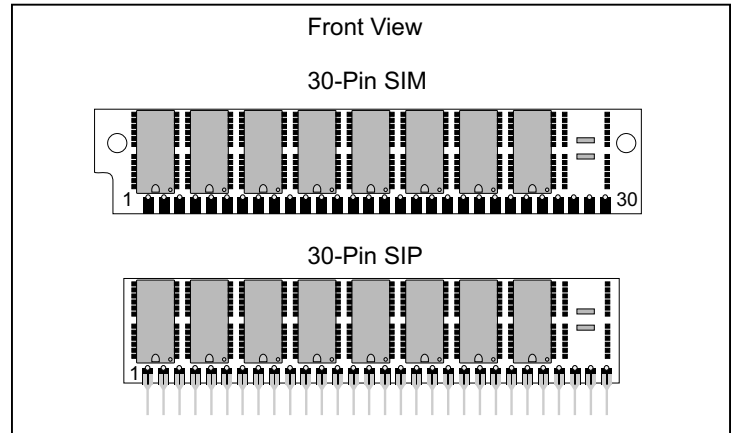
DESCRIPTION

The Accutek AK5816384 high density memory module is a CMOS DRAM organized in 16 Meg x 8 bit words. The assembly consists of eight 16 Meg x 1 DRAMs in plastic SOJ packages mounted to the front side of a printed circuit 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 AK5816384 is identical to eight 16 Meg 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

- 16,777,216 x 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 (data bit) has common DQ lines with common CAS and RAS controls
- CAS-before-RAS refresh
- Downward compatible with AK584096, AK581024/481024, AK58256/48256
- TTL-Compatible Inputs and Outputs
- RAS-Only Refresh
- 4096 Cycle Refresh every 64mSEC
- Power:
 3.96 Watt Max Active (60 nS)
 4.40 Watt Max Active (70 nS)
 3.52 Watt Max Active (80 nS)
 44 mWatt Max Standby
- Operating free air temperature 0°C to 70°C
- Fast Page Mode
- 9 Bit version (with parity bit) also available



PIN NOMENCLATURE

DQ ₁ - DQ ₈	Data In/Data Out
A ₀ - A ₁₁	Address Inputs
CAS	Column Address Strobe
RAS	Row Address Strobe
WE	Write Enable
Vcc	5v Supply
Vss	Ground
NC	No Connect

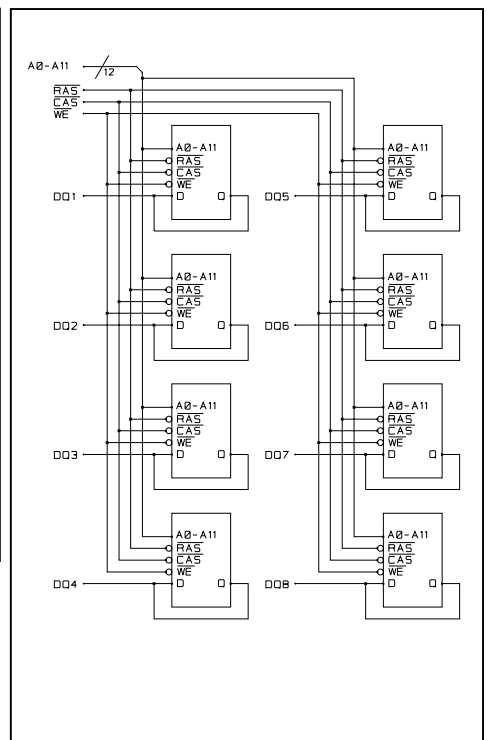
MODULE OPTIONS

Leadless SIM: AK5816384S
Leaded SIP: AK5816384G

PIN ASSIGNMENT

PIN #	SYMBOL	PIN #	SYMBOL
1	Vcc	16	DQ5
2	CAS	17	A8
3	DQ1	18	A9
4	A0	19	A10
5	A1	20	DQ6
6	DQ2	21	WE
7	A2	22	Vss
8	A3	23	DQ7
9	Vss	24	A11
10	DQ3	25	DQ8
11	A4	26	NC
12	A5	27	RAS
13	DQ4	28	NC
14	A6	29	NC
15	A7	30	Vcc

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 16 = by 16
4 = by 4 32 = by 32
8 = by 8 36 = by 36
9 = by 9

4 Size/Bits Depth

64 = 64K 4096 = 4 MEG
256 = 256K 8192 = 8 MEG
1024 = 1 MEG 16384 = 16 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
Z = Zig-Zag In-Line Package (ZIP)

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
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)

DRAMS	SRAMS
60 = 60 nS	8 = 8 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 shown as examples of the most widely used variations. Contact Accutek if other information is required.

