



Display Drivers

DM8859, DM8869

DM8859, DM8869 TTL compatible hex LED drivers

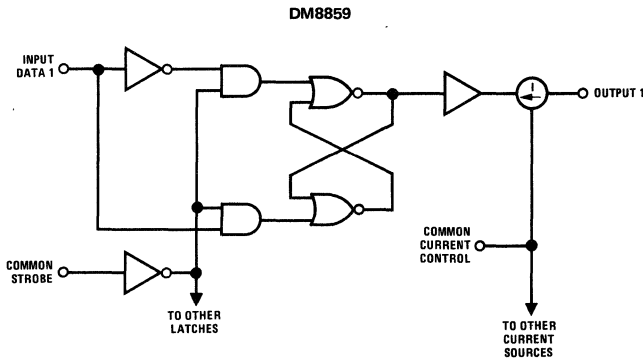
general description

The DM8859, DM8869 are TTL compatible hex LED drivers with programmable current source outputs. The current sources are nominally set at 20 mA but may be adjusted by external resistors for any value between 0–50 mA. Each device contains six latches which may be set by input data terminals. A strobe common to all six latches enables the data input terminals. The DM8859 current source outputs are switched on

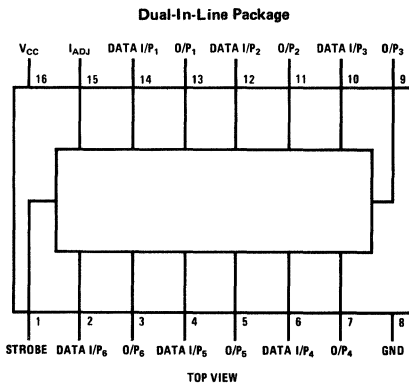
by entering a high level into the latches and the DM8869 current source outputs are switched on by entering a low level into the latches.

The devices are available in either a molded or cavity package. In order not to damage the devices there is a limit placed on the power dissipation allowable for each package type. This information is shown in the graph on the back page.

schematic diagram



connection diagram



truth table

COMMON STROBE	I/P	DM8859 O/P (t+1)	DM8869 O/P (t+1)
0	0	OFF	ON
0	1	ON	OFF
1	X	O/P (t)	O/P (t)

Order Number DM8859J or DM8869J
See Package 17

Order Number DM8859N or DM8869N
See Package 23

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absolute maximum ratings (Note 1)

Supply Voltage	+7.0V
Input Voltage	+5.5V
Output Voltage	+5.5V
Storage Temperature Range	-65°C to +150°C
Lead Temperature (Soldering, 10 seconds)	300°C

operating conditions

	MIN	MAX	UNITS
Supply Voltage (V_{CC}) DM8859, DM8869	4.75	5.25	V
Temperature (T_A) DM8859, DM8869	0	+70	°C

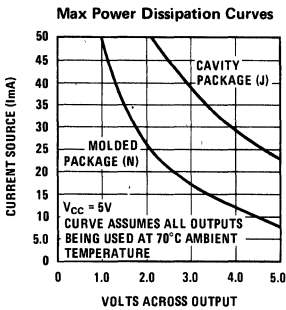
electrical characteristics (Note 2)

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Logical "1" Input Voltage	$V_{CC} = 4.75V$	2.0			V
Logical "0" Input Voltage	$V_{CC} = 4.75V$			0.8	V
Logical "1" Input Current	$V_{CC} = 5.25V, V_{IN} = 2.4V$			40	μA
Logical "0" Input Current	$V_{CC} = 5.25V, V_{IN} = 0.4V$		-1.0	-1.6	mA
Typical Output Current	$V_{CC} = 5.0V, I_{ADJ}$ Pin Open, 25°C		20		mA
Supply Current (each device)	$V_{CC} = 5.25V, \text{Current Sources "Off"}$			50	mA
Input Clamp Voltage	$I_{IN} = -12 \text{ mA}$		-1.1	-1.5	V

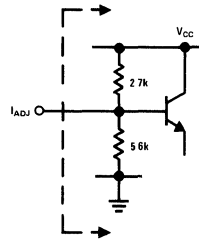
Note 1: "Absolute Maximum Ratings" are those values beyond which the safety of the device cannot be guaranteed. Except for "Operating Temperature Range" they are not meant to imply that the devices should be operated at these limits. The table of "Electrical Characteristics" provides conditions for actual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

Note 2: Unless otherwise specified min/max limits apply across the 0°C to +70°C temperature range for the DM8859 and the DM8869. All typicals are given for $V_{CC} = 5.0V$ and $T_A = 25^\circ C$.

typical performance characteristics



test circuit



I_{ADJ} may be programmed by a voltage source or by resistors.