Display Drivers

DM8861 MOS-to-LED 5-segment driver

general description

The DM8861 is designed to be used in conjunction with MOS integrated circuits and common-cathode LED's in serially addressed multi-digit displays.

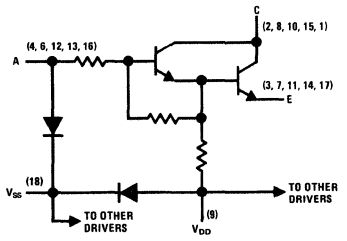
The DM8861 is a 5-segment driver capable of sinking or sourcing up to 50 mA from each driver.

features

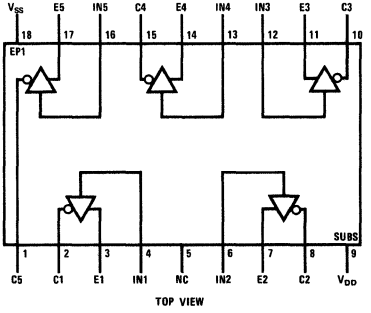
- Source or sink capability per driver 50 mA
- MOS compatibility (low input current)
- Low standby power
- High gain Darlington circuits

schematic and connection diagrams

DM8861



Dual-In-Line Package



TOP VIEW

Order Number DM8861N
See Package 25

absolute maximum ratings

Input Voltage Range (Note 1)	−5V to V_{SS}
Collector (Output) Voltage (Note 2)	10V
Collector (Output)-to-Input Voltage	10V
Emitter-to-Ground Voltage ($V_I \geq 5V$)	10V
Emitter-to-Input Voltage	5V
Voltage at V_{SS} Terminal With Respect to Any Other Device Terminal	10V
Collector (Output) Current	
Each Collector (Output)	50 mA
All Collectors (Output)	200 mA
Continuous Total Dissipation	800 mW
Operating Temperature Range	0°C to +70°C
Storage Temperature Range	−65°C to +150°C
Lead Temperature (Soldering, 10 sec)	300°C

dc electrical characteristics

DM8861 (V_{SS} = 10V, T_A = 0°C to +70°C unless otherwise noted)

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
On State Collector Emitter Voltage ($V_{CE\ ON}$)	Input = 8.5V through 1 kΩ, V_E = 5V, I_C = 50 mA, T_A = 25°C		.9	1.2	V
On State Collector Emitter Voltage ($V_{CE\ ON}$)	Input = 8.5V through 1 kΩ, V_E = 5V, I_C = 50 mA			1.5	V
Off State Collector Current ($I_{C\ OFF}$)	V_C = 10V, V_E = 0, I_{IN} = 40μA			100	μA
Off Set Collector Current ($I_{C\ OFF}$)	V_C = 10V, V_E = 0, V_{IN} = .7V			100	μA
Input Current at Maximum Input Voltage (I_I)	V_{IN} = 10V, V_E = 0, I_C = 20 mA		2.2	3.3	mA
Emitter Reverse Current (I_E)	V_{IN} = 0, V_E = 5V, I_C = 0			100	μA
Current Into V_{SS} Terminal (I_{SS})				1	mA

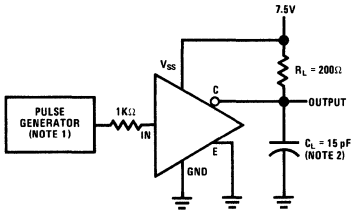
ac switching characteristics

DM8861 (V_{SS} = 7.5V, T_A = 25°C)

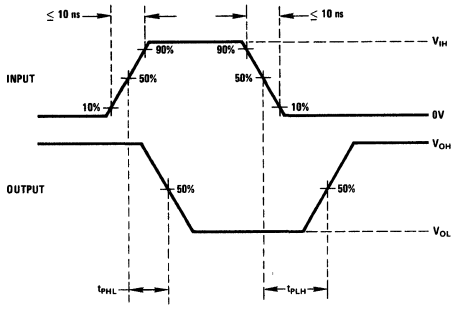
PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Propagation Delay Time, Low to High Level Output (Collector) (t_{PLH})	V_{IH} = 4.5V, V_E = 0		100		ns
Propagation Delay Time, High to Low Level Output (Collector) (t_{PHL})	R_L = 200Ω, C_L = 15 pF		20		ns

Note 1: The input is the only device terminal which may be negative with respect to ground.
Note 2: Voltage values are with respect to network ground terminal unless otherwise noted.

ac test circuits and waveforms



DM8861



NOTE 1 THE PULSE GENERATOR HAS THE FOLLOWING CHARACTERISTICS Z_{OUT} = 50Ω, PRR = 100 KHz, t_W = 1μs

NOTE 2 C_L INCLUDES PROBE AND JIG CAPACITANCE