

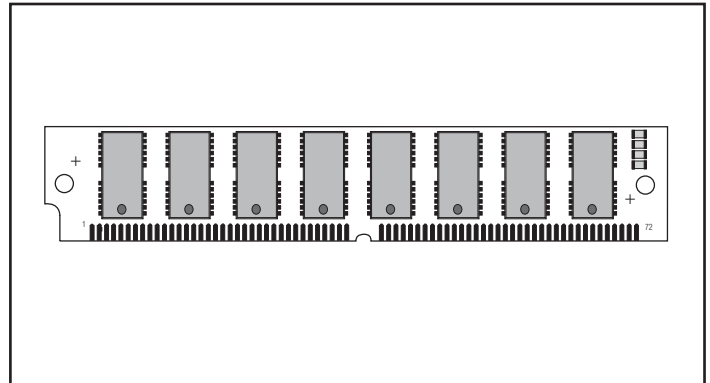
AK5321024W

1,048,576 Word by 32 Bit CMOS Dynamic Random Access Memory

DESCRIPTION

The Accutek AK5321024W high density memory module is a CMOS Dynamic RAM organized in 1024K x 32 bit words. The module consists of eight standard 1 Meg x 4 DRAMs in plastic SOJ packages. The assembly has eight drums mounted on the front surface of a printed circuit board with a low profile height of only 0.875" in a 72 pin 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 AK5321024W is identical to eight 1 Meg x 4 DRAMs. There are four $\overline{\text{CAS}}$ lines and two $\overline{\text{RAS}}$ lines. Independent byte control is accomplished by four $\overline{\text{CAS}}$ lines. Each separate $\overline{\text{CAS}}$ line controls two of the 1 Meg x 4 DRAMs to form an 8 bit byte. The bank of 32 bits is controlled by the two $\overline{\text{RAS}}$ lines. A sixteen bit data path can be produced by connecting DQ₀ to DQ₁₆, DQ₁ to DQ₁₇, etc. and alternately strobing $\overline{\text{RAS}}_0$ with $\overline{\text{RAS}}_2$.



FEATURES

- 1,048,576 x 32 bit organization
- Low profile board height of 0.875 inch
- 72 pad Single In-Line Module
- Multiple $\overline{\text{CAS}}$ and $\overline{\text{RAS}}$ lines allow x16 or x32 bit widths
- Power
 - 5.28 Watt Max Active (60nS)
 - 4.40 Watt Max Active (70 nS)
 - 44 mW Max Standby
- $\overline{\text{CAS}}$ -before- $\overline{\text{RAS}}$, $\overline{\text{RAS}}$ -only or hidden refresh
- Single 5 Volt Power Supply
- 1024 Refresh Cycles, 16 mSEC

- Available in Fast Page Mode and EDO
- Available in leadless SIM or leaded ZIP versions
- Downward compatible with AK532512 and AK532256
- Upward compatible with AK5322048, AK5324096 and AK5328192
- Operating free air temperature 0°C to 70°C

ADDITIONAL OPTIONS AVAILABLE

- 256K x 32 version, AK532256
- 512K x 32 version, AK532512
- 2 Meg x 32 version, AK5322048
- 4 Meg x 32 version, AK5324096
- 8 Meg x 32 version, AK5328192

PIN NOMENCLATURE

A ₀ - A ₉	Address Inputs
DQ ₀ - DQ ₃₁	Data In/Data Out
$\overline{\text{CAS}}_0$ - $\overline{\text{CAS}}_3$	Column Address Strobe
$\overline{\text{RAS}}_0$ & $\overline{\text{RAS}}_2$	Row Address Strobe
$\overline{\text{WE}}$	Write Enable
PD ₁ - PD ₄	Presence Detect
V _{cc}	5v Supply
V _{ss}	Ground
NC	No Connect

PIN ASSIGNMENT

Pin #	Symbol	Pin #	Symbol	Pin #	Symbol	Pin #	Symbol
1	V _{ss}	19	NC	37	NC	55	DQ11
2	DQ0	20	DQ4	38	NC	56	DQ27
3	DQ16	21	DQ20	39	V _{ss}	57	DQ12
4	DQ1	22	DQ5	40	$\overline{\text{CAS}}_0$	58	DQ28
5	DQ17	23	DQ21	41	$\overline{\text{CAS}}_2$	59	V _{cc}
6	DQ2	24	DQ6	42	$\overline{\text{CAS}}_3$	60	DQ29
7	DQ18	25	DQ22	43	$\overline{\text{CAS}}_1$	61	DQ13
8	DQ3	26	DQ7	44	$\overline{\text{RAS}}_0$	62	DQ30
9	DQ19	27	DQ23	45	NC	63	DQ14
10	V _{cc}	28	A7	46	NC	64	DQ31
11	NC	29	NC	47	$\overline{\text{WE}}$	65	DQ15
12	A0	30	V _{cc}	48	NC	66	NC
13	A1	31	A8	46	DQ8	67	PD1
14	A2	32	A9	50	DQ24	68	PD2
15	A3	33	NC	51	DQ9	69	PD3
16	A4	34	$\overline{\text{RAS}}_2$	52	DQ25	70	PD4
17	A5	35	NC	53	DQ10	71	NC
18	A6	36	NC	54	DQ26	72	V _{ss}

