

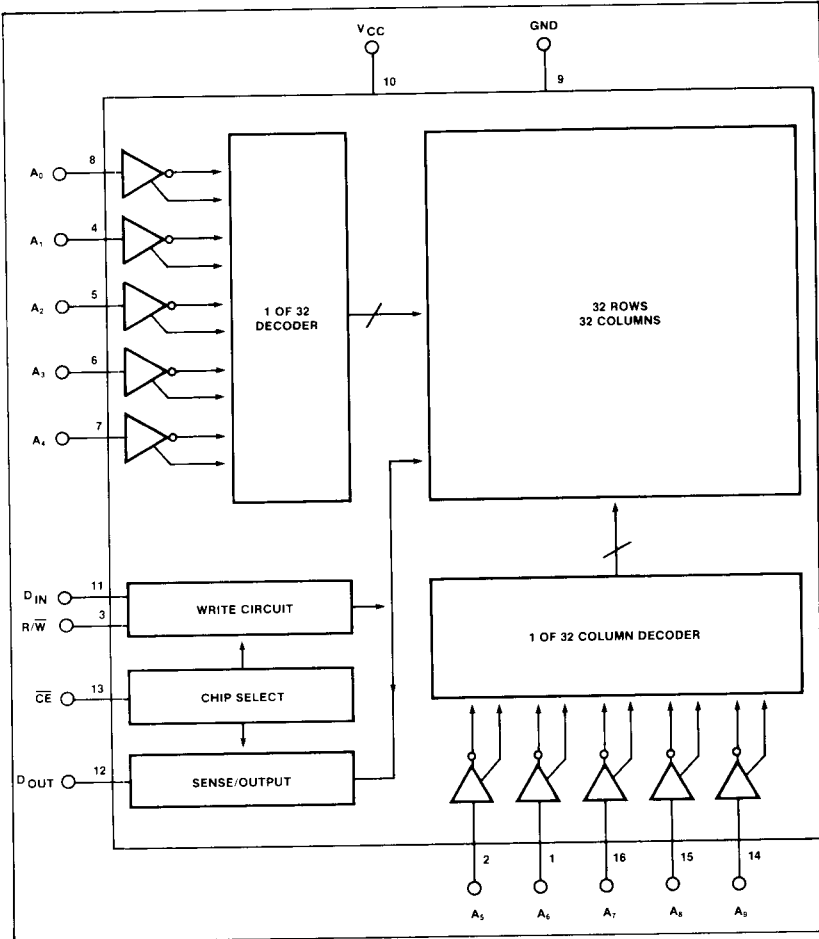
**DESCRIPTION**

The 2102, 2102-1 and 2102-2 are static random access read/write memories fabricated with low threshold n-channel silicon gate technology.

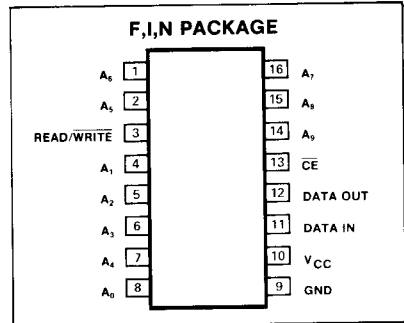
**FEATURES**

- Fully static
- Require no clocks
- Completely DTL/TTL compatible
- Single 5V power supply
- Three-state output for OR-tie capability

**BLOCK DIAGRAM**



**PIN CONFIGURATION**



**ABSOLUTE MAXIMUM RATINGS<sup>1</sup>**

PARAMETER	RATING	UNIT
T <sub>STG</sub> Temperature range	-65 to 150	°C
P <sub>D</sub> Power dissipation <sup>2</sup>		
N package	640	mW
F package	1	W
I package	1	W
All input, output and supply voltages with respect to ground	-0.5 to 7	V

**DC ELECTRICAL CHARACTERISTICS**  $T_A = 0^\circ\text{C}$  to  $70^\circ\text{C}$ ,  $V_{CC} = 5\text{V} \pm 5\%$  unless otherwise specified.

PARAMETER	TEST CONDITIONS	LIMITS			UNIT
		Min	Typ <sup>1</sup>	Max	
$V_{IL}$ $V_{IH}$	Input voltage Low High	-0.5 2.2		0.65 $V_{CC}$	V
$V_{OL}$ $V_{OH}$	Output voltage Low High			0.45	V
$I_{LI}$	Input load current (All input pins)	$V_{IN} = 0$ to $5.25\text{V}$			$\mu\text{A}$
$I_{LOH}$ $I_{LOL}$	Leakage current	$C\bar{E} = 2.2\text{V}$ $V_{OUT} = 4.0\text{V}$ $V_{OUT} = 0.45\text{V}$			$\mu\text{A}$
$I_{CC1}$ $I_{CC2}$	Supply current	All inputs = $5.25\text{V}$ , Data out open $T_A = 25^\circ\text{C}$ $T_A = 0^\circ\text{C}$			mA
			30	60 70	

**AC ELECTRICAL CHARACTERISTICS**  $T_A = 0^\circ\text{C}$  to  $70^\circ\text{C}$ ,  $V_{CC} = 5\text{V} \pm 5\%$  unless otherwise specified.

PARAMETER	TO	FROM	2102			2102-1			2102-2			UNIT
			Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
$t_{RC}$ $t_A$ $t_{CO}$			1,000			500			650			ns
	Output	Chip enable			1,000 500			500 350			650 400	ns ns
												ns
$t_{OH1}$ $t_{OH2}$			50 0			50 0			50 0			ns
												ns
$t_{WC}$ $t_{WP}$ $t_{WR}$			1,000 750 50			500 300 50			650 400 50			ns ns ns
												ns
$t_{AW}$ $t_{DW}$ $t_{DH}$ $t_{CW}$	Setup and hold time	Write Rise of $R/\bar{W}$ Change of data in Write	Address Data in Rise of $R/\bar{W}$	200 800 100		150 330 100			200 450 100			ns
									550			

## NOTES

- Stresses above those listed under Absolute Maximum Ratings may cause permanent damage to the device. This is a stress rating only and functional operation of the device of these or any other condition above those indicated in the operation of the device of these or any other condition above those indicated in the operation sections of this specification is not implied.
- For operating at elevated temperatures the device must be derated based on a  $+150^\circ\text{C}$  maximum junction temperature and a thermal resistance of  $150^\circ\text{C/W}$  junction to ambient ("B" package).
- All inputs protected against static charge.
- Parameter valid over operating temperature range unless otherwise specified.
- All voltage measurements are referenced to ground.
- Manufacturer reserves the right to make design and process changes and improvements.
- Typical values are at  $+25^\circ\text{C}$  and typical supply voltages.

TIMING DIAGRAMS

