TO BE ANNOUNCED

TYPES SN54LS189, SN54LS219, SN54LS289, SN54LS319, SN74LS189, SN74LS219, SN74LS289, SN74LS319 64-BIT RANDOM-ACCESS READ/WRITE MEMORIES

NOVEMBER 1977

- Organized as 16 Words of Four Bits Each
- Schottky-Clamped for High Performance
- Full On-Chip Decoding and Fast Chip-Enable Simplify System Decoding
- P-N-P Inputs Reduce Loading on System Buffers/Drivers
- Choice of 3-State or Open-Collector Outputs
- Choice of True or Inverted Outputs

description

These monolithic TTL memories feature Schottky clamping for high performance and a fast chip-select access time to enhance decoding at the system level. A three-state-output version and an open-collector-output version are offered for both of the logic choices. A three-state output offers the convenience of an open-collector output with the speed of a totem-pole output; it can be bus-connected to other similar outputs, yet it retains the fast rise time characteristic of the TTL totem-pole output. An open-collector output offers the capability of direct interface with a data line having a passive pull-up.

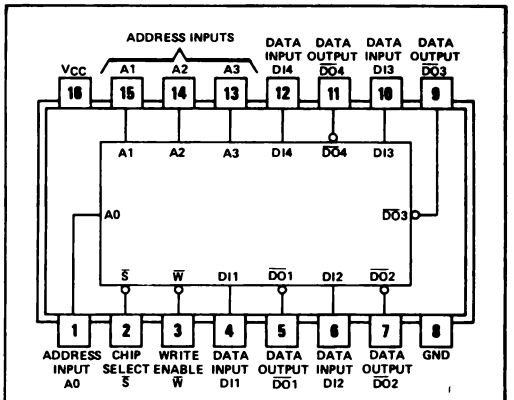
write cycle

Information to be stored in the memory is written into the selected address (AD) location when the chip-select ($\overline{S}$) and the write-enable ($\overline{W}$) inputs are low. While the write-enable input is low, the memory outputs are off (three-state = Hi-Z, open-collector = high). When a number of outputs are bus-connected, this off state neither loads nor drives the data bus; however, it permits the bus line to be driven by other active outputs or a passive pull-up.

read cycle

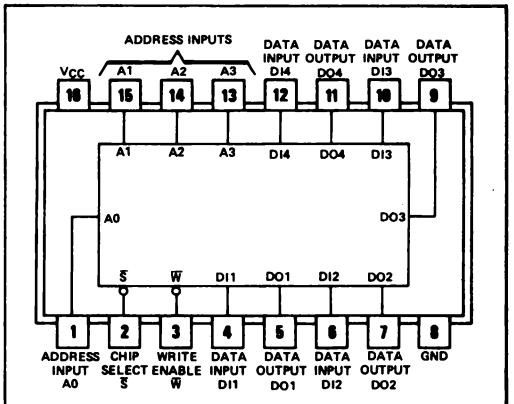
Information stored in the memory (see function table for input/output phase relationship) is available at the outputs when the write-enable input is high and the chip-select input is low. When the chip-select input is high, the outputs will be off.

SN54LS189, SN54LS289 . . . J OR W PACKAGE
SN74LS189, SN74LS289 . . . J OR N PACKAGE
(TOP VIEW)



positive logic: see function table

SN54LS219, SN54LS319 . . . J OR W PACKAGE
SN74LS219, SN74LS319 . . . J OR N PACKAGE
(TOP VIEW)



positive logic: see function table

FUNCTION TABLE

FUNCTION	INPUTS		OUTPUTS			
	CHIP SELECT	WRITE ENABLE	'LS189	'LS289	'LS219	'LS319
Write	L	L	Z	Off	Z	Off
Read	L	H	Complement of Data Entered	Complement of Data Entered	Data Entered	Data Entered
Inhibit	H	X	Z	Off	Z	Off

H = high level, L = low level, X = irrelevant, Z = high impedance

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