

# AK5321024BW

## 1,048,576 Word by 32 Bit CMOS

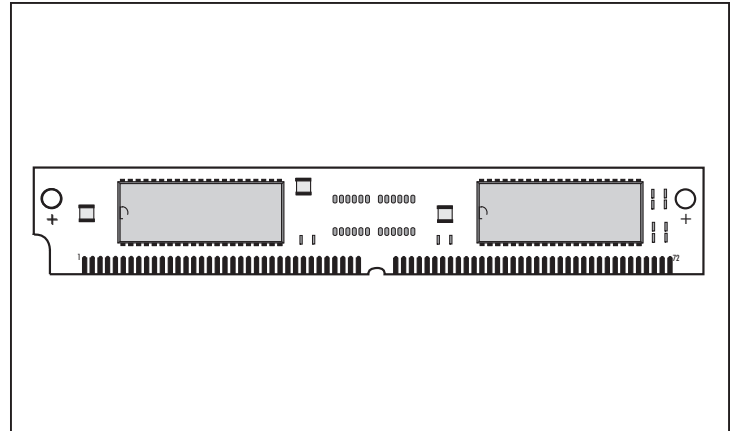
### Dynamic Random Access Memory

#### DESCRIPTION

The Accuthek AK5321024BW high density memory module is a CMOS dynamic RAM organized in 1024K x 32 bit words. The module consists of two standard 1 Meg x 16 bits DRAMs in plastic SOJ packages mounted on the front 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 AK5321024BW is identical to eight 1 Meg x 4 Drams. There are four CAS lines and two RAS lines. On each bank of 1M x 32, independent byte control is accomplished by four  $\overline{\text{CAS}}$  lines. Each separate  $\overline{\text{CAS}}$  line controls one byte of the 1 Meg x 16 Dram.



#### FEATURES

- 1,048,576 x 32 bit organization
- 72 pad Single In-Line Module
- Standard with gold fingers, solder or tin plating optional
- $\overline{\text{CAS}}$ -before- $\overline{\text{RAS}}$ ,  $\overline{\text{RAS}}$ -only or hidden refresh
- Operating free air temperature 0°C to 70°C
- Single 5 Volt Power Supply
- 1024 Refresh Cycles, 16 mSEC
- Available in Fast Page Mode or EDO

- Power:
  - 2.0 Watt Max Active (50nS)
  - 1.7 Watt Max Active (60 nS)
  - 1.6 Watt Max Active (70 nS)
  - 20 mW Max Standby
- Downward compatible with AK532512W and AK532256W
- Upward compatible with AK5322048W, AK5324096W and AK5328192W

#### ADDITIONAL OPTIONS AVAILABLE

- 1 Meg x 36 version, AK5361024BW
- 2 Meg x 32 version, AK5322048BW
- 2 Meg x 36 version, AK5362048BW

#### PIN NOMENCLATURE

A <sub>0</sub> - A <sub>9</sub>	Address Inputs
DQ <sub>0</sub> - DQ <sub>34</sub>	Data In/Data Out
$\overline{\text{WE}}$	Write Enable
$\overline{\text{RAS}}_0, \overline{\text{RAS}}_2$	Row Address Strobe
$\overline{\text{CAS}}_0 - \overline{\text{CAS}}_3$	Column Address Strobe
PD <sub>1</sub> - PD <sub>4</sub>	Presence Detect
V <sub>ss</sub>	Ground
V <sub>cc</sub>	5v Supply
NC	No Connect

