

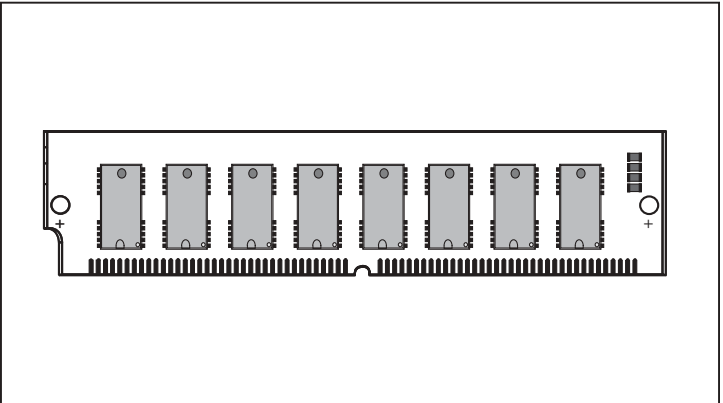
# Accutec Microcircuit Corporation

## AK532256W 262,144 Word by 32 Bit CMOS Dynamic Random Access Memory

### DESCRIPTION

The Accutec AK532256W high density memory module is a CMOS dynamic RAM organized in 256K x 32 bit words. The module consists of eight standard 256K x 4 DRAMs in plastic SOJ packages. The assembly has eight drams mounted on the front side of a printed circuit board in a 72 pad leadless SIM configuration.

The operation of the AK532256W is identical to eight 256K x 4 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 to form an 8 bit byte. The bank of 32 bits is controlled by the two  $\overline{\text{RAS}}$  lines. A sixteen bit data path can be produced by connecting  $\text{DQ}_{17}$  to  $\text{DQ}_{18}$ ,  $\text{DQ}_{19}$  to  $\text{DQ}_{20}$  and alternately strobing  $\overline{\text{RAS}}_0$  with  $\overline{\text{RAS}}_2$ .



### FEATURES

- 262,144 x 32 bit organization
- 72 pin Single In-Line Module
- Multiple  $\overline{\text{CAS}}$  and  $\overline{\text{RAS}}$  lines allow x16 or x32 bit widths
- $\overline{\text{CAS}}$ -before- $\overline{\text{RAS}}$  Refresh,  $\overline{\text{RAS}}$ -only Refresh or Hidden refresh
- Operating free air temperature 0°C to 70°C
- Single 5 Volt Power Supply
- 512 Refresh Cycles, 8mSEC
- Power
  - 2.00 Watt Max Active (60nS)
  - 1.78 Watt Max Active (70 nS)
  - 1.562 Watt Max Active (80 nS)
  - 44 mW Max Standby

- Available in Fast Page Mode, EDO and Static Column Mode versions
- Available in leadless SIM or leaded Zip versions
- Upward compatible with AK532512, AK5321024, AK5322048, AK5324096 and AK5328192

### ADDITIONAL OPTIONS AVAILABLE

- 512K x 32 version, AK532512
- 1 Meg x 32 version, AK5321024
- 2 Meg x 32 version, AK5322048
- 4 Meg x 32 version, AK5324096
- 8 Meg x 32 version, AK5328192

### PIN NOMENCLATURE

|   |                       |
|---|-----------------------|
| A <sub>0</sub> - A <sub>8</sub>                       | Address Inputs        |
| DQ <sub>1</sub> - DQ <sub>32</sub>                    | Data In/Data Out      |
| $\overline{\text{CAS}}_0$ - $\overline{\text{CAS}}_3$ | Column Address Strobe |
| $\overline{\text{RAS}}_0$ , $\overline{\text{RAS}}_2$ | Row Address Strobe    |
| $\overline{\text{WE}}$                                | Write Enable          |
| PD <sub>1</sub> - PD <sub>4</sub>                     | Presence Detect       |
| V <sub>cc</sub>                                       | 5v Supply             |
| V <sub>ss</sub>                                       | Ground                |
| NC  | No Connect            |

