

# Am9141 • Am91L41

## 4096 x1 Static R/W Random Access Memories

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### DISTINCTIVE CHARACTERISTICS

- 4k X 1 organization
- Fully static data storage — no refreshing
- Single +5V power supply
- High-speed — access times down to 200ns max.
- Low operating power
  - 578mW max., 9141
  - 368mW max., 91L41
- 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% reliability assurance testing in compliance with MIL-STD-883

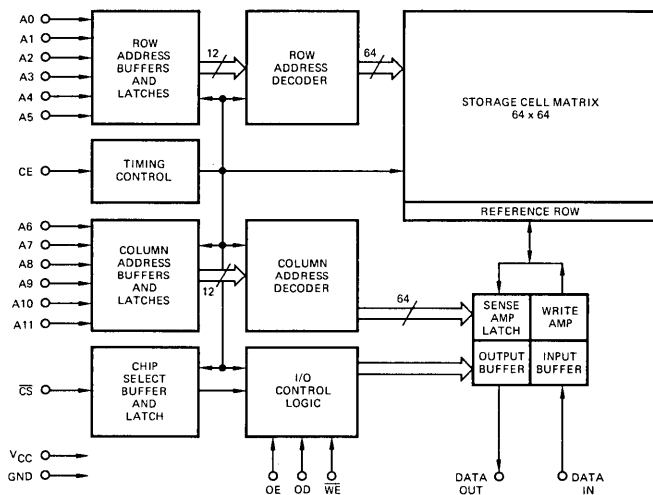
### GENERAL DESCRIPTION

The Am9141 and Am91L41 products are high performance, low-power, 4k-bit, static, read/write random access memories. They are implemented as 4096 words by 1 bit 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.

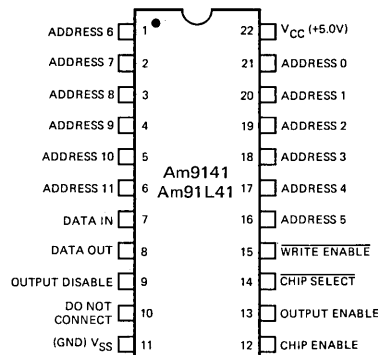
All interface signal levels are identical to TTL specifications, providing good noise immunity and simplified system design. All inputs are purely capacitive MOS loads. The outputs will drive two full TTL loads or more than eight low-power Schottky loads.

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.

### BLOCK DIAGRAM



### CONNECTION DIAGRAM



Top View

Pin 1 is marked for orientation.

MOS-364

MOS-365

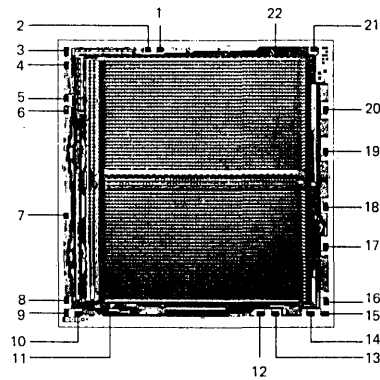
### ORDERING INFORMATION

Package Type	Ambient Temperature	Power Type	Access Time				
			500ns	400ns	300ns	250ns	200ns
Hermetic DIP	$0^{\circ}\text{C} \leq T_A \leq +70^{\circ}\text{C}$	STD	Am9141ADC	Am9141BDC	Am9141CDC	Am9141DDC	Am9141EDC
		LOW	Am91L41ADC	Am91L41BDC	Am91L41CDC	Am91L41DDC	
	$-55^{\circ}\text{C} \leq T_A \leq +125^{\circ}\text{C}$	STD	Am9141ADM	Am9141BDM	Am9141CDM		
		LOW	Am91L41ADM	Am91L41BDM	Am91L41CDM		

The Am9141 and Am91L41 memories are identical in every respect to their counterparts in the Am9140 and Am91L40 family, with the single exception that the Memory Status output is not functional. Pin 10 on the Am9141/

L41 products should not be used and should not be connected to any external circuit. Please refer to the Am9140/L40 data sheet for the electrical and switching characteristics of the Am9141/L41.

#### Metallization and Pad Layout



DIE SIZE 0.192 x 0.197"