#### PIN ASSIGNMENT

PIN #	SYMBOL	PIN #	SYMBOL	PIN #	SYMBOL	PIN #	SYMBOL
1	V <sub>ss</sub>	19	NC	37	NC	55	DQ12
2	DQ0	20	DQ4	38	NC	56	DQ30
3	DQ18	21	DQ22	39	V <sub>ss</sub>	57	DQ13
4	DQ1	22	DQ5	40	$\overline{\text{CAS}}_0$	58	DQ31
5	DQ19	23	DQ23	41	$\overline{\text{CAS}}_2$	59	V <sub>cc</sub>
6	DQ2	24	DQ6	42	$\overline{\text{CAS}}_3$	60	DQ32
7	DQ20	25	DQ24	43	$\overline{\text{CAS}}_1$	61	DQ14
8	DQ3	26	DQ7	44	$\overline{\text{RAS}}_0$	62	DQ33
9	DQ21	27	DQ25	45	NC	63	DQ15
10	V <sub>cc</sub>	28	A7	46	NC	64	DQ34
11	NC	29	NC	47	$\overline{\text{WE}}$	65	DQ16
12	A0	30	V <sub>cc</sub>	48	NC	66	NC
13	A1	31	A8	49	DQ9	67	PD1
14	A2	32	A9	50	DQ27	68	PD2
15	A3	33	NC	51	DQ10	69	PD3
16	A4	34	$\overline{\text{RAS}}_2$	52	DQ28	70	PD4
17	A5	35	NC	53	DQ11	71	NC
18	A6	36	NC	54	DQ29	72	V <sub>ss</sub>

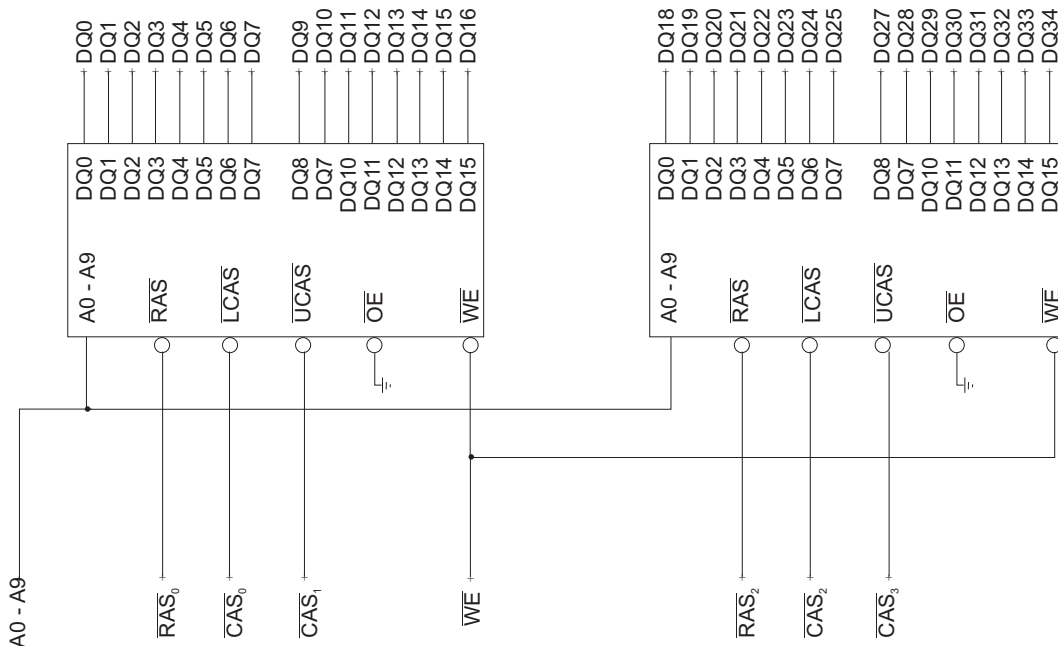
#### MODULE OPTIONS

Leadless SIM: AK5321024BW  
 Leads ZIP: AK5321024BZ

#### Presence Detect

	-50	-60	-70
PD1	V <sub>ss</sub>	V <sub>ss</sub>	V <sub>ss</sub>
PD2	V <sub>ss</sub>	V <sub>ss</sub>	V <sub>ss</sub>
PD3	V <sub>ss</sub>	NC	V <sub>ss</sub>
PD4	V <sub>ss</sub>	NC	NC

## FUNCTIONAL DIAGRAM



## MECHANICAL DIMENSIONS

