

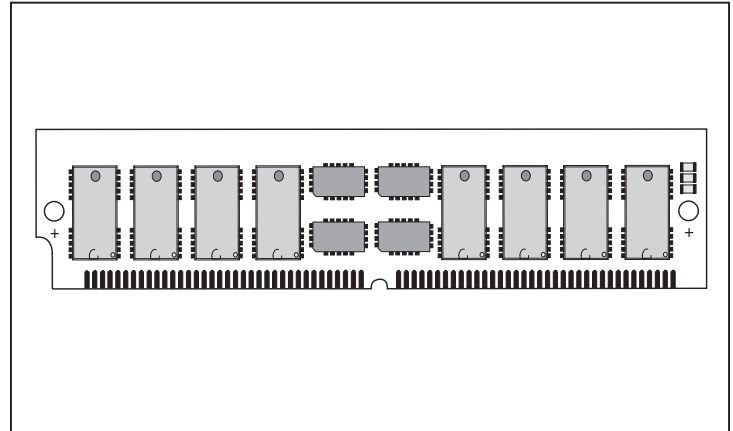
# Accutec Microcircuit Corporation

**AK536256W**  
**262,144 Word by 36 Bit CMOS**  
**Dynamic Random Access Memory**

## DESCRIPTION

The Accutec AK536256W high density memory module is a CMOS dynamic RAM organized in 256K x 36 bit words. The module consists of eight standard 256K x 4 DRAMs in plastic SOJ packages and four 256K x 1 DRAMs in PLCC packages. The assembly has 12 drams mounted on the front side of a printed circuit board in a 72 pad leadless SIM configuration.

The operation of the AK536256W is identical to eight 256K x 4 plus four 256K x 1 DRAMs. There are four  $\overline{\text{CAS}}$  lines and two  $\overline{\text{RAS}}$  lines. Independent byte control is accomplished by four  $\overline{\text{CAS}}$  lines. Each separate  $\overline{\text{CAS}}$  line controls two 256K x 4 DRAMs, along with one 256K 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  $\overline{\text{RAS}}$  lines. An eighteen bit data path can be produced by connecting  $\text{DQ}_0$  to  $\text{DQ}_{18}$ ,  $\text{DQ}_1$  to  $\text{DQ}_{19}$ , etc. and alternately strobing  $\overline{\text{RAS}}_0$  and  $\overline{\text{RAS}}_2$ .



## FEATURES

- 262,144 x 36 bit organization
- 72 pad Single In-Line Module
- Multiple  $\overline{\text{CAS}}$  and  $\overline{\text{RAS}}$  lines allow x18 or x36 bit widths
- $\overline{\text{CAS}}$ -before- $\overline{\text{RAS}}$  refresh
- Operating free air temperature 0°C to 70°C
- Single 5 Volt Power Supply
- Power
  - 2.705 Watt Max Active (70nS)
  - 2.375 Watt Max Active (80 nS)
  - 2.045 Watt Max Active (100 nS)
  - 66 mW Max Standby
- 512 Refresh Cycles, 8 mSEC
- Available in Fast Page Mode and Static Column Mode versions
- Upward compatible with AK536512W, AK5361024W, AK5362048W, AK5364096W and AK5368192W

## PIN NOMENCLATURE

|                                                     |                       |
|-----------------------------------------------------|-----------------------|
| $\text{DQ}_0 - \text{DQ}_{35}$                      | Data In/Data Out      |
| $\text{A}_0 - \text{A}_8$                           | Address Inputs        |
| $\overline{\text{CAS}}_0 - \overline{\text{CAS}}_3$ | Column Address Strobe |
| $\overline{\text{RAS}}_0, \overline{\text{RAS}}_2$  | Row Address Strobe    |
| $\overline{\text{WE}}$                              | Write Enable          |
| PD                                                  | Presence Detect       |
| Vcc                                                 | 5v Supply             |
| Vss                                                 | Ground                |
| NC                                                  | No Connect            |

