

AK491024S / AK491024G

1,048,576 Word x 9 Bit CMOS

Dynamic Random Access Memory

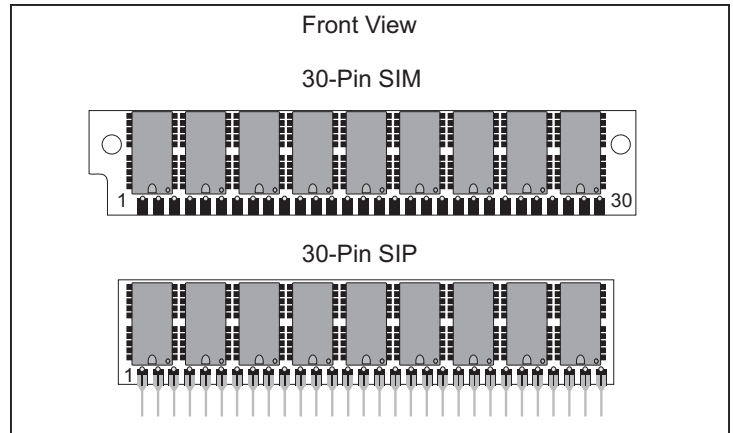
DESCRIPTION

The Accutek AK491024 high density memory module is a random access memory organized in 1 Meg x 9 bit words. The assembly consists of nine 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 AK491024 is identical to nine 1 Meg x 1 DRAMs. For the lower eight bits data input is tied to the data output and brought out separately for each device, with common RAS, CAS control. This common I/O feature dictates the use of early-write cycles to prevent contention of D and Q. Since the Write-Enable (WE) signal must always go low before CAS in a write cycle, Read-Write and Read-Modify-Write operation is not possible. For the ninth bit, the data input (D₉) and the data output (Q₉) pins are brought out separately and controlled by a separate PCAS for that bit. Bit nine is generally used for parity.

FEATURES

- 1,048,576 x 9 bit organization
- Optional 30 Pad leadless SIM (Single In-Line Module) or 30 Pin leaded SIP (Single In-Line Package)
- JEDEC standard pinout
- Common CAS and RAS control for the lower eight bits
- Separate PCAS control for D₉ and Q₉
- CAS-before-RAS refresh



- Power
 - 3.465 Watt Max Active (80 nSEC)
 - 2.97 Watt Max Active (100 nSEC)
 - 2.475 Watt Max Active (120 nSEC)
 - 49.5 mW Max Standby
- Operating free air temperature 0°C to 70°C
- Upward compatible with AK594096 and AK5916384
- Downward compatible with AK49256

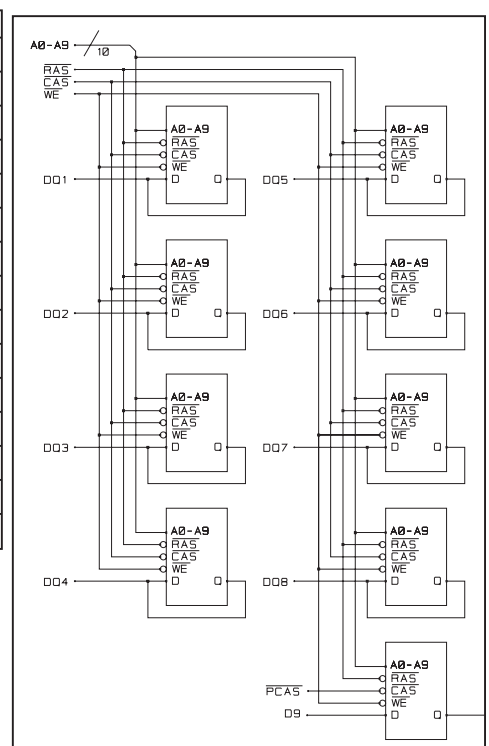
PIN NOMENCLATURE

DQ ₁ - DQ ₈	Data In / Data Out
D ₉	Data In 9
Q ₉	Data Out 9
A ₀ - A ₉	Address Inputs
CAS, PCAS	Column Address Strobe
RAS	Row Address Strobe
WE	Write Enable
Vcc	5v Supply
Vss	Ground
NC	No Connect

PIN ASSIGNMENT

PIN #	SYMBOL	PIN #	SYMBOL
1	Vcc	16	DQ5
2	CAS	17	A8
3	DQ1	18	A9
4	A0	19	NC
5	A1	20	DQ6
6	DQ2	21	WE
7	A2	22	Vss
8	A3	23	DQ7
9	Vss	24	NC
10	DQ3	25	DQ8
11	A4	26	Q9
12	A5	27	RAS
13	DQ4	28	PCAS
14	A6	29	D9
15	A7	30	Vcc

FUNCTIONAL DIAGRAM



MODULE OPTIONS

Leadless SIM: AK491024S
Leaded SIP: AK491024G

