

DS8891A High Voltage Anode Drivers (Active-Low Inputs)

General Description

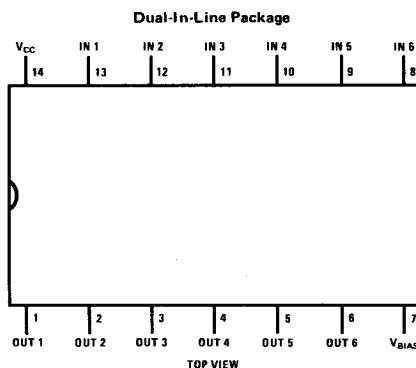
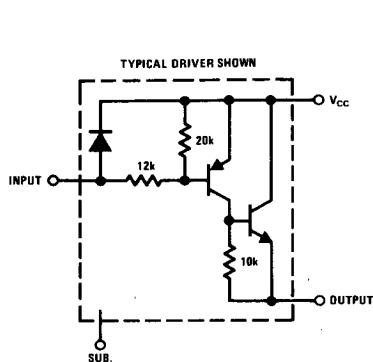
The DS8891A is a 6 digit anode driver intended for use with seven segment, common anode, high voltage, gas discharge display panels operating in a multiplexed mode. The driver switches voltage and impedance levels at the display's anode allowing or preventing ionization of gas around selected cathodes, forming a numeric display. The device acts as a buffer between MOS outputs (fully decoded) and the anodes of a gas-discharge panel,

and it can source up to 16 mA at a low impedance and can withstand more than 55V in the off state.

Features

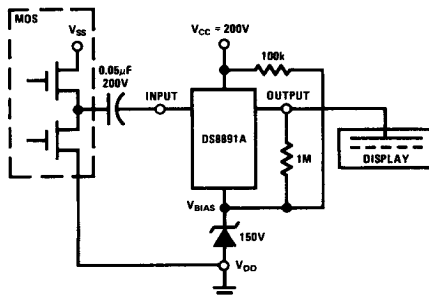
- High breakdown voltage
- Low power dissipation
- Easy interface to clock and calculator circuits

Schematic and Connection Diagrams



Typical Application

Order Number DS8891AJ
or DS8891AN
See NS Package J14A or N14A



Absolute Maximum Ratings (Note 1)

Supply Voltage ($V_{CC} - V_{BIAS}$)	-60V
Input Voltage	-20V
Output Voltage	-65V
Storage Temperature Range	-65°C to +150°C
Maximum Power Dissipation* at 25°C	
Cavity Package	1433 mW
Molded Package	1398 mW
Lead Temperature (Soldering, 10 seconds)	300°C

*Derate cavity package 9.55 mW/°C above 25°C; derate molded package 11.18 mW/°C above 25°C.

Operating Conditions

	MIN	MAX	UNITS
Supply Voltage, $V_{CC} - V_{BIAS}$	-45	-55	V
Temperature, T_A	0	+70	°C

Electrical Characteristics (Notes 2 and 3)

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
I_{IN} Input Current	$V_{BIAS} = \text{Min}$, $V_{IN} = -12V$	-0.6		-1.5	mA
I_{IH} Logical "1" Input Current	$V_{BIAS} = \text{Min}$, $V_{OL} = -2.0V$	-300			μA
I_{IL} Logical "0" Input Current	$V_{BIAS} = \text{Min}$, $V_{OUT} = -60V$, $I_{OUT} = -100\mu A$			-10	μA
I_{OH} Logical "1" Output Current	$V_{BIAS} = \text{Max}$, $I_{IN} = 0\mu A$, $V_{OH} = -55V$			-5	μA
V_{OL} Logical "0" Output Voltage	$I_{OL} = -16 \text{ mA}$, $I_{IH} = -300\mu A$			-2.0	V
V_{BD} Output Breakdown Voltage	$V_{BIAS} = \text{Max}$, $I_{IN} = 0\mu A$, $I_{OUT} = -100\mu A$	-60			V
I_{BIAS} Supply Current (Substrate)	$V_{BIAS} = \text{Max}$, $I_{IH} = -300\mu A$, $I_{OL} = -16 \text{ mA}$, (One Driver Only)			-1.0	mA

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 range for the DS8891A.

Note 3: All currents into device pins shown as positive, out of device pins as negative, all voltages referenced to $V_{CC} = 0V$, unless otherwise noted. All values shown as max or min on absolute value basis.