



AK632512W/AK632512Z 512K x 32 SRAM MODULE

DESCRIPTION

The Accutek AK632512 SRAM Module consists of fast high performance SRAMs mounted on a low height, 72 pin SIM or ZIP Board. The module utilizes four 36 pin 512K x 8 SRAMs in 400 mil SOJ packages and four decoupling capacitors mounted on the front side of a printed circuit board.

The SRAMs used have common I/O functions and single output enable functions. Also, four separate chip select ($\overline{CE}$) connections are used to independently enable the four bytes. The modules can be supplied in a variety of access time values from 15 nSEC to 35 nSEC in CMOS or BiCMOS technology.

The Accutek module is designed to have a maximum seated height of 0.620 inch SIM or 0.540 inch ZIP to provide for the lowest height off the board. Each conforms to JEDEC-standard sizes and pin-out configurations. Using four pins for module memory density identification, PD₀, PD₁, PD₂ and PD₃ minimizes interchangeability and design considerations when changing from one module size to the other in customer applications.

FEATURES

- 524,288 x 32 bit organization
- JEDEC Standard 72 pin SIM or ZIP format
- Common I/O, single $\overline{OE}$ and $\overline{WE}$ functions with four separate chip selects ($\overline{CE}$)
- Fast access times from 15 nSEC
- Low height, 0.620 inch SIM or 0.540 inch ZIP maximum
- Power
 - 720mA Max Active (20 nSEC)
 - 760mA Max Active (15 nSEC)
 - 800mA Max Active (12 nSEC)
 - 200mA Max Standby

PIN NOMENCLATURE

A ₀ - A ₁₈	Address Inputs
$\overline{CE}_1$ - $\overline{CE}_4$	Chip Enable
DQ ₁ - DQ ₃₂	Data In/Data Out
$\overline{OE}$	Output Enable
PD ₀ - PD ₃	Presence Detect
V _{cc}	5v Supply
V _{ss}	Ground
$\overline{WE}$	Write Enable

MODULE OPTIONS

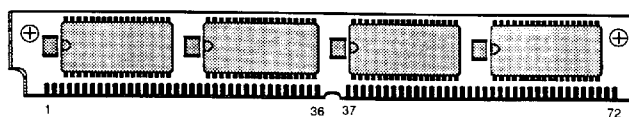
Leadless SIM: AK632512W
Leaded SIP: AK632512G
Leaded ZIP: AK632512Z

PIN ASSIGNMENT

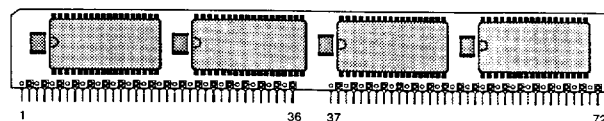
PIN #	SYMBOL	PIN #	SYMBOL	PIN #	SYMBOL	PIN #	SYMBOL
1	NC	19	A ₁	37	$\overline{CE}_4$	55	A ₅
2	NC	20	A ₈	38	$\overline{CE}_3$	56	A ₁₂
3	PD ₂	21	A ₂	39	A ₁₇	57	V _{cc}
4	PD ₃	22	A ₉	40	A ₁₆	58	A ₁₃
5	V _{ss}	23	DQ ₁₃	41	$\overline{OE}$	59	A ₆
6	PD ₀	24	DQ ₅	42	V _{ss}	60	DQ ₂₁
7	PD ₁	25	DQ ₁₄	43	DQ ₂₅	61	DQ ₂₈
8	DQ ₁	26	DQ ₆	44	DQ ₁₇	62	DQ ₂₂
9	DQ ₉	27	DQ ₁₅	45	DQ ₂₆	63	DQ ₃₀
10	DQ ₂	28	DQ ₇	46	DQ ₁₈	64	DQ ₂₃
11	DQ ₁₀	29	DQ ₁₆	47	DQ ₂₇	65	DQ ₃₁
12	DQ ₃	30	DQ ₈	48	DQ ₁₉	66	DQ ₂₄
13	DQ ₁₁	31	V _{ss}	49	DQ ₂₇	67	DQ ₃₂
14	DQ ₄	32	$\overline{WE}$	50	DQ ₂₀	68	V _{ss}
15	DQ ₁₂	33	A ₁₅	51	A ₃	69	A ₁₈
16	V _{cc}	34	A ₁₄	52	A ₁₀	70	NC
17	A ₀	35	$\overline{CE}_2$	53	A ₄	71	NC
18	A ₇	36	$\overline{CE}_1$	54	A ₁₁	72	NC

PD1	OPEN	PD3	V _{ss}
PD2	OPEN	PD4	OPEN

Front View
72-Pin SIM



72-Pin ZIP

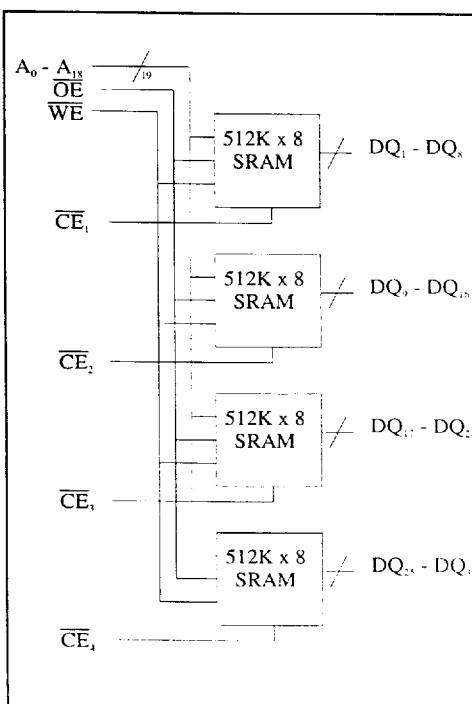


- Presence Detect, PD₀, PD₁, PD₂ and PD₃ for identifying module density
- Downward compatible with 256K x 32 (AK632256), 128K x 32 (AK632128) and 64K x 32 (AK63264) 64 pin SIM or ZIP designs
- Upward compatible with 1 MEG x 32 (AK6321024)
- TTL-compatible inputs and outputs
- Single +5 Volt (±10%) power supply
- Operating free air temperature 0° to 70°C