### MODULE OPTIONS

Leadless SIM: AK532256W  
Leaded ZIP: AK532256WZ

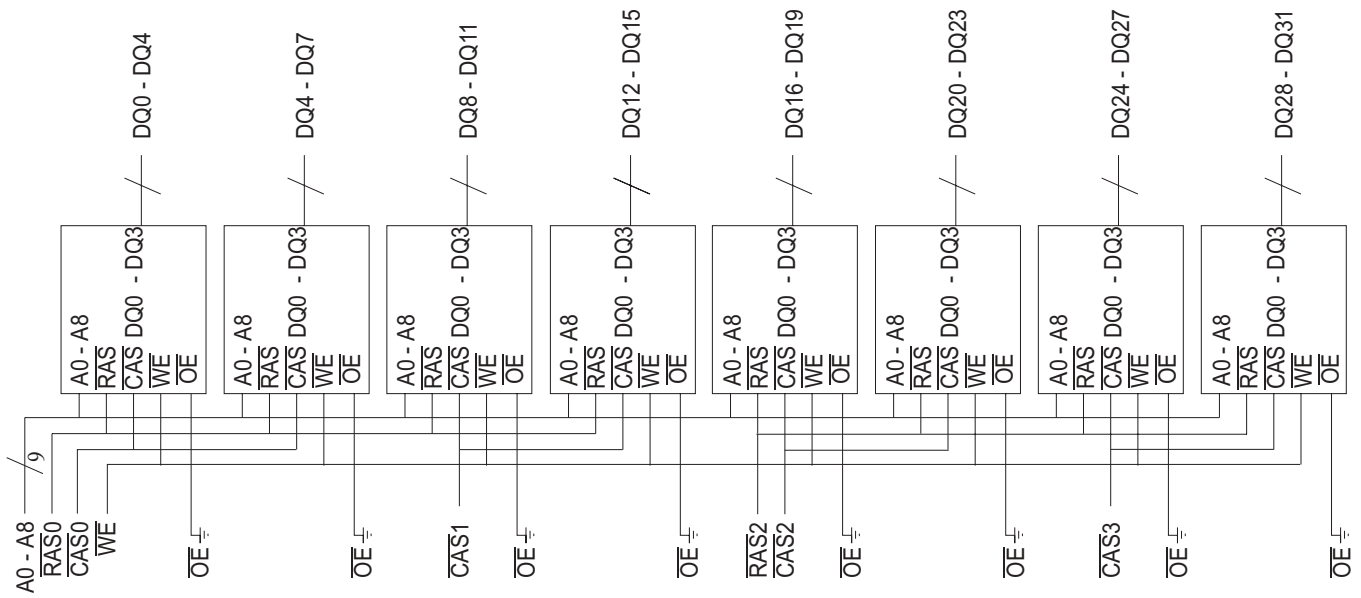
### PIN ASSIGNMENT

| PIN # | SYMBOL          | PIN # | SYMBOL                    | PIN # | SYMBOL                    | PIN # | SYMBOL          |
|-------|-----------------|-------|---------------------------|-------|---------------------------|-------|-----------------|
| 1     | V <sub>ss</sub> | 19    | NC                        | 37    | NC                        | 55    | DQ12            |
| 2     | D1              | 20    | DQ5                       | 38    | NC                        | 56    | DQ28            |
| 3     | DQ17            | 21    | DQ21                      | 39    | V <sub>ss</sub>           | 57    | DQ13            |
| 4     | DQ2             | 22    | DQ6                       | 40    | $\overline{\text{CAS}}_0$ | 58    | DQ29            |
| 5     | DQ18            | 23    | DQ22                      | 41    | $\overline{\text{CAS}}_2$ | 59    | V <sub>cc</sub> |
| 6     | DQ3             | 24    | DQ7                       | 42    | $\overline{\text{CAS}}_3$ | 60    | DQ30            |
| 7     | DQ19            | 25    | DQ23                      | 43    | $\overline{\text{CAS}}_1$ | 61    | DQ14            |
| 8     | DQ4             | 26    | DQ8                       | 44    | $\overline{\text{RAS}}_0$ | 62    | DQ31            |
| 9     | DQ20            | 27    | DQ24                      | 45    | NC                        | 63    | DQ15            |
| 10    | V <sub>cc</sub> | 28    | A7                        | 46    | NC                        | 64    | DQ32            |
