

DESCRIPTION

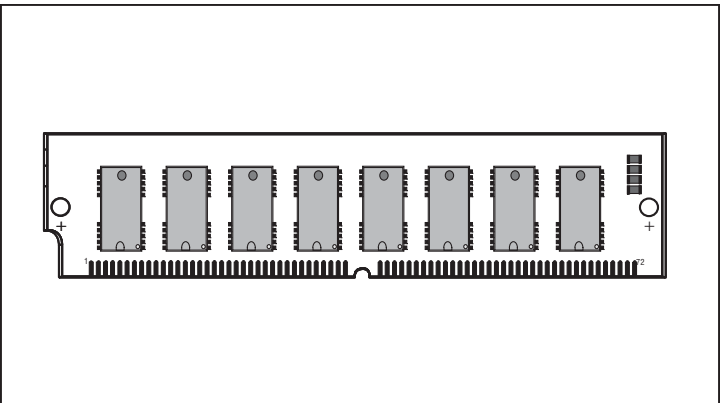
The Accutek AK532512W high density memory module is a CMOS dynamic RAM organized in 512K x 32 bit words. The module consists of sixteen standard 256K x 4 DRAMs in plastic SOJ packages. The assembly has eight drams mounted on each side of a printed circuit board in a 72 pad leadless SIM configuration.

This configuration allows socket-mounting of large quantities of memory in applications where high density and ease of inserting additional memory are important.

The operation of the AK532512W is identical to sixteen 256K x 4 Drams. There are four CAS lines and four RAS lines. On each bank of 256K x 32, independent byte control is accomplished by the four CAS lines. Each separate CAS line controls four 256K x 4 Drams. Two banks of 32 bits are controlled by the two pairs of RAS lines. A sixteen bit data path can be produced by connecting DQ₁ to DQ₁₇, DQ₂ to DQ₁₈ and alternately strobing RAS₀ with RAS₁ and RAS₂ with RAS₃.

FEATURES

- 524,288 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
- Available in Fast Page Mode and EDO



- Power
4.00 Watt Max Active (60nS)
3.56 Watt Max Active (70 nS)
3.124 Watt Max Active (80 nS)
88 mW Max Standby
- Available in leadless SIM or leaded Zip versions
- Downward compatible with AK532256
- Upward compatible with AK5321024, AK5322048, AK5324096 and AK5328192

ADDITIONAL OPTIONS AVAILABLE

- 256K x 32 version, AK532256
- 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 ₀ - A ₈ | Address Inputs |
| DQ ₁ - DQ ₃₂ | Data In/Data Out |
| $\overline{\text{CAS}}_0$ - $\overline{\text{CAS}}_3$ | Column Address Strobe |
| $\overline{\text{RAS}}_0$ - $\overline{\text{RAS}}_3$ | Row Address Strobe |
| $\overline{\text{WE}}$ | Write Enable |
| PD ₁ - PD ₄ | Presence Detect |
| V _{cc} | 5v Supply |
| V _{ss} | Ground |
| NC | No Connect |

