

## NTE2027 Integrated Circuit Hex LED Digit Driver

**Description:**

The NTE2027 is an interface circuit in a 14-Lead DIP typ package designed to be used in conjunction with MOS integrated circuits and common cathode LED's in serially addressed multi-digit displays. The number of drivers required for this time-multiplexed system is minimized as a result of the segment-address-and-digit-scan method of LED drive.

**Features:**

- Sink Capability Per Driver: 350mA
- MOS Compatibility (Low Input Current)
- Low Standby Power
- High-Gain Darlington Circuits

**Absolute Maximum Ratings:** (Note 1)

Input Voltage Range (Note 2) .....	-5V to V <sub>SS</sub>
Collector Output Voltage .....	10V
Collector Output to Input Voltage .....	10V
Voltage at V <sub>SS</sub> Pin (with Respect to Any Other Device Pin) .....	10V
Collector Output Current	
Each Collector Output .....	350mA
All Collector Outputs .....	600mA
Continuous Total Dissipation .....	800mW
Operating Temperature Range .....	0° to +70°C
Storage Temperature Range .....	-65° to +150°C
Lead Temperature (During Soldering, 10sec) .....	+300°C

Note 1. "Absolute Maximum Ratings" are those values beyond which the safety of the device cannot be guaranteed. Except for "Operating Temperature Range" they are not meant to imply that the device should be operated at these limits. The table of "Electrical Characteristics" provides conditions for actual device operation.

Note 2. The input is the only device pin which may be negative with respect to GND.

**DC Electrical Characteristics:** ( $V_{SS} = 10V$ ,  $T_A = 0^\circ$  to  $+70^\circ C$ , Note 3, Note 4 unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Low Level Output Voltage	$V_{OL}$	Input = 6.5V through 1k $\Omega$ , $I_{OUT} = 350mA$ , $T_A = +25^\circ C$	-	1.2	1.4	V
		Input = 6.5V through 1k $\Omega$ , $I_{OUT} = 350mA$	-	-	1.6	V
High Level Output Current	$I_{OH}$	$V_{OH} = 10V$ , $I_{IN} = 40\mu A$	-	-	200	$\mu A$
		$V_{OH} = 10V$ , $V_{IN} = 0.5V$	-	-	200	$\mu A$
Input Current at Max Input Voltage	$I_I$	$V_{IN} = 10V$ , $I_{OL} = 20mA$	-	2.2	3.3	mA
Current into $V_{SS}$ Pin	$I_{SS}$		-	-	1.0	mA

Note 3. Unless otherwise specified, Min/Max limits apply across the  $0^\circ$  to  $+70^\circ C$  temperature range.

Note 4. All currents into device pins shown as positive, out of device as negative, all voltages referenced to GND unless otherwise specified. All values shown as mmax or Min on absolute value basis.

**AC Switching Characteristics** ( $V_{SS} = 7.5V$ ,  $T_A = +25^\circ C$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Propagation Delay Time Low-to-High Level Output	$t_{PLH}$	$V_{IH} = 7.5V$ , $R_L = 39\Omega$ , $C_L = 15pF$	-	300	-	ns
			High-to-Low Level Output	$t_{PHL}$	-	30

**Pin Connection Diagram**

