

REFER TO PAGE 18 FOR B AND E PACKAGE PIN CONFIGURATIONS.

### DIGITAL 8000 SERIES TTL/MSI

#### DESCRIPTION

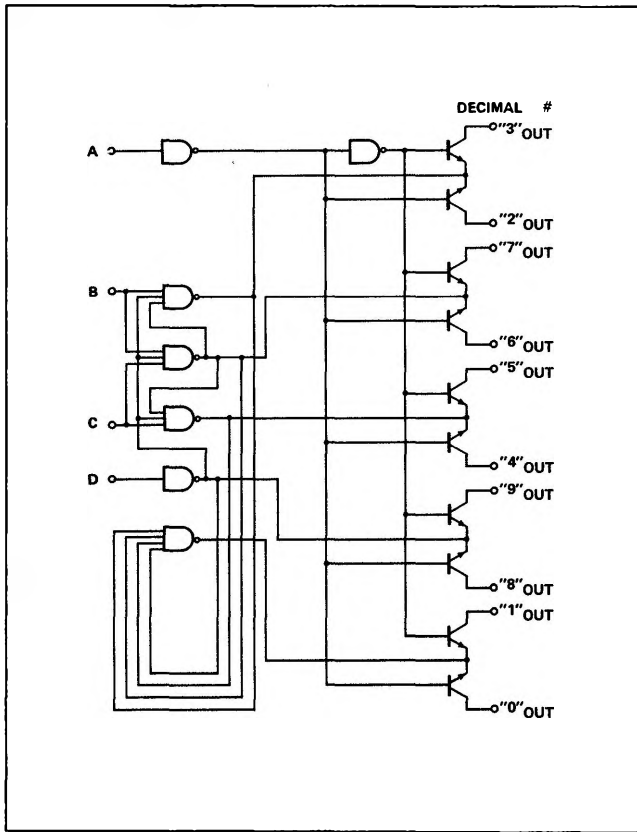
The 8T01 Nixie\* Decoder/Driver is a one-out-of-ten decoder which has been designed to provide the necessary high voltage characteristics required for driving gas-filled cold-cathode indicator tubes.

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



#### 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	$\mu$ A	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 Consumption		60		mW		

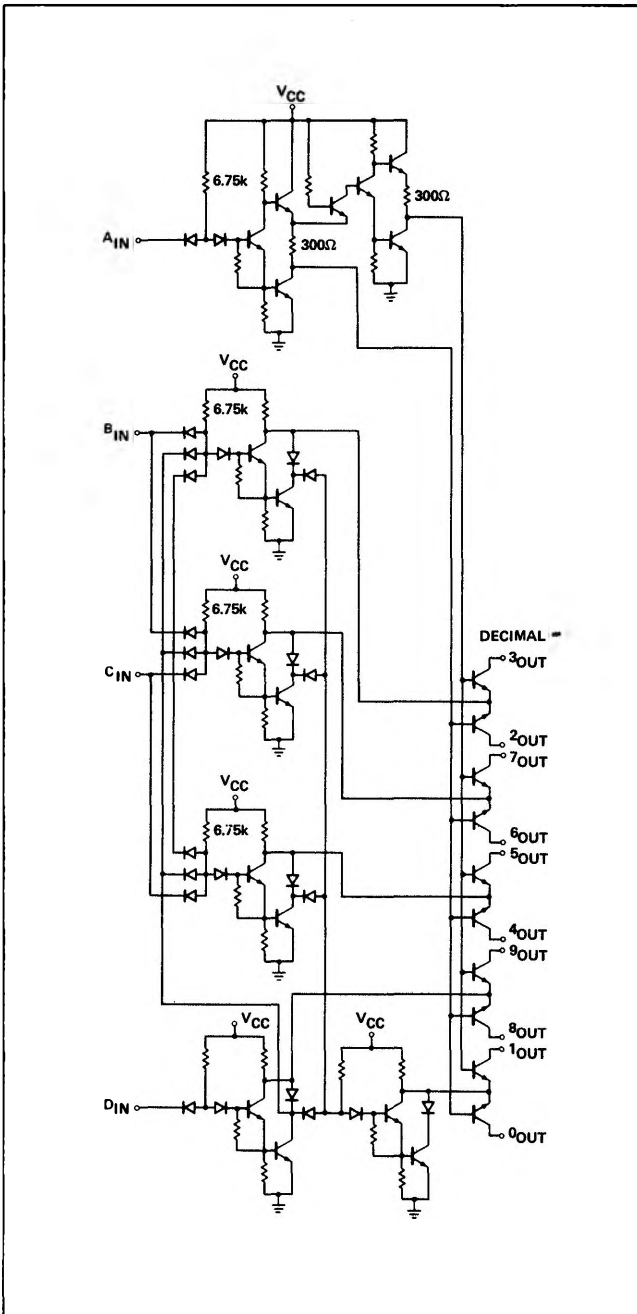
#### NOTES:

