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## NTE2032 Integrated Circuit BCD-to-Seven-Segment Decoder Driver

### **Description:**

The NTE2032 is a monolithic integrated circuit in a 16-Lead DIP type package that performs the BCD-to-seven-segment decoding function and features constant-current segment drivers. When used with the NTE2054 A/D converter, the NTE2032 provides a complete digital readout system with a minimum number of external parts.

### **Features:**

- TTL Compatible Input Logic Levels
- 25mA (Typ) Constant Current Segment Outputs
- Eliminates Need for Output Current Limiting Resistors
- Pin Compatible with Other Industry Standard Decoders
- Low Standby Power Dissipation: 18mW Typ

### **Absolute Maximum Ratings:**

DC Supply Voltage (Between Pin1 and Pin10), $V_+$	7V
Input Voltage (Pin1, Pin2, Pin6, and Pin7), $V_{IN}$	5.5V
Output Voltage, $V_O$	
Output "OFF"	7V
Output "ON" (Note 1)	10V
Device Dissipation ( $T_A \leq +55^\circ\text{C}$ ), $P_D$	1W
Derate Above $55^\circ\text{C}$	10.5mW/ $^\circ\text{C}$
Operating Ambient Temperature Range, $T_{opr}$	$0^\circ$ to $+75^\circ\text{C}$
Storage Temperature Range, $T_{stg}$	$-65^\circ$ to $+150^\circ\text{C}$
Lead Temperature (During Soldering, $1.16'' \pm 1/32''$ ( $1.59\text{mm} \pm 0.79\text{mm}$ ), 10sec max), $T_L$	$+265^\circ\text{C}$

Note 1. This is the maximum output voltage for any single output. The output voltage must be consistent with the maximum dissipation and worst case conditions. Example: All segments "ON", 100% duty cycle.

**Electrical Characteristics:** ( $T_A = +25^{\circ}\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage Operating Range	V+		4.5	5.0	5.5	V
Supply Current	I+	All Inputs High	–	3.5	8.0	mA
Output Current Low		V <sub>O</sub> = 2V	18	25	32	mA
Output Current High		V <sub>O</sub> = 5.5V	–	–	250	μA
Input Voltage High (Logic “1” Level)			2	–	–	V
Input Voltage Low (Logic “0” Level)			–	–	0.8	V
Input Current High (Logic “1”)		2V	–30	–	–	μA
Input Current Low (Logic “0”)		0V	–40	–	–	μA
Propagation Delay Time	t <sub>PHL</sub>		–	2.6	–	μs
	t <sub>PLH</sub>		–	1.4	–	μs

**Truth Table:**

[illegible]

### Pin Connection Diagram

