



AK481024S / AK481024G

1,048,576 x 8 Bit CMOS

Dynamic Random Access Memory

DESCRIPTION

The Accutek AK481024 high density memory module is a random access memory organized in 1 Meg x 8 bit words. The assembly consists of eight standard 1 Meg x 1 DRAMs in plastic leaded chip carriers (SOJ) mounted on the front side of a printed circuit board. The module can be configured as a leadless 30 pad SIM or a leaded 30 pin SIP. This packaging approach provides a 6 to 1 density increase over standard DIP packaging.

The operation of the AK481024 is identical to eight 1 Meg x 1 DRAMs. The data input is tied to the data output and brought out separately for each device, with common $\overline{\text{RAS}}$, $\overline{\text{CAS}}$ and $\overline{\text{WE}}$ control. This common I/O feature dictates the use of early-write cycles to prevent contention of D and Q. Since the Write-Enable ($\overline{\text{WE}}$) signal must always go low before $\overline{\text{CAS}}$ in a write cycle, Read-Write and Read-Modify-Write operation is not possible.

FEATURES

- 1,048,576 x 8 bit organization
- Optional 30 Pad leadless SIM (Single In-Line Module) or 30 Pin leaded SIP (Single In-Line Package)
- JEDEC standard pinout
- Each device has common D and Q lines with common $\overline{\text{RAS}}$, $\overline{\text{CAS}}$ and $\overline{\text{WE}}$ control
- $\overline{\text{CAS}}$ -before- $\overline{\text{RAS}}$ refresh
- Power
 - 3.08 Watt Max Active (80 nSEC)
 - 2.64 Watt Max Active (100 nSEC)
 - 2.20 Watt Max Active (120 nSEC)
 - 44 mW Max Standby
- Operating free air temperature 0°C to 70°C
- Upward compatible with AK584096 and AK5816384
- Downward compatible with AK48256

PIN NOMENCLATURE

DQ ₁ - DQ ₈	Data In / Data Out
A ₀ - A ₉	Address Inputs
$\overline{\text{CAS}}$	Column Address Strobe
$\overline{\text{RAS}}$	Row Address Strobe
$\overline{\text{WE}}$	Write Enable
V _{cc}	5v Supply
V _{ss}	Ground
NC	No Connect

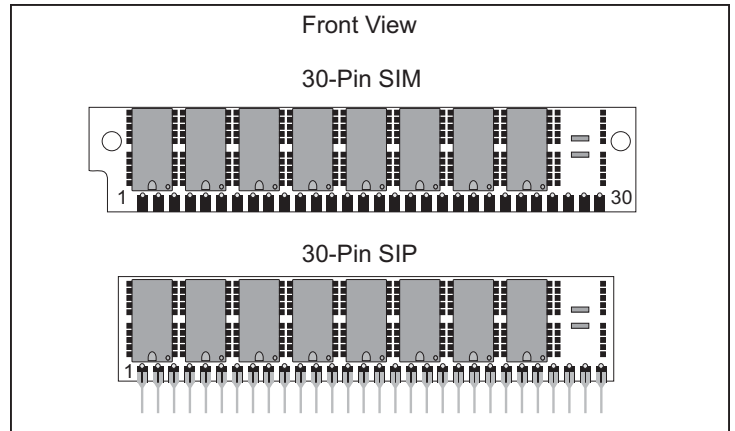
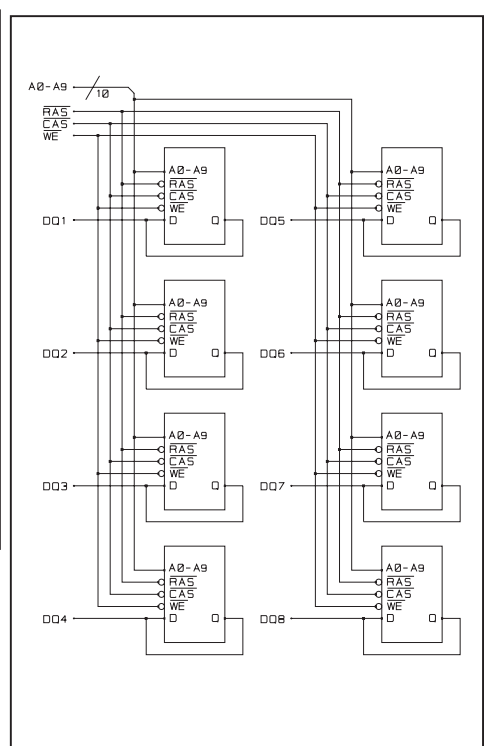
MODULE OPTIONS