## MODULE OPTIONS

Leadless SIM: AK536256W  
 Leded ZIP: AK536256Z

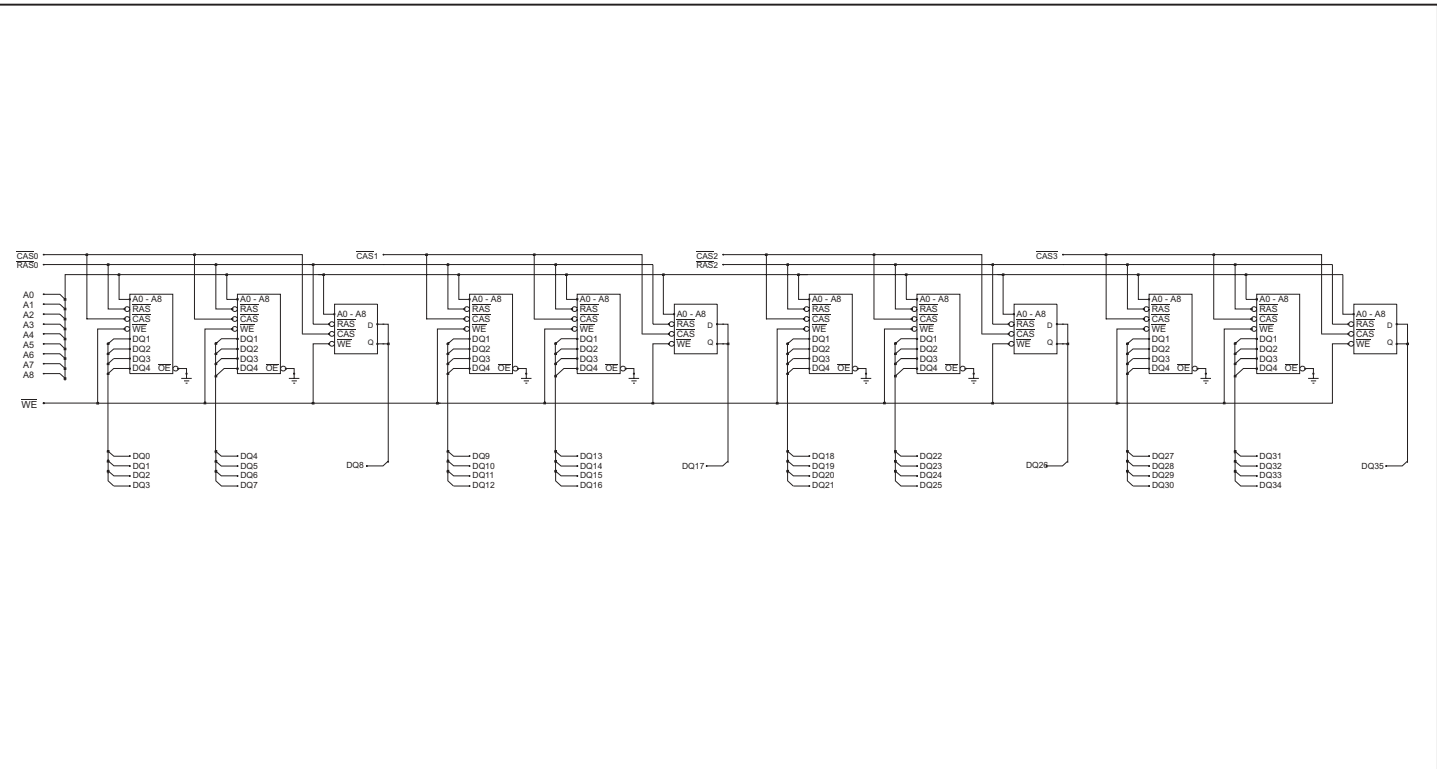
## PIN ASSIGNMENT

| 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    | $\overline{\text{CAS}}_0$ | 58    | DQ31   |
| 5     | DQ19   | 23    | DQ23                      | 41    | $\overline{\text{CAS}}_2$ | 59    | Vcc    |
| 6     | DQ2    | 24    | DQ6                       | 42    | $\overline{\text{CAS}}_3$ | 60    | DQ32   |
| 7     | DQ20   | 25    | DQ24                      | 43    | $\overline{\text{CAS}}_1$ | 61    | DQ14   |
| 8     | DQ3    | 26    | DQ7                       | 44    | $\overline{\text{RAS}}_0$ | 62    | DQ33   |
| 9     | DQ21   | 27    | DQ25                      | 45    | NC                        | 63    | DQ15   |
| 10    | Vcc    | 28    | A7                        | 46    | NC                        | 64    | DQ34   |
| 11    | NC     | 29    | NC                        | 47    | $\overline{\text{WE}}$    | 65    | DQ16   |
| 12    | A0     | 30    | Vcc                       | 48    | NC                        | 66    | NC     |
| 13    | A1     | 31    | A8                        | 49    | DQ9                       | 67    | PD1    |
| 14    | A2     | 32    | NC                        | 50    | DQ27                      | 68    | PD2    |
| 15    | A3     | 33    | NC                        | 51    | DQ10                      | 69    | PD3    |
| 16    | A4     | 34    | $\overline{\text{RAS}}_2$ | 52    | DQ28                      | 70    | PD4    |
| 17    | A5     | 35    | DQ26                      | 53    | DQ11                      | 71    | NC     |
| 18    | A6     | 36    | DQ8                       | 54    | DQ29                      | 72    | Vss    |

