



Display Controllers/Drivers

T-52-13-07

DS8867 8-Segment Constant Current Driver

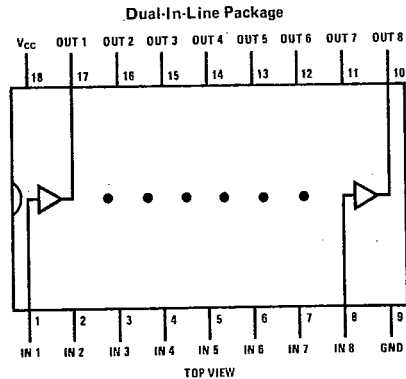
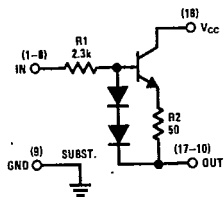
General Description

The DS8867 is an 8-segment driver designed to be driven from MOS circuits operating at 8V ±10% minimum V<sub>SS</sub> supply and will supply 14 mA typically to an LED display. The output current is insensitive to V<sub>CC</sub> variations.

Features

- Internal current control—no external resistors
- 100% efficient, no standby power
- Operates in three and four cell battery systems
- Inputs and outputs grouped for easy PC layout

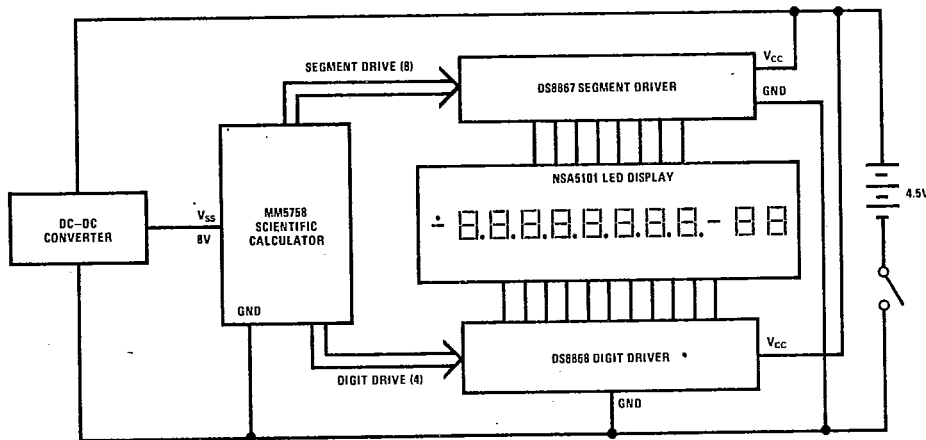
Schematic and Connection Diagrams



Order Number DS8867N  
See NS Package N18A

Typical Application

Typical 3 Cell Scientific Calculator Circuit



DS8867

**Absolute Maximum Ratings** (Note 1)

Supply Voltage 7V  
 Input Voltage 10V  
 Output Voltage 10V  
 Storage Temperature Range -65°C to +150°C  
 Maximum Power Dissipation\* at 25°C  
 Molded Package 1345 mW  
 Lead Temperature (Soldering, 10 seconds) 300°C  
 \*Derate molded package 10.76 mW/°C above 25°C.

**Operating Conditions**

	MIN	MAX	UNITS
Supply Voltage, V <sub>CC</sub>	3.3	6.0	V
Temperature, T <sub>A</sub>	0	+70	°C

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**Electrical Characteristics** (Note 2)

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
V <sub>IH</sub> Logical "1" Input Voltage	V <sub>CC</sub> = Min, V <sub>OH</sub> = 2.3V, I <sub>IH</sub> = 500μA		4.9	5.4	V
I <sub>IL</sub> Logical "0" Input Current	V <sub>CC</sub> = Max, V <sub>OL</sub> = 1.8V, V <sub>IL</sub> = 2.0V		0.1	10	μA
I <sub>OH</sub> Logical "1" Output Current	V <sub>CC</sub> = Min, V <sub>OH</sub> = 2.3V, I <sub>IH</sub> = 500μA	-8	-14	-18	mA
I <sub>OL</sub> Logical "0" Output Current	V <sub>CC</sub> = Max, V <sub>OL</sub> = 1.0V, V <sub>IL</sub> = 1.3V		-0.5	-10	μA
I <sub>CC OFF</sub> Supply Current	V <sub>CC</sub> = Max	All V <sub>OL</sub> = 1.0V, V <sub>IL</sub> = 1.3V, (Standby)		4	μA
I <sub>CC ON</sub>		All V <sub>OH</sub> = 2.3V, V <sub>IH</sub> = 7.8V		112	150

Note 1: "Absolute Maximum Ratings" are those values beyond which the safety of the device cannot be guaranteed. 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.