Leadless SIM: AK481024S
Leaded SIP: AK481024G

PIN ASSIGNMENT

PIN #	SYMBOL	PIN #	SYMBOL
1	V _{cc}	16	DQ ₅
2	$\overline{\text{CAS}}$	17	A ₈
3	DQ ₁	18	A ₉
4	A ₀	19	NC
5	A ₁	20	DQ ₆
6	DQ ₂	21	$\overline{\text{WE}}$
7	A ₂	22	V _{ss}
8	A ₃	23	DQ ₇
9	V _{ss}	24	NC
10	DQ ₃	25	DQ ₈
11	A ₄	26	NC
12	A ₅	27	$\overline{\text{RAS}}$
13	DQ ₄	28	NC
14	A ₆	29	NC
15	A ₇	30	V _{cc}

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			
	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 shown as examples of the most widely used variations. Contact Accuthek if other information is required.

EXAMPLES:

AK481024SP-80

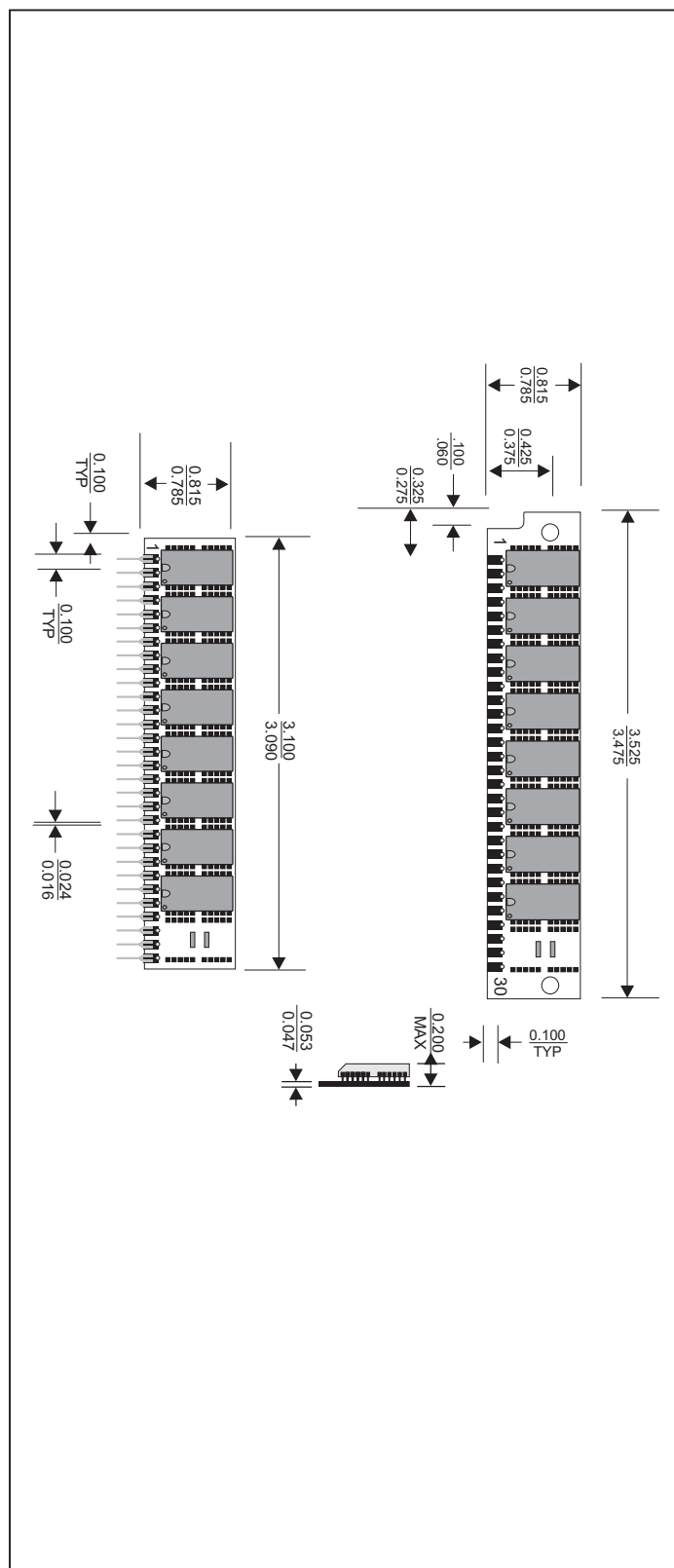
1 Meg x 8, 80 nSEC DRAM 30 pin SIM Configuration, Page Mode

AK481024GN-70

1 Meg x 8, 70 nSEC Dram 30 pin SIP Configuration, Nibble Mode

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 minimum and maximum limits based upon design objectives, which are subject to change upon full characterization over the specific operating conditions.



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