ACCUTEK
MICROCIRCUIT CORPORATION

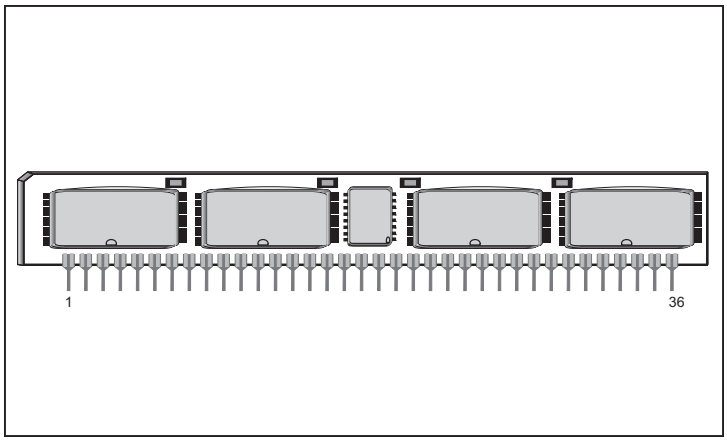
# AK681024G
# 1,048,579 x 8 Bit CMOS
# Static Random Access Memory

## DESCRIPTION

The Accutek AK681024G is a high density SRAM memory module organized in 1 Meg X 8 bit words. The assembly consists of four medium speed 128K X 8 SRAMs in thin TSOP packages, plus a CMOS decoder logic IC and four decoupling capacitor chips, mounted on the front side and four medium speed 128K x 8 SRAMS in thin TSOP packages and four decoupling capacitor chips mounted on the back side of a low-profile printed circuit board. The module configuration is a 36 pin leaded SIP.

The memory operates as a single asynchronous 1 Meg X 8 SRAM from a 5V supply, and has common I/O, chip enable, output enable and write enable functions. With the proper choice of SRAMs, it is available in three separate low-standby-power configurations, with access times of 55, 70, 85 or 100 nSEC.

The combination of low power, low profile and high density packaging offered by the AK681024G makes it ideal for use in applications where board space and available power are limited and extremely low access times are not required. It is especially useful in VMEbus designs and in places where very close module-to-module spacing is dictated.




## FEATURES

- 1,048,576 x 8 bit organization
- JEDEC Standard 36 pin SIP format
- Common I/O, single $\overline{OE}$, $\overline{CE}$ and $\overline{WE}$ functions
- Low 0.550 inch maximum seated height and thin profile allow maximum board density
- Range of access times from 55 to 100 nSEC
- Low, low-low and ultra-low standby power level versions available
- Single 5 volt power supply - AK681024G
- Single 3.3 volt power supply - AK681024G/3.3
- Operating free air temerature $0^0$C to $70^0$C (Industrial range version of $-10^0$C to $85^0$C also available)
- Completely static and asynchronous, no clock or timing strobe required
- Low
  9.0 Watt Max Active
  120 µ Watt Max Standby
  Low Low
  9.0 Watt Max Active
  80 µ Watt Standby

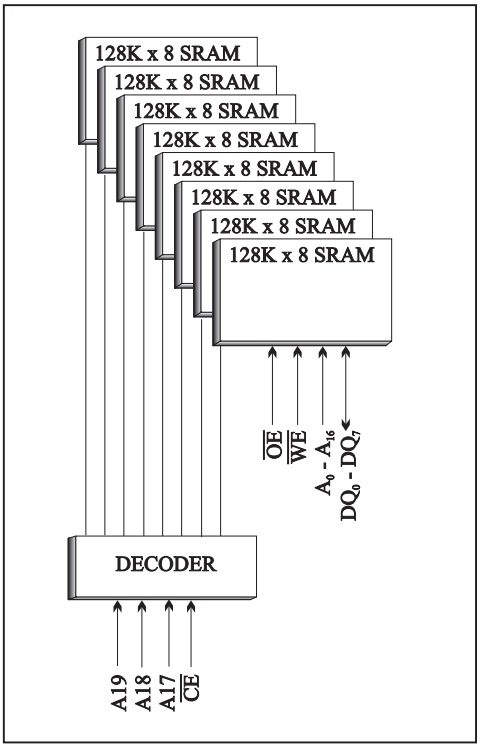
## PIN NOMENCLATURE

| | |
|---|---|
| $DQ_0$ - $DQ_7$ | Data In/Data Out |
| $A_0$ - $A_{19}$ | Address Inputs |
| $\overline{CE}$ | Chip Enable |
| $\overline{WE}$ | Write Enable |
| $\overline{OE}$ | Output Enable |
| Vcc | 5v Supply |
| Vss | Ground |
| NC | No Connection |

