



ACCUTEK MICROCIRCUIT

AK536512WP -60, -70, -80
524,288 Word by 36 Bit CMOS
Dynamic Random Access Memory

DESCRIPTION

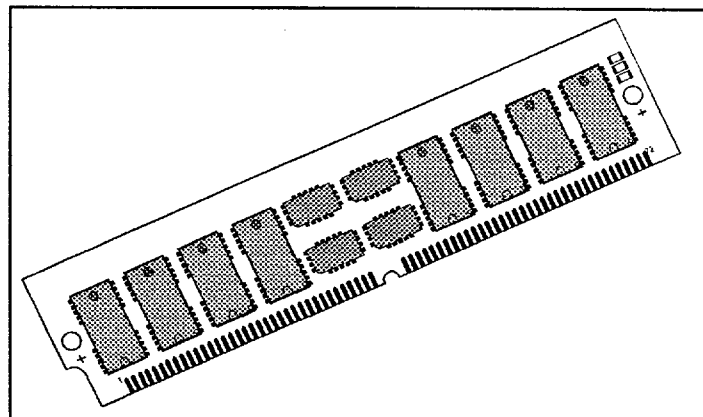
The Accutek AK536512WP high density memory module is a CMOS dynamic RAM organized in 512K x 36 bit words. The module consists of sixteen standard 256K x 4 DRAMs in plastic SOJ packages and eight 256K x 1 DRAMs in PLCC packages. The assembly has 12 drams mounted on each side of a printed circuit board 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 AK536512 is identical to sixteen 256K x 4 plus eight 256K x 1 DRAMs. There are four CAS lines and four RAS lines. On each bank of 256K x 36, independent byte control is accomplished by four CAS lines. Each separate CAS line controls two 256K x 4 DRAMs, along with a 256K x 1 DRAM with data in tied to data out to form a 9 bit byte. Two banks of 36 bits are controlled by the two pairs of RAS lines. An eighteen bit data path can be produced by connecting DQ₀ to DQ₁₈, DQ₁ to DQ₁₉, etc. and alternately strobing RAS₀ with RAS₁ and RAS₂ with RAS₃.

FEATURES

- 524,288 x 36 bit organization
- 72 pad Single In-Line Module
- Multiple CAS and RAS lines allow x18 or x36 bit widths
- CAS-before-RAS refresh
- Operating free air temperature 0°C to 70°C
- Single 5 Volt Power Supply
- Power
 - 5.41 Watt Max Active (70ns)
 - 4.75 Watt Max Active (80 ns)
 - 4.09 Watt Max Active (100 ns)
 - 132 mW Max Standby
- 512 Refresh Cycles, 8 mSEC



- Available in Fast Page Mode and Static Column Mode versions
- Available in leadless (W) or leaded Zip (Z) versions
- Downward compatible with AK536256W
- Upward compatible with AK5362048W, AK5364096W and AK5368192W

EXAMPLE

AK536512WP-70

512K x 36 CMOS Dynamic RAM, SIM, Page Mode, Commercial
 70 nSEC Access Time

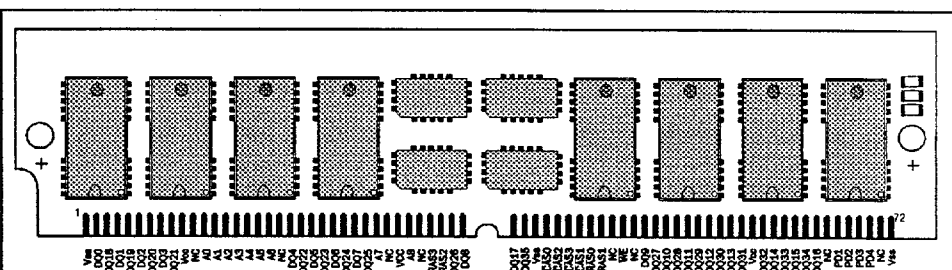
ADDITIONAL OPTIONS AVAILABLE

- 256K x 32 version, drams on one side only
Reference Part No. AK532256W
- 256K x 36 version, drams on one side only
Reference Part No. AK536256W
- 512K x 32 version, no parity
Reference Part No. AK532512W

PIN NOMENCLATURE

DQ ₀ - DQ ₃₅	Data In/Data Out
A ₀ - A ₈	Address Inputs
CAS ₀ - CAS ₃	Column Address Strobe
RAS ₀ - RAS ₃	Row Address Strobe
WE	Write Enable
PD	Presence Detect
Vcc	5v Supply
Vss	Ground
NC	No Connect

