AK632128AW / AK632128AZ
131,072 x 32 Bit CMOS/BiCMOS Static Random Access Memory

ACCUTEK
MICROCIRCUIT CORPORATION

DESCRIPTION

The Accutek AK632128A SRAM Module consists of fast high performance SRAMs mounted on a low height, 64 pin SIM or ZIP PCB. The module utilizes four 32 pin 128K x 8 SRAMs in 300 mil SOJ packages and four decoupling capacitors mounted on the front side of a printed circuit board.

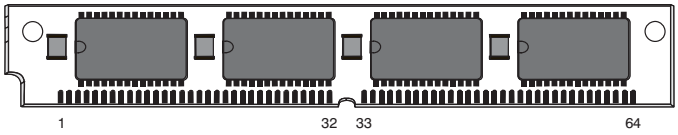
The SRAMs used have common I/O functions and single output enable functions. Also, four separate chip select ($\overline{CE}$) connections are used to independently enable the four bytes. The modules can be supplied in a variety of access time values from 7nSEC to 35nSEC in CMOS or BiCMOS technology.

The Accutek module is designed to have a maximum seated height of 0.600 inch SIM or 0.520 inch ZIP to provide for the lowest height off the board. Each conforms to JEDEC-standard sizes and pin-out configurations. Using two pins for module denisty identification, PD_0 and PD_1, minimizes interchangeability and design considerations when changing from one module size to the other in customer applications.

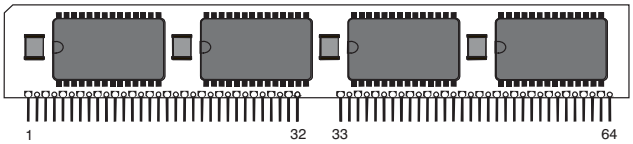
FEATURES

- 131,072 x 32 bit organization
- JEDEC Standard 64 pin SIM or ZIP format
- Access times as fast as 7nSEC
- TTL compatible inputs and outputs
- Very low profile, 0.600 inch MAX seated height SIM Version
- Very low profile, 0.520 inch MAX seated height ZIP Version
- Single 5 volt power supply - AK632128AW, AK632128AZ

Top View
64-Pin SIMM



64-Pin ZIP



- Single 3.3 volt power supply - AK632128AW/3.3, AK632128AZ/3.3
- Common I/O, single $\overline{OE}$ functions with four separate chip selects ($\overline{CE}$)
- Presence Detect PD_0 and PD_1 for identifying module density
- Downward compatible with 32K x 32 (AK63232) and 64K x 32 AK63264)
- Upward compatible with 256K x 32 (AK632256), 512K x 32 (AK632512) and 1 Meg x 32 (AK6321024)
- Operating free air temperature 0^0 to 70^0C

ELECTRICAL SPECIFICATIONS

Timing diagrams and basic electrical characteristics are those of the standard 128K x 8 SRAMs used to construct these modules. Accutek's module design allows the flexibility of selecting industry-compatible 128K x 8 SRAMs from at least seven semiconductor manufacturers.

PIN NOMENCLATURE

A_0 - A_{16}	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	Power Supply
Vss	Ground
$\overline{WE}$	Write Enable
NC	No Connect

MODULE OPTIONS

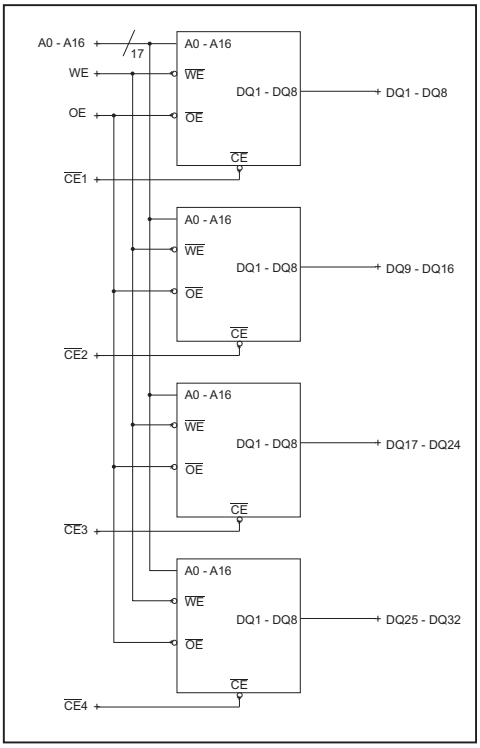
Leadless SIM: AK632128AW
Leaded ZIP: AK632128AZ

PIN ASSIGNMENT

PIN #	SYMBOL	PIN #	SYMBOL	PIN #	SYMBOL	PIN #	SYMBOL
1	Vss	17	A2	33	$\overline{CE}4$	49	A4
2	PD0	18	A9	34	$\overline{CE}3$	50	A11
3	PD1	19	DQ13	35	NC	51	A5
4	DQ1	20	DQ5	36	A16	52	A12
5	DQ9	21	DQ14	37	$\overline{OE}$	53	Vcc
6	DQ2	22	DQ6	38	Vss	54	A13
7	DQ10	23	DQ15	39	DQ25	55	A6
8	DQ3	24	DQ7	40	DQ17	56	DQ21
9	DQ11	25	DQ16	41	DQ26	57	DQ29
10	DQ4	26	DQ8	42	DQ18	58	DQ22
11	DQ12	27	Vss	43	DQ27	59	DQ30
12	Vcc	28	$\overline{WE}$	44	DQ19	60	DQ23
13	A0	29	A15	45	DQ28	61	DQ31
14	A7	30	A14	46	DQ20	62	DQ24
15	A1	31	$\overline{CE}2$	47	A3	63	DQ32
16	A8	32	$\overline{CE}1$	48	A10	64	Vss

PD_0 = Open
PD_1 = Open

FUNCTIONAL DIAGRAM



ORDERING INFORMATION

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 +70^0C
M = Military Equivalent Screened (-55^0C to +125^0C)
I = Industrial Temperature Tested (-45^0C to +85^0C)
X = Burned In

8 Speed (first two significant digits)

DRAMS		SRAMS	
50	= 50 nS	8	= 8 nS
60	= 60 nS	10	= 10 nS
70	= 70 nS	12	= 12 nS
80	= 80 nS	15	= 15 nS

The numbers and coding on this page do not include all variations available but are show as examples of the most widely used variations. Contact Accutek if other information is required.

EXAMPLES:

AK632128AW-10

128K x 32, 15 nSEC SRAM Module, SIM Configuration

AK632128AZ-12

128K x 32, 12 nSEC SRAM Module, ZIP Configuration

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MECHANICAL DIMENSIONS

Inches