## PIN ASSIGNMENT

| PIN # | SYMBOL | PIN # | SYMBOL | PIN # | SYMBOL | PIN # | SYMBOL |
|---|---|---|---|---|---|---|---|
| 1 | NC | 10 | $A_4$ | 19 | $\overline{CE}$ | 28 | $A_7$ |
| 2 | Vcc | 11 | Vss | 20 | $A_{15}$ | 29 | $A_8$ |
| 3 | $\overline{WE}$ | 12 | $DQ_5$ | 21 | $A_{16}$ | 30 | $A_9$ |
| 4 | $DQ_2$ | 13 | $A_{10}$ | 22 | $A_{12}$ | 31 | $DQ_7$ |
| 5 | $DQ_3$ | 14 | $A_{11}$ | 23 | $A_{18}$ | 32 | $DQ_4$ |
| 6 | $DQ_0$ | 15 | $A_5$ | 24 | $A_6$ | 33 | $DQ_6$ |
| 7 | $A_1$ | 16 | $A_{13}$ | 25 | $DQ_1$ | 34 | $A_{17}$ |
| 8 | $A_2$ | 17 | $A_{14}$ | 26 | Vss | 35 | Vcc |
| 9 | $A_3$ | 18 | $A_{19}$ | 27 | $A_0$ | 36 | $\overline{OE}$ |

## FUNCTIONAL DIAGRAM




## MODULE OPTIONS

| |
|---|
| Leaded SIP: AK681024G |
| |

## 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 $0^0$C to +$70^0$C**
**M = Military Equivalent Screened ($-55^0$C to +$125^0$C)**
**I = Industrial Temperature Tested ($-45^0$C to +$85^0$C)**
**X = Burned In**

8 Speed (first two significant digits)

| DRAMS | | | SRAMS | | |
|---|---|---|---|---|---|
| 60 | = | 60 nS | 12 | = | 12 nS |
| 70 | = | 70 nS | 20 | = | 20 nS |
| 80 | = | 80 nS | 25 | = | 25 nS |
| 10 | = | 100 nS | 35 | = | 35 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.

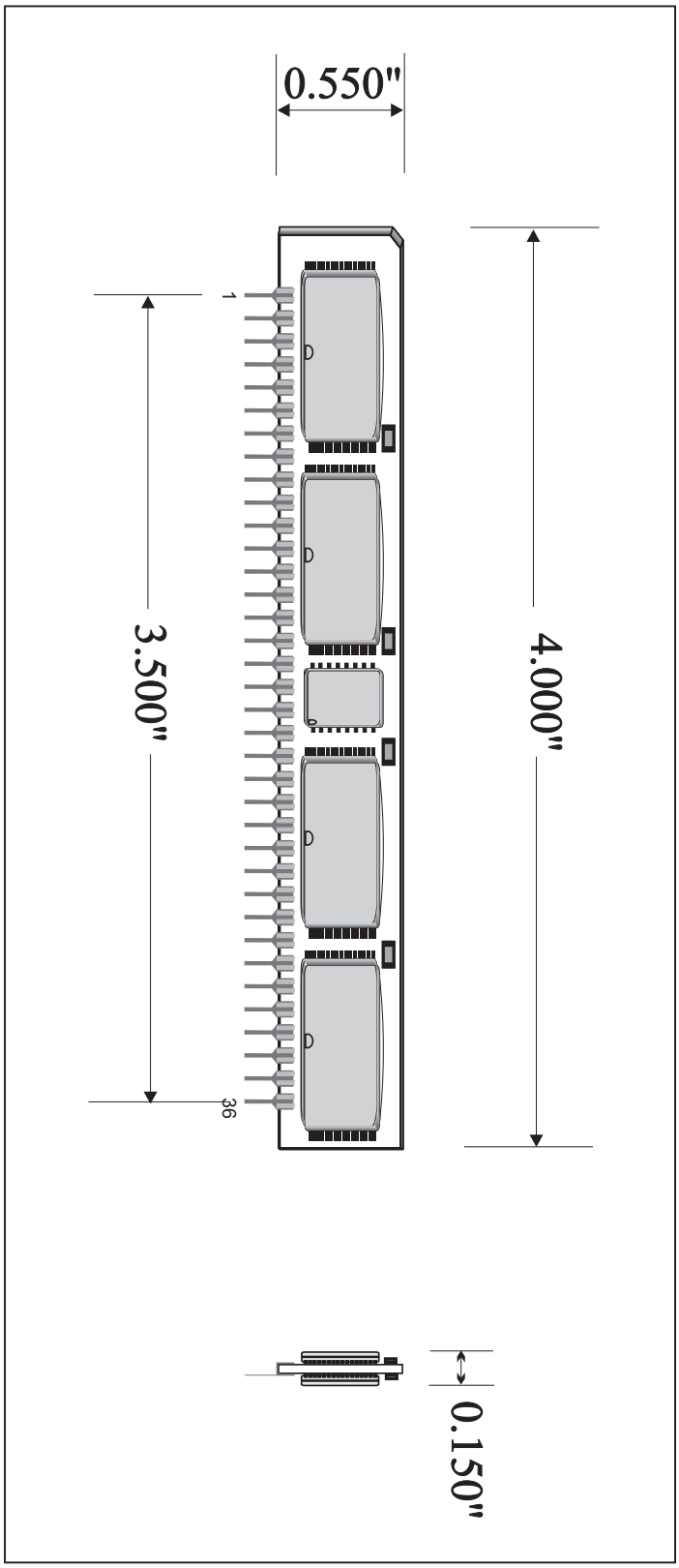
## EXPAMPLES:

**AK681024G-70LL**

1 Meg x 8, 70 nSEC Low Low Power SRAM Module, SIP Configuration

## MECHANICAL DIMENSIONS

Inches

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