Signetics

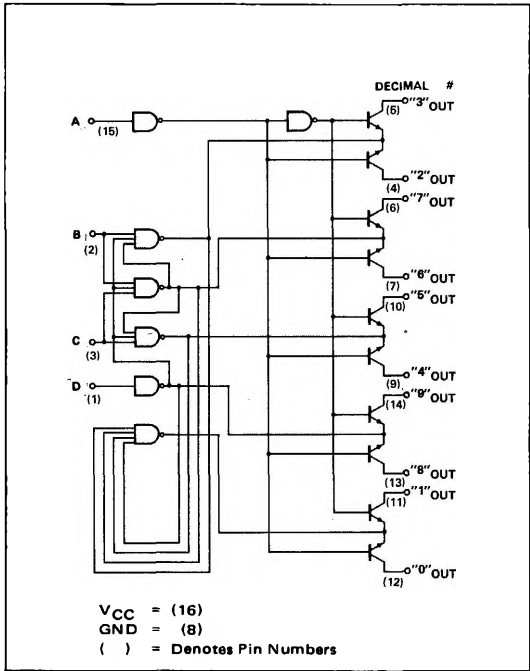B,F PACKAGES

DIGITAL 8000 SERIES TTL/MSI

DESCRIPTION

The 8T01 Nixie* Decoder/Driver is a one-out-of-ten decoder which has been designed to provide the necessary high voltage characteristics required for driving gas-filled cold-cathode indicator tubes.

It may also be utilized in driving relays or other high voltage interface circuitry. The element is designed using TTL techniques and is therefore completely compatible with DTL and TTL elements.

The specially designed output drivers provide the necessary stable output state. There are no input codes where all outputs are "off" or where more than one output can be turned "on."

LOGIC DIAGRAM

V$_{CC}$ = (16)
GND = (8)
( ) = Denotes Pin Numbers

TRUTH TABLE

INPUT				OUTPUT
D	C	B	A	ON
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	0	0	0	8
1	0	0	1	9
1	0	1	0	8
1	0	1	1	9
1	1	0	0	8
1	1	0	1	9
1	1	1	0	8
1	1	1	1	9

ELECTRICAL CHARACTERISTICS (Over Recommended Operating Temperature And Voltage)

| CHARACTERISTICS	LIMITS				TEST CONDITIONS	
	MIN.	TYP.	MAX.	UNITS	INPUTS	OUTPUTS
"1" Output Voltage	68			V	0.8V	1.0mA
"0" Output Voltage			2.75	V	2.3V	5.0mA
"1" Input Current			40	μA	4.5V	
"0" Input Current (A and D)			-0.9	mA	0.4V	
"0" Input Current (B and C)			-1.8	mA	0.4V	
Power/Current Consumption (V$_{CC}$ = 5.25V)		63/12	147/28	mW/mA		

NOTES:
1. All voltage and capacitance measurements are referenced to the ground terminal. Terminals not specifically referenced are left electrically open.
2. All measurements are taken with Pin 8 tied to zero volts.
3. Positive current flow is defined as into the terminal referenced.
4. Positive NAND Logic definition:

"UP" Level = "1", "DOWN" Level = "0".

5. Precautionary measures should be taken to ensure current limiting in accordance with Absolute Maximum Ratings should the isolation diodes become forward biased.
6. S8T01B operating temperature range is –20°C to +85°C.

SCHEMATIC DIAGRAM
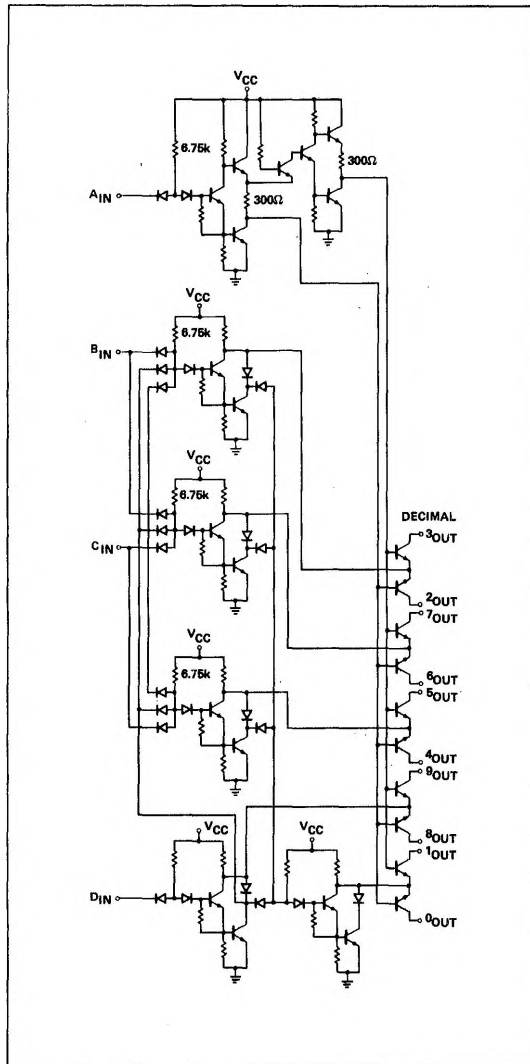
TYPICAL APPLICATIONS
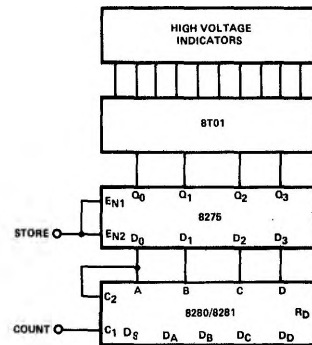
8T01 is used to decode output of 8280 or 8281 counter
and drive NIXIE* indicator tubes.
An 8275 Quad-Latch is used as an intermediate storage register.

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