Am9131 • Am91L31

1024 x 4 Static R/W Random Access Memories

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DISTINCTIVE CHARACTERISTICS

- 1k X 4 organization
- Fully static data storage — no refreshing
- Single +5V power supply
- High-speed — access times down to 200ns max.
- Low operating power
  - 578mW max., 9131
  - 368mW max., 91L31
- Interface logic levels identical to TTL
- High noise immunity — 400mV worst-case
- High output drive — two standard TTL loads
- DC power-down mode — reduces power by >80%
- Single phase, low voltage, low capacitance clock
- Static clock may be stopped in either state
- Data register on-chip
- Address register on-chip
- Steady power drain — no large surges
- Full MIL temperature range available
- 100% MIL-STD-883 reliability assurance testing

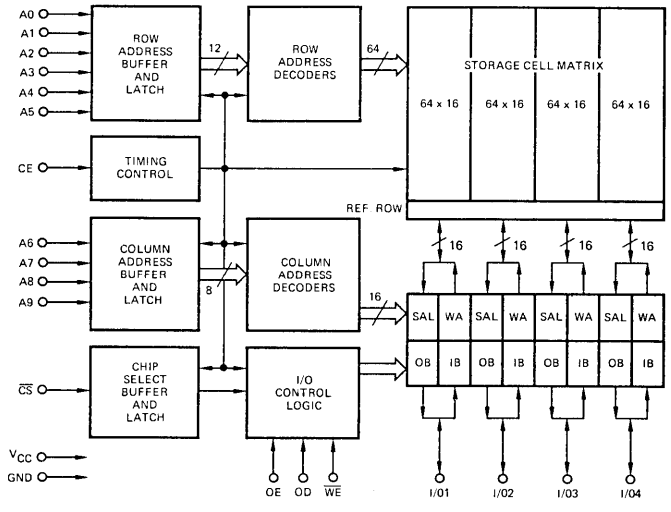
GENERAL DESCRIPTION

The Am9131 and Am91L31 products are high performance, low-power, 4k-bit, static, read/write random access memories. They are implemented as 1024 words by 4 bits per word. Only a single +5V power supply is required for normal operation. A DC power-down mode reduces power while retaining data with a supply voltage as low as 1.5V.

All interface signal levels are identical to TTL specifications, providing good noise immunity and simplified system design. All inputs are purely capacitive MOS loads. The outputs will drive two full TTL loads or more than eight low-power Schottky loads.

Operational cycles are initiated when the Chip Enable clock goes HIGH. When the read or write is complete, Chip Enable goes LOW to preset the memory for the next cycle. Address and Chip Select signals are latched on-chip to simplify system timing. Output data is also latched and is available until the next operating cycle. The $\overline{WE}$ signal is HIGH for all read operations and is LOW during the Chip Enable time to perform a write. Data In and Data Out signals share common I/O pins.

BLOCK DIAGRAM



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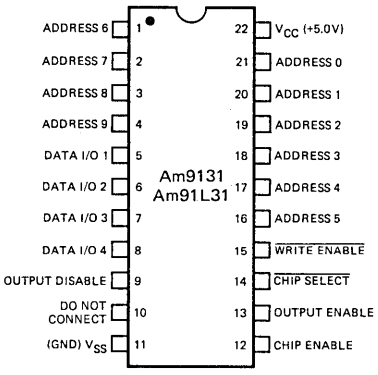
CONNECTION DIAGRAM



Top View

Pin 1 is marked for orientation.

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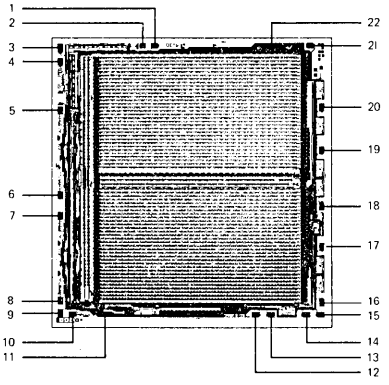
ORDERING INFORMATION

Package Type	Ambient Temperature	Power Type	Access Time				
			500ns	400ns	300ns	250ns	200ns
Hermetic DIP	$0°C \leq T_A \leq +70°C$	STD	Am9131ADC	Am9131BDC	Am9131CDC	Am9131DDC	Am9131EDC
		LOW	Am91L31ADC	Am91L31BDC	Am91L31CDC	Am91L31DDC	
	$-55°C \leq T_A \leq +125°C$	STD	Am9131ADM	Am9131BDM	Am9131CDM		
		LOW	Am91L31ADM	Am91L31BDM	Am91L31CDM		

The Am9131 and Am91L31 memories are identical in every respect to their counterparts in the Am9130 and Am91L30 family, with the single exception that the Memory Status output is not functional. Pin 10 on the Am9131/L31 products should not be used and should not be connected to any external circuit. Please refer to the Am9130/L30 data sheet for the electrical and switching characteristics of the Am9131/L31.

Metallization and Pad Layout



DIE SIZE 0.192" x 0.197"