ELECTRICAL SPECIFICATIONS

Timing diagrams and basic electrical characteristics are those of the standard 512K x 8 SRAMs used to construct these modules. Accutek's module design allows the flexibility of selecting industry-compatible 512K x 8 SRAMs from several SRAM manufacturers.

FUNCTIONAL DIAGRAM



ORDERING INFORMATION

PART NUMBER CODING INTERPRETATION

Position 1 2 3 4 5 6 7 8

1 Product

AK = Accuthek 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°C to +70°C
M = Military Equivalent Screened (-55°C to +125°C)
I = Industrial Temperature Tested (-45°C to +85°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 Accuthek if other information is required.

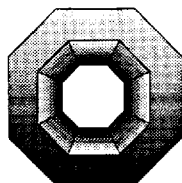
EXAMPLES:

AK632512W-15

512K x 32, 15 nSEC SRAM Module, SIM Configuration

AK632512Z-20

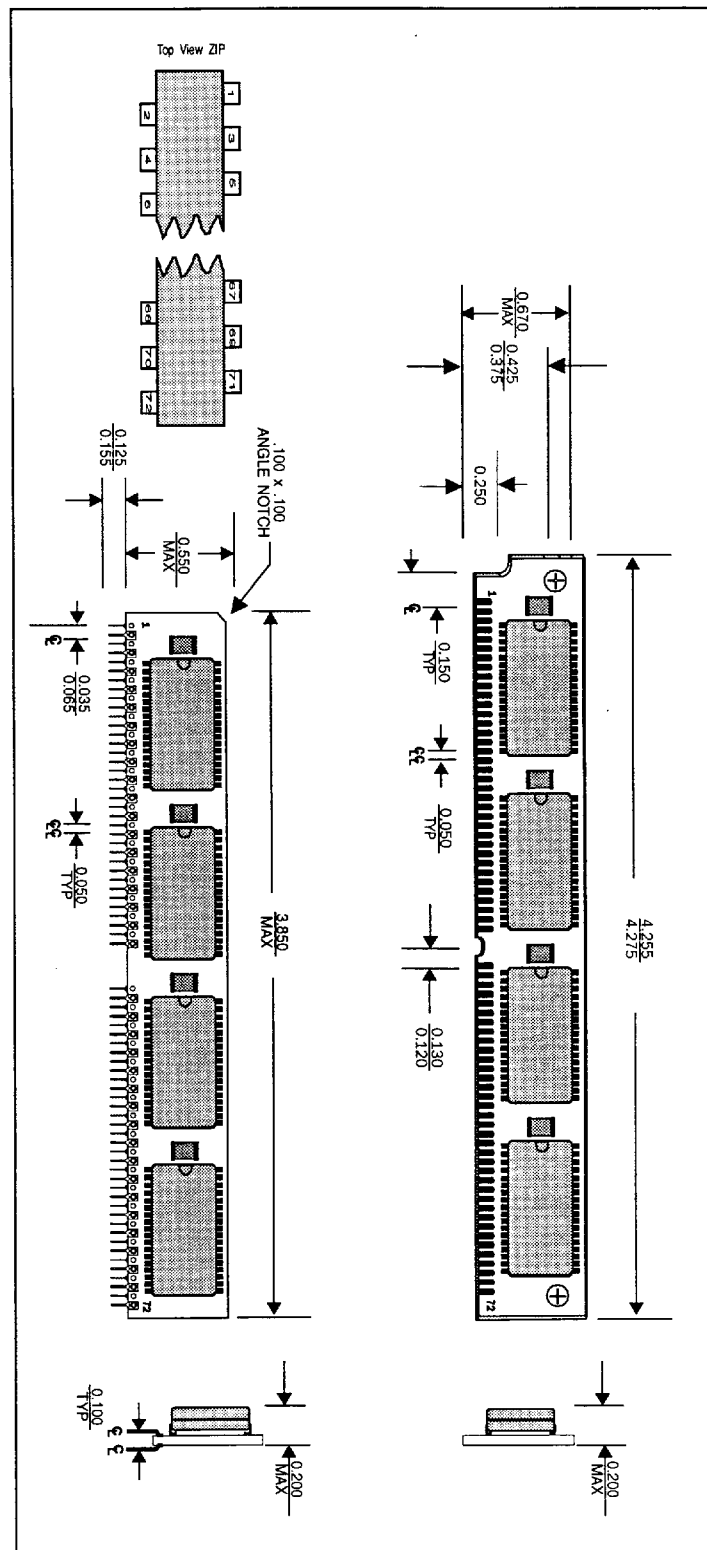
512K x 32, 20 nSEC SRAM Module, ZIP Configuration



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MECHANICAL DIMENSIONS

Inches



Accuthek Reserves the right to make changes in specifications at any time and without notice. Accuthek does not assume any responsibility for the use of any circuitry described; no circuit patent licenses are implied. Preliminary data sheets contain maximum and minimum limits based upon design objectives, which are subject to change upon full characterization over the specific operating conditions.