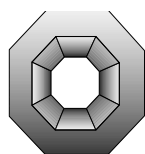
EXAMPLES:

AK5816384SP-70

16 Meg x 8, 70 nSEC, Leadless SIM, Fast Page Mode

AK5816384GP-60

16 Meg x 8, 60 nSEC, Leaded SIP, Fast Page Mode

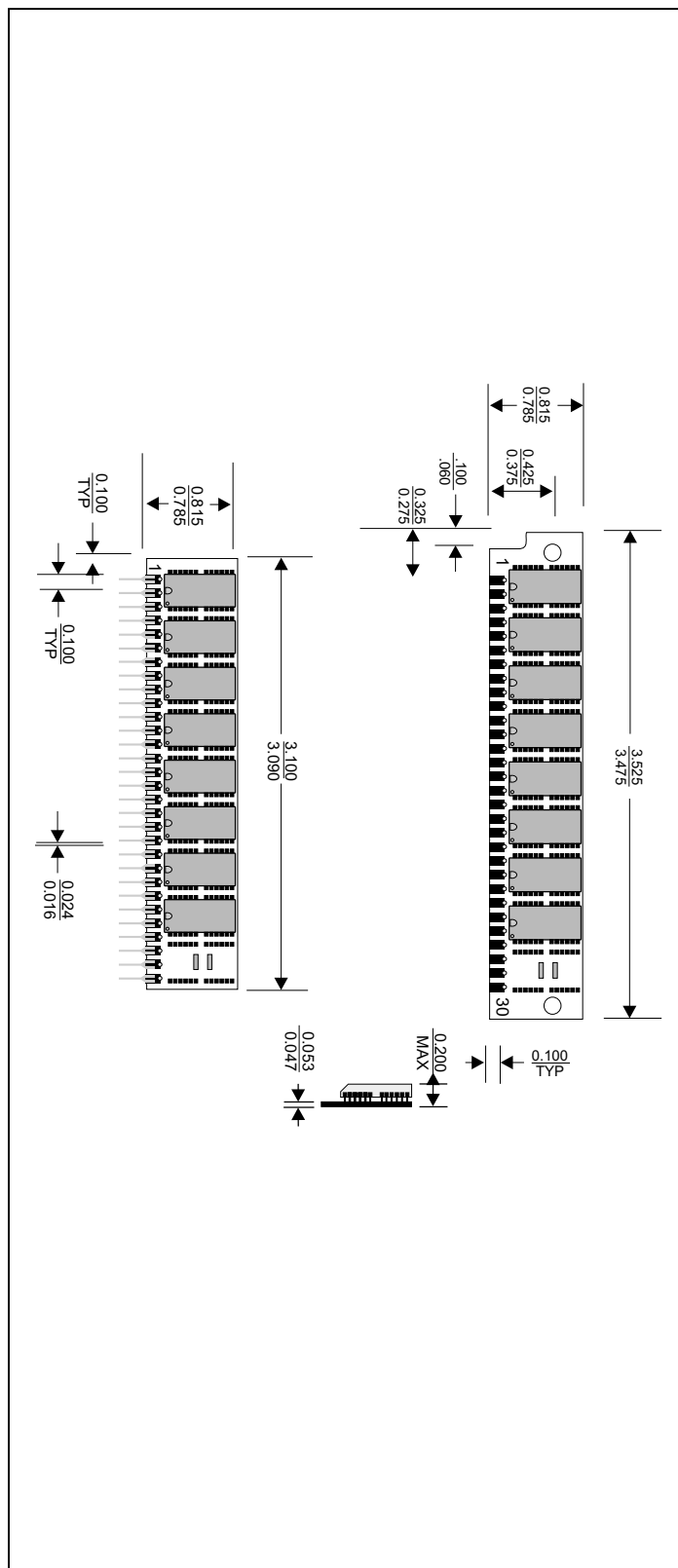


ACCUTEK MICROCIRCUIT CORPORATION

BUSINESS CENTER at NEWBURYPORT
2 NEW PASTURE ROAD, SUITE 1
NEWBURYPORT, MA 01950-4054
PHONE: 978-465-6200 FAX: 978-462-3396
Email: accutek@seacoast.com
Internet: 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.