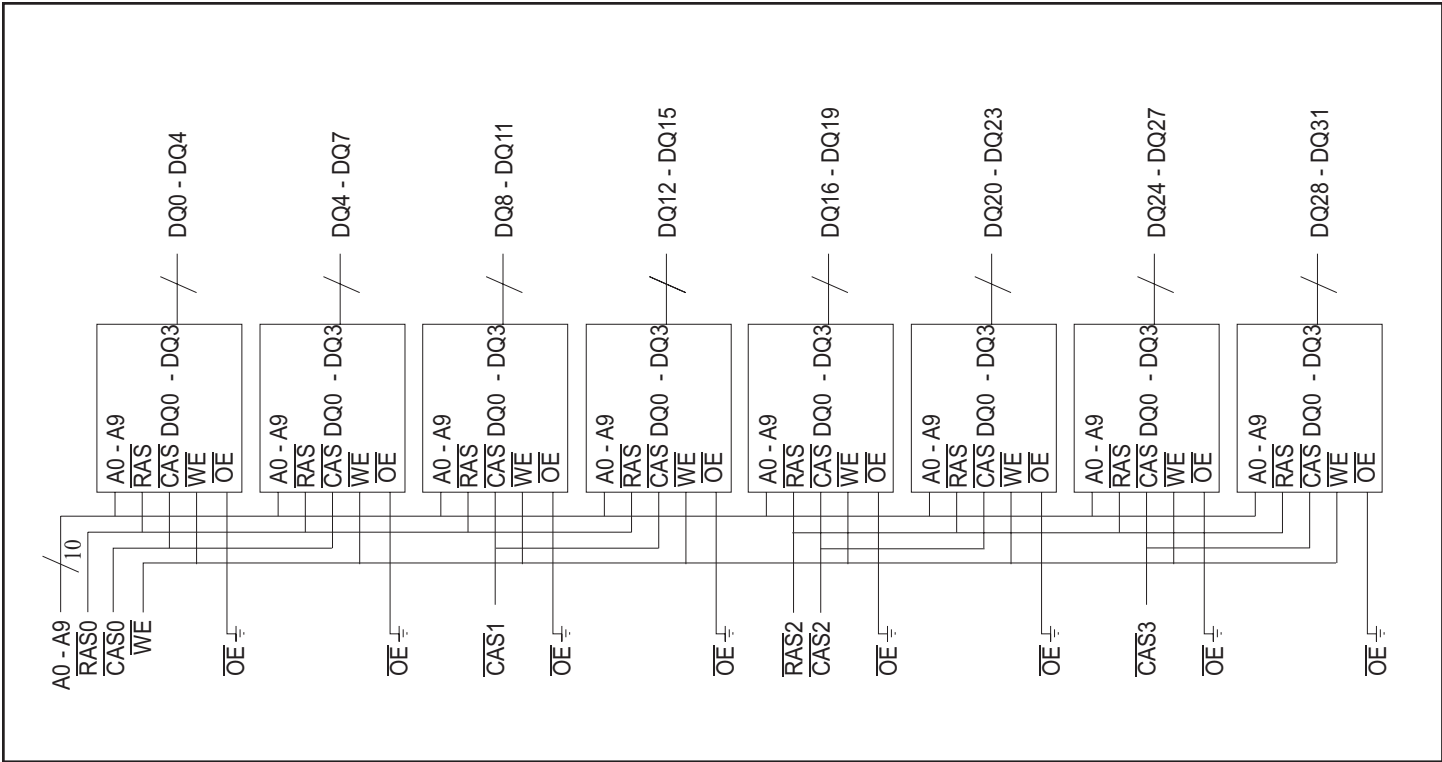
MODULE OPTIONS

Leadless SIM: AK5321024W
Leaded ZIP: AK5321024Z

Presence Detect

	-60	-70
PD1	V _{ss}	V _{ss}
PD2	V _{ss}	V _{ss}
PD3	NC	V _{ss}
PD4	NC	NC

FUNCTIONAL DIAGRAM



MECHANICAL DIMENSIONS