| 11    | NC              | 29    | NC                        | 47    | $\overline{\text{WE}}$    | 65    | DQ16            |
| 12    | A0              | 30    | V <sub>cc</sub>           | 48    | NC                        | 66    | NC              |
| 13    | A1              | 31    | A8                        | 49    | DQ9                       | 67    | PD1             |
| 14    | A2              | 32    | NC                        | 50    | DQ25                      | 68    | PD2             |
| 15    | A3              | 33    | NC                        | 51    | DQ10                      | 69    | PD3             |
| 16    | A4              | 34    | $\overline{\text{RAS}}_2$ | 52    | DQ26                      | 70    | PD4             |
| 17    | A5              | 35    | NC                        | 53    | DQ11                      | 71    | NC              |
| 18    | A6              | 36    | NC                        | 54    | DQ27                      | 72    | V <sub>ss</sub> |

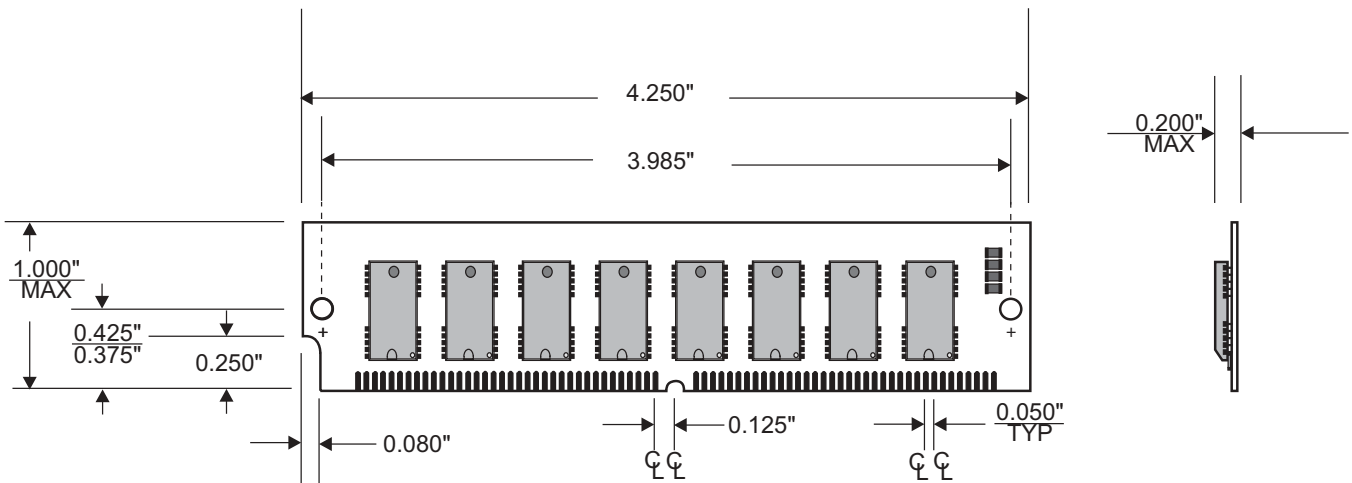
### Presence Detect -

|     | -60             | -70             | -80             |
|-----|-----------------|-----------------|-----------------|
| PD1 | V <sub>ss</sub> | V <sub>ss</sub> | V <sub>ss</sub> |
| PD2 | NC              | NC              | NC              |
| PD3 | NC              | V <sub>ss</sub> | NC              |
| PD4 | NC              | NC              | V <sub>ss</sub> |

## FUNCTIONAL DIAGRAM



## MECHANICAL DIMENSIONS



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