

DESCRIPTION

The 82S230 and 82S231 include on-chip decoding and 1 chip enable input for ease of memory expansion. They feature either open collector or tri-state outputs for optimization of word expansion in bused organizations.

Both 82S230 and 82S231 devices are available in the commercial and military temperature ranges. For the commercial temperature range (0°C to +75°C) specify N82S230/231, F or N, and for the military temperature range (-55°C to +125°C) specify S82S230/231, F.

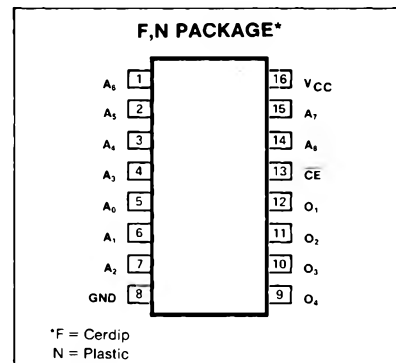
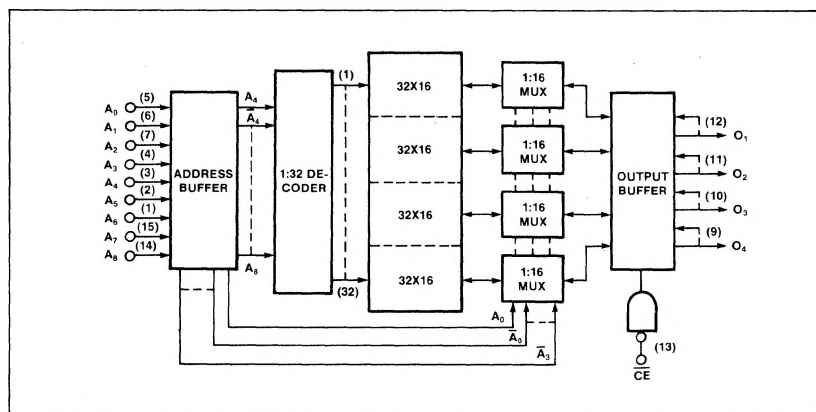
FEATURES

- Address access time:
N82S230/231: 50ns max
S82S230/231: 70ns max

- Power dissipation: 0.3mW/bit typ
- Input loading:
N82S230/231: -100 μ A max
S82S230/231: -150 μ A max
- On-chip address decoding
- Output options:
82S230: Open collector
82S231: Tri-state
- Fully compatible with Signetics 82S130/131 PROMs
- Fully TTL compatible

APPLICATIONS

- Sequential controllers
- Microprogramming
- Hardwired algorithms
- Control store
- Random logic
- Code conversion

PIN CONFIGURATION**BLOCK DIAGRAM****ABSOLUTE MAXIMUM RATINGS**

PARAMETER	RATING	UNIT
V _{CC} Supply voltage	+7	Vdc
V _{IN} Input voltage	+5.5	Vdc
V _{OH} Output voltage		Vdc
High (82S230)	+5.5	
V _O Off-state (82S231)	+5.5	
Temperature range		°C
T _A Operating	0 to +75	
N82S230/231	-55 to +125	
S82S230/231	-65 to +150	
T _{STG} Storage		

DC ELECTRICAL CHARACTERISTICS N82S230/231: $0^{\circ}\text{C} \leq T_A \leq +75^{\circ}\text{C}$, $4.75\text{V} \leq V_{CC} \leq 5.25\text{V}$
 S82S230/231: $-55^{\circ}\text{C} \leq T_A \leq +125^{\circ}\text{C}$, $4.5\text{V} \leq V_{CC} \leq 5.5\text{V}$

PARAMETER	TEST CONDITIONS ¹	N82S230/231			S82S230/231			UNIT
		Min	Typ ²	Max	Min	Typ ²	Max	
V _{IL} V _{IH} V _{IC}	Input voltage Low High Clamp							V
		2.0	-0.8	-1.2	2.0	-0.8	-1.2	
V _{OL} V _{OH}	Output voltage Low High (82S231)			0.45			0.5	V
		2.4			2.4			
I _{IL} I _{IH}	Input current Low High			-100 40		-150 50		μA
I _{OLK} I _{O(OFF)}	Output current Leakage (82S230) Hi-Z state (82S231)			40 -40 40		60 -60 60		μA
I _{OS}	Short circuit (82S231)	-20		-70	-15		-85	mA
I _{CC}	V _{CC} supply current		120	140		120	140	mA
C _{IN} C _{OUT}	Capacitance Input Output		5 8			5 8		pF

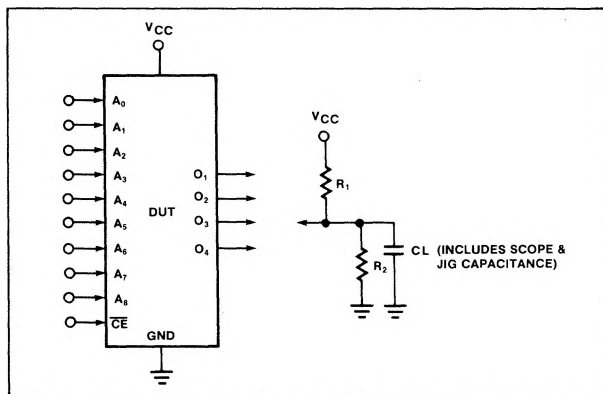
AC ELECTRICAL CHARACTERISTICS $R_1 = 270\Omega$, $R_2 = 600\Omega$, $C_L = 30\text{pF}$
 N82S230/231: $0^{\circ}\text{C} \leq T_A \leq +75^{\circ}\text{C}$, $4.75\text{V} \leq V_{CC} \leq 5.25\text{V}$
 S82S230/231: $-55^{\circ}\text{C} \leq T_A \leq +125^{\circ}\text{C}$, $4.5\text{V} \leq V_{CC} \leq 5.5\text{V}$

PARAMETER	TO	FROM	N82S230/231			S82S230/231			UNIT
			Min	Typ ²	Max	Min	Typ ²	Max	
T _{AA} T _{CE}	Access time Output Output	Address Chip enable		40 20	50 30		40 20	70 35	ns
T _{CD}	Disable time Output	Chip disable		20	30		20	35	ns

NOTES

1. Positive current is defined as into the terminal referenced.
2. Typical values are at $V_{CC} = 5.0\text{V}$, $T_A = +25^{\circ}\text{C}$.

TEST LOAD CIRCUIT



VOLTAGE WAVEFORM