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

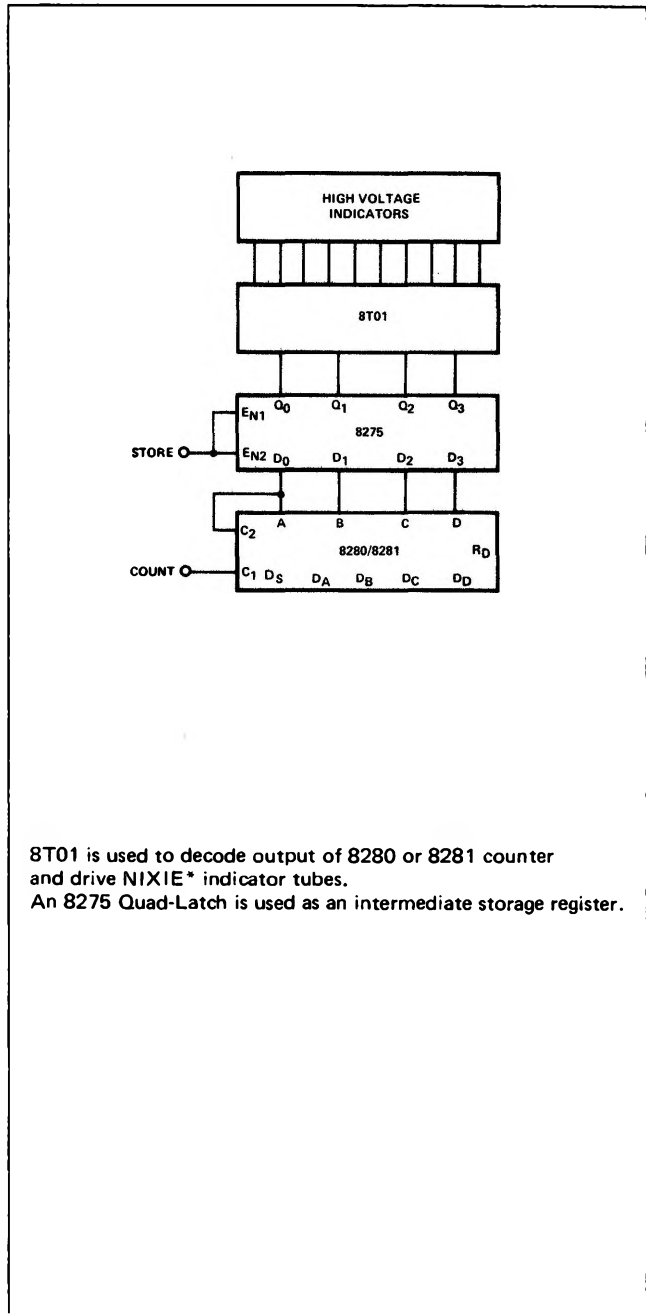
"UP" Level = "1", "DOWN" Level = "0".

- Precautionary measures should be taken to ensure current limiting in accordance with Absolute Maximum Ratings should the isolation diodes become forward biased.
- Manufacturer reserves the right to make design and process changes and improvements.
- S8T01B operating temperature range is  $-20^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .

**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.

\*A trademark of the Burroughs Corporation.