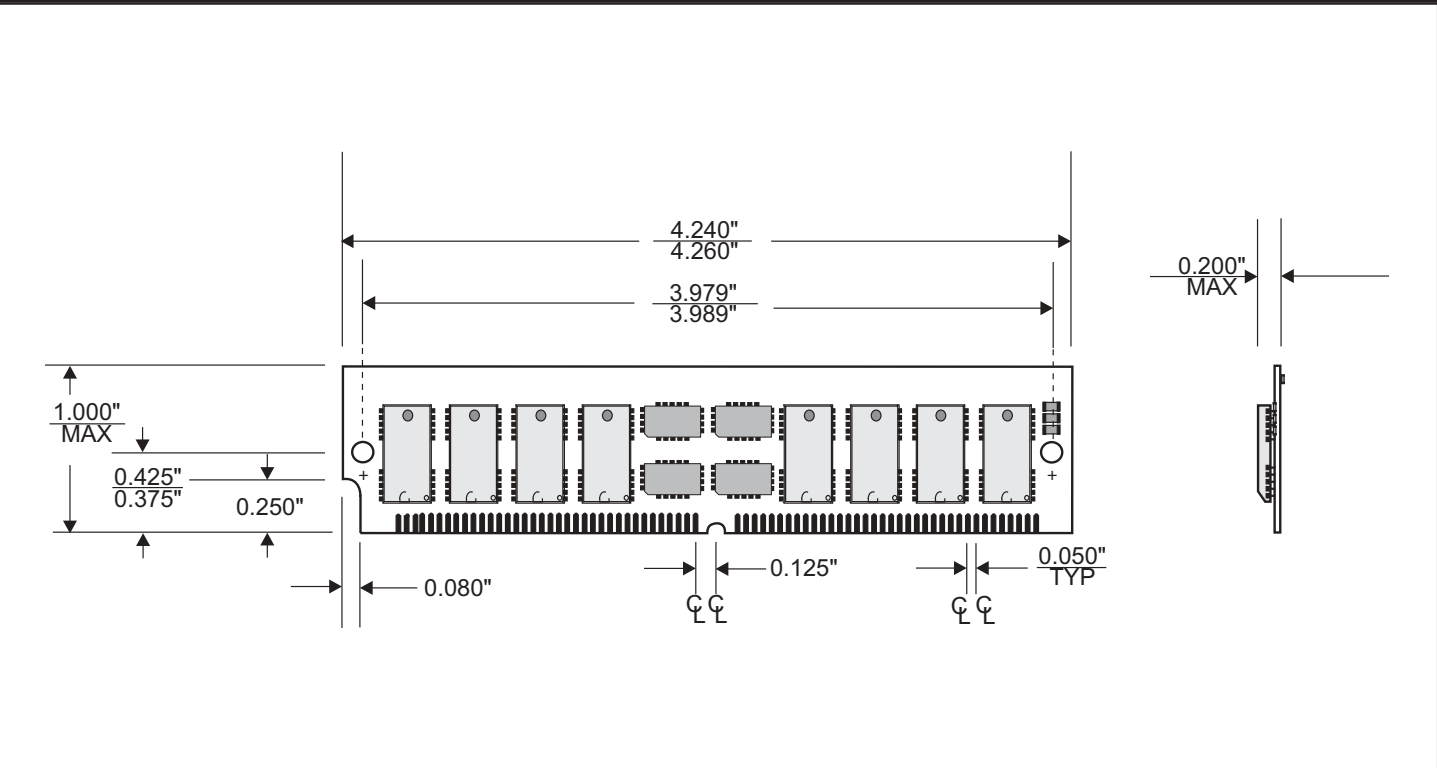
### Presence Detect -

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

# FUNCTIONAL DIAGRAM



# MECHANICAL DIMENSIONS



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