Display Drivers

DM8864, DM8865, DM8866 LED cathode drivers

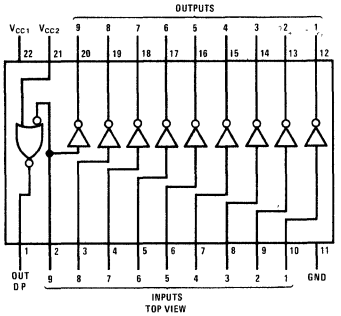
general description

The DM8864, DM8865 and DM8866 are cathode drivers for 9, 8, and 7 digit LED displays respectively. They are designed to interface between MOS calculator or clock circuits supplying 2.0 mA, and LED displays operating up to 50 mA in a multiplex mode. The DM8864 and DM8866 feature a "low battery" indicator driver which will light a decimal point whenever a 9.0V battery drops below 6.5V typical.

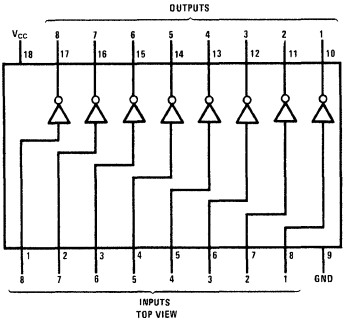
features

- Used with 50 mA LED displays
- "Low battery voltage" indicator
- Directly interfaced from MOS
- Inputs and outputs clustered for easy wiring
- Drivers consume no standby power

connection diagrams (Dual-In-Line Packages)



Order Number DM8864N
See Package 29



Order Number DM8865N
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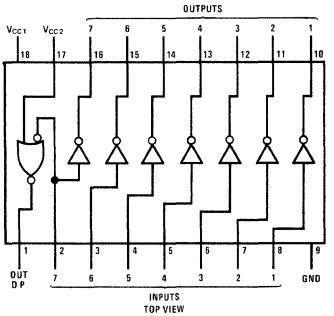

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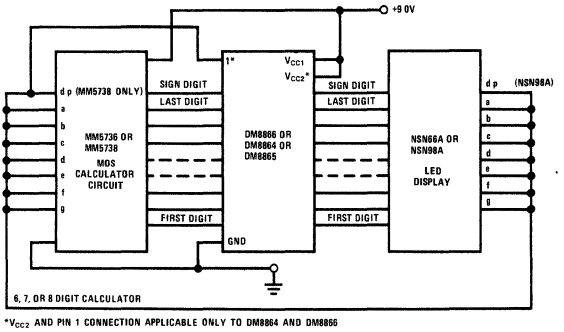
typical application



*V_{CC2} AND PIN 1 CONNECTION APPLICABLE ONLY TO DM8864 AND DM8866

absolute maximum ratings (Note 1)

Supply Voltage	11V
Input Voltage	11V
Output Voltage	8.0V
Storage Temperature Range	−65°C to +125°C
Lead Temperature (Soldering, 10 seconds)	300°C

operating conditions

	MIN	MAX	UNITS
Supply Voltage, V_{CC}	5.0	9.5	V
Temperature, T_A	0	+70	°C

electrical characteristics (Note 2)

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Logical "1" Input Voltage (V_{IH})	V_{CC} = Max	4.5			V
Logical "1" Input Current (I_{IH})	V_{CC} = Max, V_{IN} = 6.5V			2.0	mA
Logical "0" Input Voltage (V_{IL})	V_{CC} = Max			0 4	V
Logical "0" Input Current (I_{IL})	V_{CC} = Max, V_{IN} = 0.4V			60	μA
Decimal Point Output Current (Pin 1) ($I_{DP\,ON}$) (Note 3)	V_{CC} = 6.25V, V_{DP} = 3.3V, V_{IN9} = 4.5V		6 0		mA
Decimal Point Output Current (Pin 1) ($I_{DP\,OFF}$) (Note 3)	V_{CC} = 7.0V, V_{DP} = 1 0V, V_{IN9} = 4 5V		−1 0		μA
Output Leakage Current (I_{CEX})	V_{CC} = Max, V_{OH} = 6.0V, I_{IN} = 40μA			40	μA
Logical "0" Output Voltage (V_{OL})	V_{CC} = Min, V_{IN} = 4 5V, I_{OL} = 50 mA			1 5	V
Supply Current (I_{CC1} or I_{CC})	V_{CC} = Max, V_{IN} = 0			0 1	mA
Supply Current (I_{CC2})	V_{CC} = Max, V_{IN9} = 4.5V			1 3	mA

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: Apply over 0°C to +70°C operating temperature range.

Note 3: Note applicable to DM8865.