MODULE OPTIONS

Leadless SIM: AK532512W
Leaded ZIP: AK532512Z

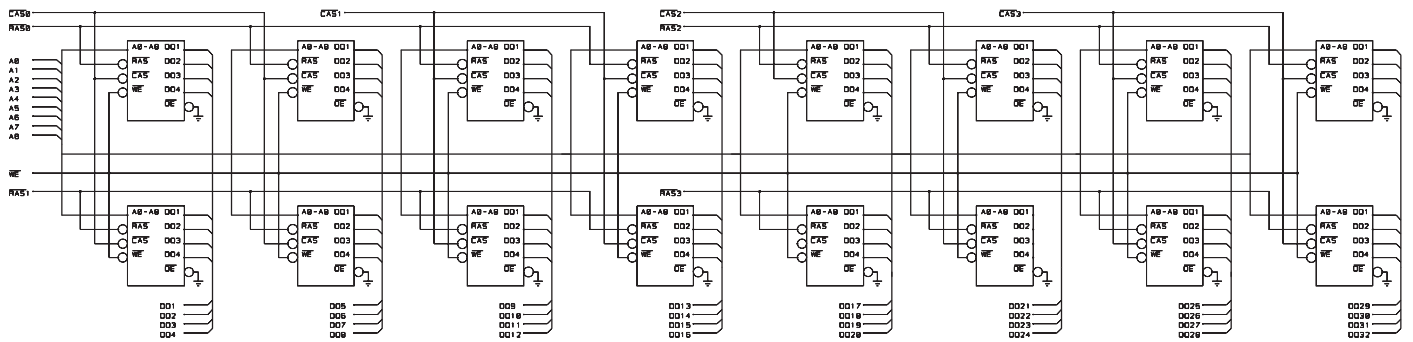
PIN ASSIGNMENT

| PIN # | SYMBOL | PIN # | SYMBOL | PIN # | SYMBOL | PIN # | SYMBOL |
|-------|-----------------|-------|---------------------------|-------|---------------------------|-------|-----------------|
| 1 | V _{ss} | 19 | NC | 37 | NC | 55 | DQ12 |
| 2 | D1 | 20 | DQ5 | 38 | NC | 56 | DQ28 |
| 3 | DQ17 | 21 | DQ21 | 39 | V _{ss} | 57 | DQ13 |
| 4 | DQ2 | 22 | DQ6 | 40 | $\overline{\text{CAS}}_0$ | 58 | DQ29 |
| 5 | DQ18 | 23 | DQ22 | 41 | $\overline{\text{CAS}}_2$ | 59 | V _{cc} |
| 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 | $\overline{\text{RAS}}_1$ | 63 | DQ15 |
| 10 | V _{cc} | 28 | A7 | 46 | NC | 64 | DQ32 |
| 11 | NC | 29 | NC | 47 | $\overline{\text{WE}}$ | 65 | DQ16 |
| 12 | A0 | 30 | V _{cc} | 48 | NC | 66 | NC |
| 13 | A1 | 31 | A8 | 49 | DQ9 | 67 | PD1 |
| 14 | A2 | 32 | NC | 50 | DQ25 | 68 | PD2 |
| 15 | A3 | 33 | $\overline{\text{RAS}}_3$ | 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 _{ss} |

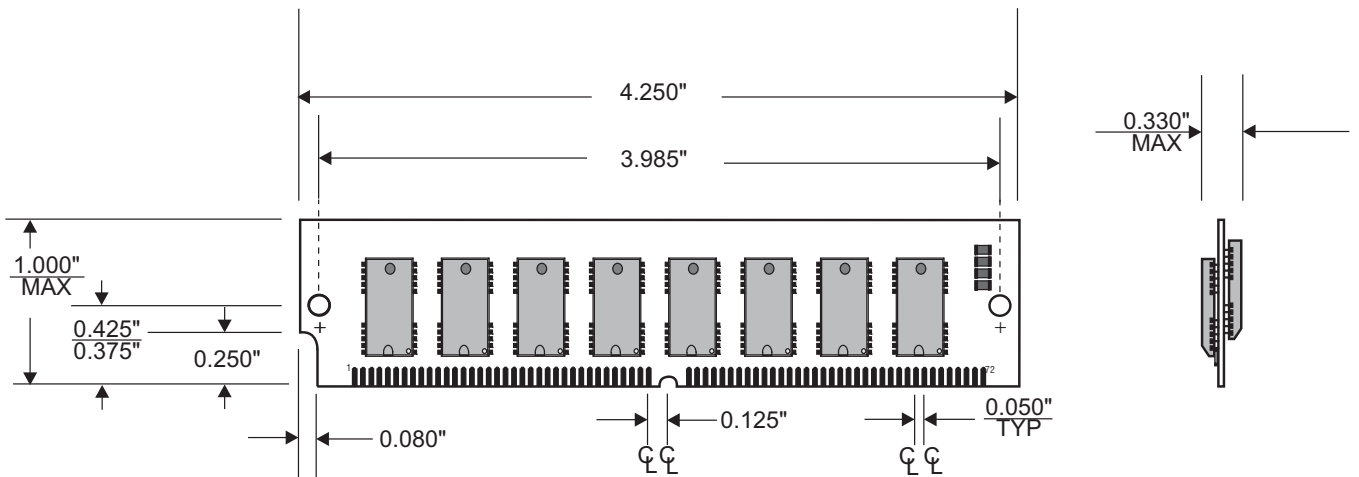
Presence Detect -

| | -60 | -70 | -80 |
|-----|-----------------|-----------------|-----------------|
| PD1 | NC | NC | NC |
| PD2 | V _{ss} | V _{ss} | V _{ss} |
| PD3 | NC | V _{ss} | NC |
| PD4 | NC | NC | V _{ss} |

FUNCTIONAL DIAGRAM



MECHANICAL DIMENSIONS



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