Display Drivers

DM75494 hex digit driver

general description

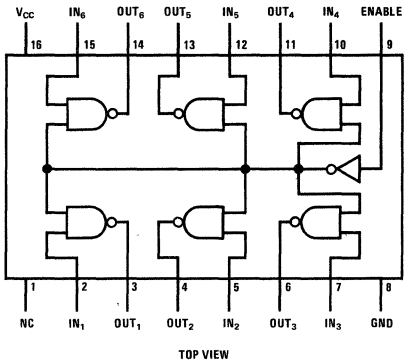
The DM75494 is a hex digit driver. It is designed to interface between most MOS devices and common cathodes configured LED's with a low output voltage at high operating currents. The enable input disables all the outputs when taken high.

features

- 150 mA sink capability
- Low voltage operation
- Low input current for MOS compatibility
- Low standby power
- Display blanking capability
- Low voltage saturating outputs
- Hex high gain circuits

logic and connection diagram

Dual-In-Line Package

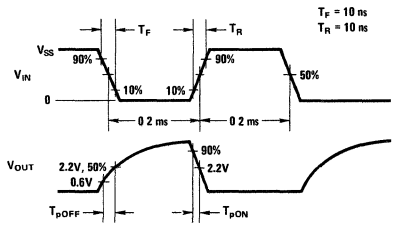


TOP VIEW

Order Number DM75494J
See Package 17

Order Number DM75494N
See Package 23

switching time waveforms



truth table

ENABLE	V_{IN}	V_{OUT}
0	0	1
0	1	0
1	X	1

X = don't care

6

absolute maximum ratings (Note 1)

Supply Voltage	10V
Input Voltage	10V
Output Voltage	10V
Storage Temperature Range	−65°C to +150°C
Lead Temperature (Soldering, 10 seconds)	300°C

operating conditions

	MIN	MAX	UNITS
Supply Voltage, V_{CC}	3.2	8.8	V
Temperature, T_A	0	+70	°C

electrical characteristics (Notes 2 and 3)

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Logical "1" Input Current (I_{IH})	V_{CC} = Min, V_{IN} = 8.8V, V_{CE} = 8.8V through 100k			2.0	mA
	V_{CC} = Min, V_{IN} = 8.8V, V_{CE} = 8.8V			2.7	mA
Logical "0" Input Current (I_{IL})	V_{CC} = Max, V_{IN} = −5.5V			−20	μA
Logical "1" Output Current (I_{OH})	V_{CC} = Max, V_{IN} = 8.8V through 100k, V_{OH} = 8.8V, V_{CE} = 0V			400	μA
	V_{CC} = Max, V_{IN} = 8.8V, V_{OH} = 8.8V, V_{CE} = 6.5V through 1.0k			400	μA
Logical "0" Output Voltage (V_{OL})	V_{CC} = Min, I_{OL} = 150 mA, V_{IN} = 6.5V through 1.0k, V_{CE} = 8.8V through 100k		0.25	0.35	V
Supply Current (I_{CC})	V_{CC} = Max, One Driver ON, V_{IN} = 8.8V			8.0	mA
	V_{CC} = Max, V_{CE} = 6.5V through 1.0k All Other Pins to GND			100	μA
	V_{CC} = Max, All Pins to GND			40	μA
	V_{CC} = Max, V_{IN} = 8.8V through 100k All Other Pins to GND			100	μA
t_{OFF}	C_L = 20 pF, R_L = 24Ω, V_{CC} = 4.0V, See AC Test Circuits		0.04	1.2	μs
t_{ON}	C_L = 20 pF, R_L = 24Ω, V_{CC} = 4.0V, See AC Test Circuits		13	100	ns

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 devices should be operated at these limits. The table of "Electrical Characteristics" provides conditions for actual device operation.

Note 2: Unless otherwise specified min/max limits apply across the 0°C to +70°C range for the DM75494.

Note 3: All currents into device pins shown as positive, out of device pins as negative, all voltages referenced to ground unless otherwise noted. All values shown as max or min on absolute value basis.

ac test circuits