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NTE2031 Integrated Circuit Seven-Segment Gas-Discharge Display Driver

Description:

The NTE2031 is a seven channel digit (anode) driver in a 16-Lead DIP type package specifically designed to be used with high-voltage, gas-discharge numeric displays. This device requires a low logic level to turn the drivers on with a low input current requirement of any 300µA typically, and is compatible with popular MOS chips.

Features:

- High Breakdown Voltage: -55V Typ
- Low Input Current for MOS Compatibility
- Operable from Either Positive or Negative Supply Voltages
- Input Clamp Diodes for DC Restoration
- Internal Pull-Down Resistors

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

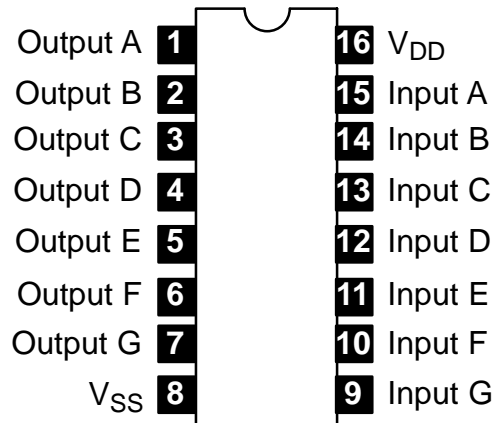
Negative Supply Voltage (Current Limited to -5mA), V_{EE}	-60V
Negative Supply Current, I_{EE}	-5.0mA
Input Voltage, V_I	$V_{CC} - 20, V_{CC}$
Output Current ($V_O = -5V$), I_O	-50mA
Package Power Dissipation, P_D	830mW
Derate above 25°C	6.7mW/°C
Junction Temperature, T_J	+150°C
Operating Ambient Temperature Range, T_A	0° to +70°C
Storage Temperature Range, T_{stg}	-65° to +150°C

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, $V_{CC} = \text{GND}$, $V_{EE} = -60V$ thru 5kΩ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Substrate Breakdown Voltage	$V_{(BR)S}$		-48	-55	-	V
Input Current – ON State	$I_{I(ON)}$	$V_I = -7V$	-	-200	-350	µA
Input Current – OFF State	$I_{I(OFF)}$	$V_I = 0V$	-	< 1.0	50	µA
Input Voltage – OFF State	$V_{I(OFF)}$	$V_O = V_{EE}$	-2.0	-	-	V
Input Voltage – ON State	$V_{I(ON)}$	$V_O = V_{CC} - 5V$	-	-	-5.0	V
Output Voltage – OFF State	$V_{O(OFF)}$	$V_I = 0V$	-48	-	-	V
Output Voltage – ON State	$V_{O(ON)}$	$I_O = -20mA, V_I = -7V$	-	-	-5.0	V

Note 1. Minimums and Maximums are relative to absolute values.

Pin Connection Diagram



Note: Requires low input to turn driver on.

