ACCUTEK
MICROCIRCUIT CORPORATION

AK632256W / AK632256Z
262,144 x 32 Bit CMOS/BiCMOS
## Static Random Access Memory

DESCRIPTION

The Accutek AK632256 SRAM Module consists of eight fast high performance SRAMs mounted on a low profile, 64 pin SIM or ZIP Board. The module utilizes four 28 pin 256K x 4 SRAMs in SOJ packages and four decoupling capacitors mounted on each 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 12 nSEC to 45 nSEC in CMOS or BiCMOS technology.

The Accutek module is designed to have a maximum seated height of 0.680 inch SIM or 0.540 inch ZIP to provide for the lowest height off the board. By offset-mounting the back surface SRAMs on the SIM version, the module can be mounted in either angled or straight-up SIM sockets. Each conforms to JEDEC standard sizes and pin-out configurations. Using two pins for module memory density identification, PD_0 and PD_1, minimizes interchangeability and design considerations when changing from one module size to another in customer applications.

FEATURES

- 262,144 x 32 bit organization
- JEDEC Standardized 64 pin SIM or ZIP format
- Common I/O, single $\overline{OE}$ functions with four separate chip selects ($\overline{CE}$)
- Low height, 0.680 inch SIM or 0.540 inch ZIP maximum
- Upward compatible with 512K x 32 (AK532512) and 1 Meg x 32 (AK6321024)

Front View
64-Pin SIM

64-Pin ZIP
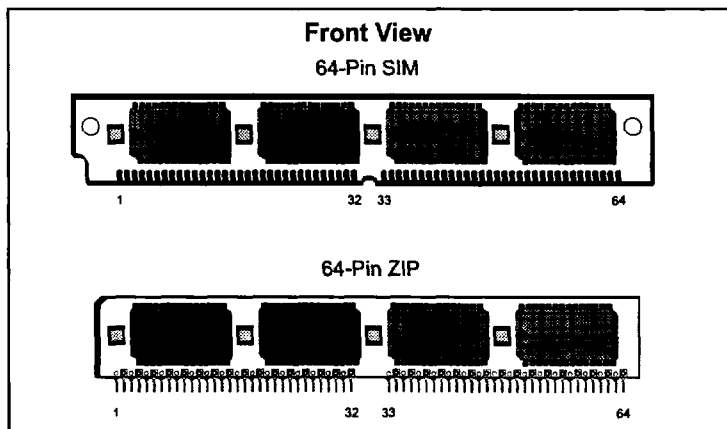
- Downward compatible with 32K x 32 (AK63232), 64K x 32 (AK63264) and 128K x 32 (AK632128)
- Presence Detect PD_0 and PD_1 for identifying module density
- Fast access times range from 12 nSEC BiCMOS to 45 nSEC CMOS
- TTL-compatible inputs and outputs
- Single +5 Volt (±10%) power supply
- Operating temperature range in free air, $0^{0}C$ to $70^{0}C$

ELECTRICAL SPECIFICATIONS

Timing diagrams and basic electrical characteristics are those of the standard 256K x 4 SRAMs used to construct these modules. Accutek's module design allows the flexibility of selecting industry-compatible 256K x 4 SRAMs from several semiconductor manufacturers.

PIN NOMENCLATURE

$A_0 - A_{17}$	Address Inputs
$\overline{CE}_1 - \overline{CE}_4$	Chip Enable
$DQ_1 - DQ_{32}$	Data In/Data Out
$\overline{OE}$	Output Enable
$PD_0 - PD_1$	Presence Detect
Vcc	5v Supply
Vss	Ground
$\overline{WE}$	Write Enable

MODULE OPTIONS

Leadless SIM: AK632256W
Leaded SIP: AK632256G
Leaded ZIP: AK632256Z

PIN ASSIGNMENT

PIN #	SYMBOL	PIN #	SYMBOL	PIN #	SYMBOL	PIN #	SYMBOL
1	Vss	17	A_2	33	$\overline{CE}_4$	49	A_4
2	PD_0	18	A_9	34	$\overline{CE}_3$	50	A_{11}
3	PD_1	19	DQ_{13}	35	A_{17}	51	A_5
4	DQ_1	20	DQ_5	36	A_{16}	52	A_{12}
5	DQ_9	21	DQ_{14}	37	$\overline{OE}$	53	Vcc
6	DQ_2	22	DQ_6	38	Vss	54	A_{13}
7	DQ_{10}	23	DQ_{15}	39	DQ_{25}	55	A_6
8	DQ_3	24	DQ_7	40	DQ_{17}	56	DQ_{21}
9	DQ_{11}	25	DQ_{16}	41	DQ_{26}	57	DQ_{29}
10	DQ_4	26	DQ_8	42	DQ_{18}	58	DQ_{22}
11	DQ_{12}	27	Vss	43	DQ_{27}	59	DQ_{30}
12	Vcc	28	$\overline{WE}$	44	DQ_{19}	60	DQ_{23}
13	A_0	29	A_{15}	45	DQ_{28}	61	DQ_{31}
14	A_7	30	A_{14}	46	DQ_{20}	62	DQ_{24}
15	A_1	31	$\overline{CE}_2$	47	A_3	63	DQ_{32}
16	A_8	32	$\overline{CE}_1$	48	A_{10}	64	Vss