PIN ASSIGNMENT



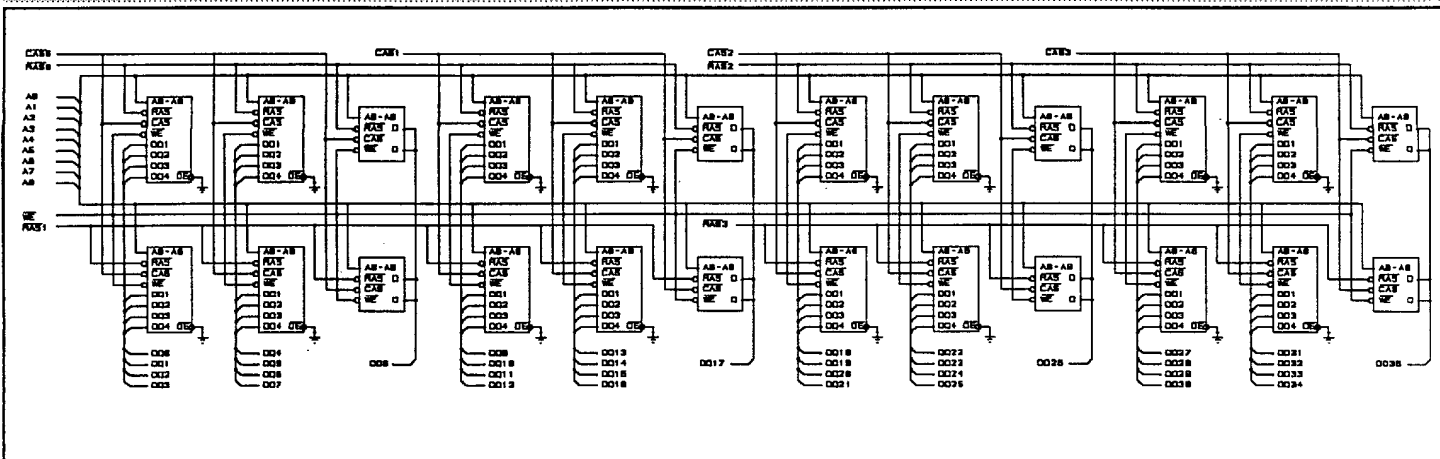
MODULE OPTIONS

Leadless SIM: AK536512W
Leaded ZIP: AK536512Z

	-60	-70	-80	-10
PD0	NC	NC	NC	NC
PD1	Vss	Vss	Vss	Vss
PD2	NC	Vss	NC	Vss
PD3	NC	NC	Vss	Vss

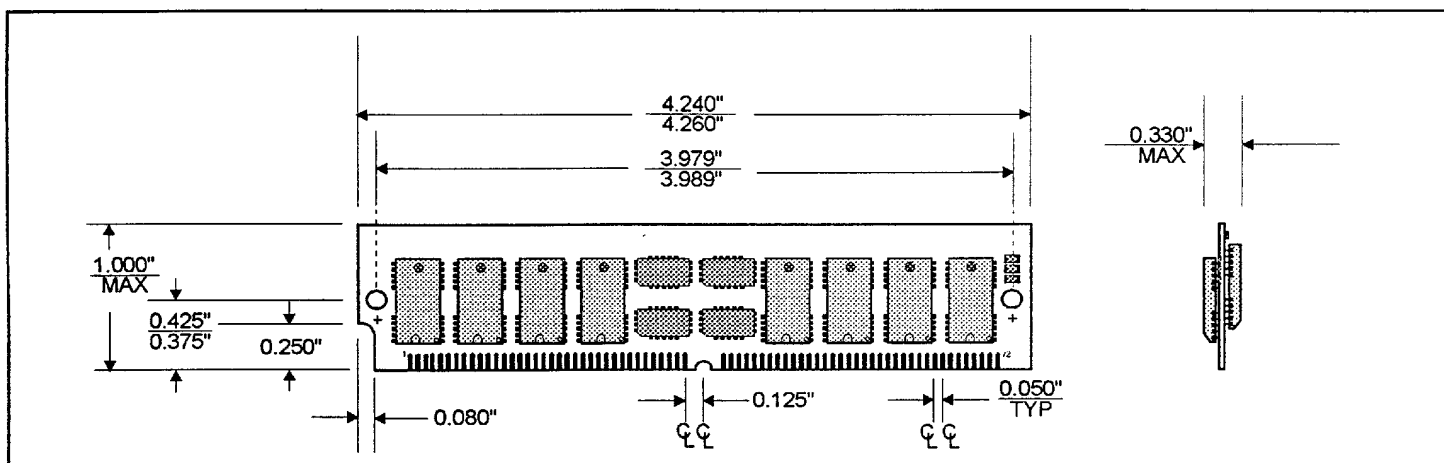
0107647 0000039 719

FUNCTIONAL DIAGRAM



MECHANICAL DIMENSIONS

Inches



ORDERING INFORMATION

PART NUMBER CODING INTERPRETATION

Position:	1	2	3	4	5	6	7	8	Position:	1	2	3	4	5	6	7	8
1 - Product	AK								6 - Special Designation	P							
AK = Accutek Memory									P = Page Mode	N							
2 - Type	5								N = Nibble Mode	K							
5 = CMOS Dynamic RAM									K = Static Column Mode	W							
3 - Organization/Word Width	8	18							W = Write Per Bit Mode	V							
8 = by 8	18 = by 18								V = Video Ram								
9 = by 9	32 = by 32								7 - Separator	-							
16 = BY 16	36 = by 36								- = Commercial (0°C to +70°C)	I							
4 - Size/Bits Depth	256	8192							I = Industrial Temperature Tested (-45°C to +85°C)	X							
256 = 256K	8192 = 8 MEG								X = Burned In								
1024 = 1 MEG	16384 = 16 MEG								8 - Speed (first two significant digits)								
4096 = 4 MEG									DRAMS								
5 - Package Type	G	S	W	Z					60 = 60 nS								
G = Single In-Line Package (SIP)									70 = 70 nS								
S = Single In-Line Module (SIM)									80 = 80 nS								
W = .050 inch Pitch Edge Connect Module									10 = 100 nS								
Z = Zig-Zag In-Line Package (ZIP)									ETC.								

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.



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