PD_0 = Vss
PD_1 = Vss

FUNCTIONAL DIAGRAM
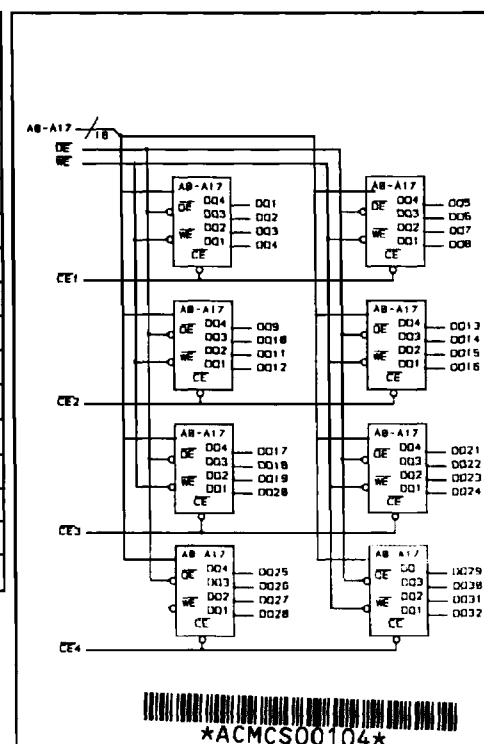
PART NUMBER CODING INTERPRETATION

Position   1 2 3 4 5 6 7 8

1   Product

   AK = Accutek 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 0^0C to +70^{0}C
   M = Military Equivalent Screened
     (-55^{0}C to +125^{0}C)
   I = Industrial Temperature Tested
     (-45^{0}C to +85^{0}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 varia-
tions available but are shown as examples of the most widely
used variations. Contact Accutek if other information is re-
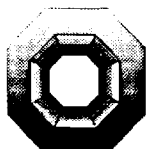quired.

EXAMPLES:

AK632256W-12
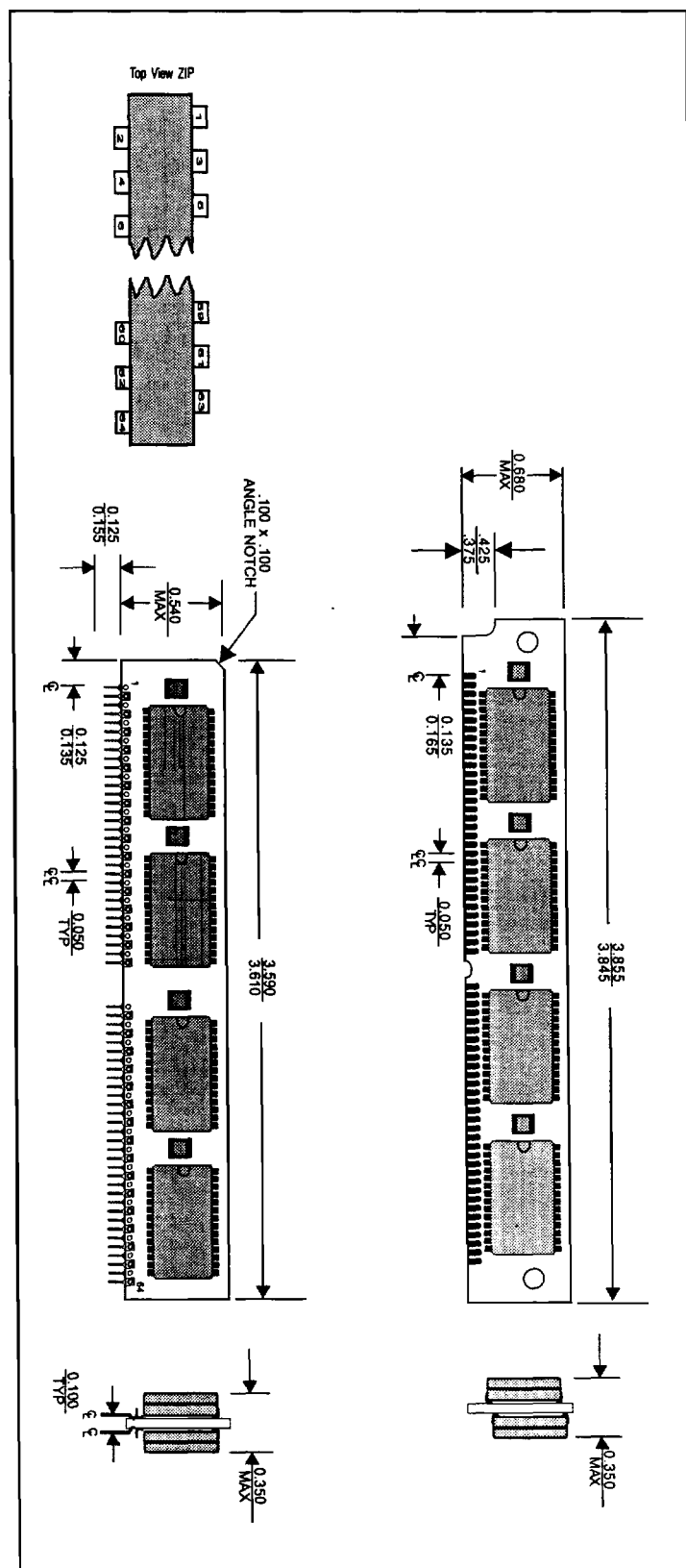256K x 32, 12 nSEC SRAM Module, SIM Configuration

AK632256Z-15
256K x 32, 15 nSEC SRAM Module, ZIP Configuration

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Inches