

FEATURES

- Low Operating Voltage $\pm 5\text{V}$ to $\pm 15\text{V}$
- $500\mu\text{A}$ Supply Current
- Zero Supply Current when Shut Down
- Outputs can be Driven $\pm 30\text{V}$
- Output "Open" when Off (3-State)
- 10mA Output Drive
- Pin Compatible with 1488
- Output of Several Devices can be Paralleled

APPLICATIONS

- RS232 Driver
- Micropower Interface
- Level Translator

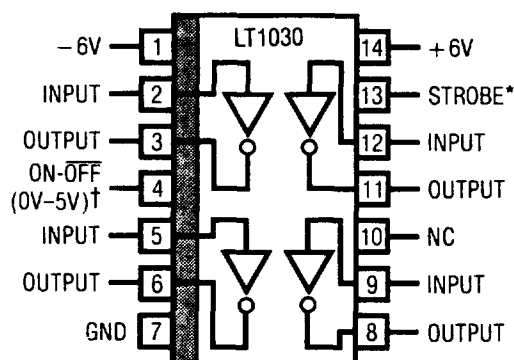
DESCRIPTION

The LT1030 is an RS232 line driver that operates over a $\pm 5\text{V}$ to $\pm 15\text{V}$ range on low supply current and can be shut down to zero supply current. Outputs are fully protected from externally applied voltages of $\pm 30\text{V}$ by current limiting. Since the output swings to within 200mV of the positive supply and 1V of the negative supply, power supply needs are minimized.

A major advantage of the LT1030 is the high impedance output state when off or powered down, which allows several different drivers on the same bus.

TYPICAL APPLICATION

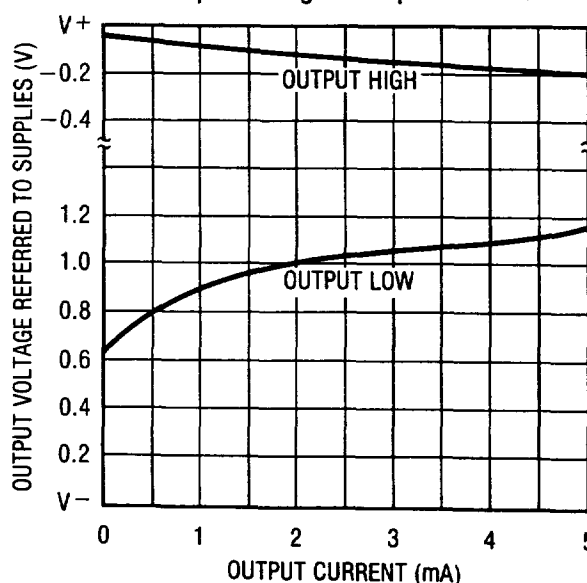
RS232 Line Driver



*NO CONNECTION NEEDED WHEN NOT USED.

†5V = ON.

Output Swing vs Output Current



ABSOLUTE MAXIMUM RATINGS

Supply Voltage	±15V
Logic Input Pins	V ⁻ to 25V
On-Off Pin	GND to 12V
Output (Forced)	V ⁻ + 30V, V ⁺ - 30V
Short Circuit Duration (to ±30V)	Indefinite
Operating Temperature Range	
LT1030C	0°C to 70°C
Guaranteed Functional by Design	-25°C to 85°C
Storage Temperature	-65°C to 150°C
Lead Temperature (Soldering, 10 sec)	300°C

PACKAGE/ORDER INFORMATION

<p>TOP VIEW</p> <p>S14 PACKAGE PLASTIC SO</p>	ORDER PART NUMBER
	LT1030CS
	PART MARKING
	LT1030CS

ELECTRICAL CHARACTERISTICS (Supply Voltage = ±5V to ±15V)

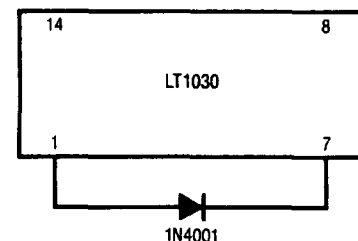
PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Supply Current	V _{ON-OFF} ≥ 2.4V, I _{OUT} = 0, All Outputs Low	●	500	1000	μA
Power Supply Leakage Current	V _{ON-OFF} ≤ 0.4V	●	1	10	μA
	V _{ON-OFF} ≤ 0.1V	●	10	150	μA
Output Voltage Swing	Load = 2mA, Positive	V ⁺ - 0.3V	V ⁺ - 0.1V		V
	Negative		V ⁻ + 0.9V	V ⁻ + 1.4V	V
Output Current	V _{SUPPLY} ±5V to ±15V	5	12		mA
Output Overload Voltage (Forced)	Operating or Shutdown	●	V ⁺ - 30V	V ⁻ + 30V	V
Output Current	Shutdown V _{OUT} = ±30V		2	100	μA
Input Overload Voltage (Forced)	Operating or Shutdown	●	V ⁻	15	V
Logic Input Levels	Low Input (V _{OUT} = High)	●	1.4	0.8	V
	High Input (V _{OUT} = Low)	●	2	1.4	V
Logic Input Current	V _{IN} > 2.0V		2	20	μA
	V _{IN} < 0.8V		10	20	μA
On-Off Pin Current	0 ≤ V _{IN} ≤ 5V	●	-10	30	μA
Slew Rate		4	15	30	V/μS

The ● denotes specifications which apply over the operating temperature range.

Note 1: 3V applied to the strobe pin will force all outputs low. Strobe pin input impedance is about 2k to ground. Leave open when not used.

PIN FUNCTIONS

PIN	FUNCTION	COMMENT
1	Minus Supply	Operates -2V to -15V
2,5,9,12	Logic Input	Operates properly on TTL or CMOS levels. Output valid from (V ⁻ + 2V) ≤ V _{IN} ≤ 15V. Connect to 5V when not used.
3,6,8,11	Output	Line drive output.
4	On-Off	Shuts down entire circuit. Cannot be left open. For "normally on" operation, connect between 5V-10V.
7	Ground	Ground must be more positive than V ⁻
13	Strobe	Forces all outputs low. Drive with 3V.
14		Positive supply 5V to 15V.



Note: As with other bipolar ICs, forward biasing the substrate diode can cause problems. The LT1030 will draw high current from V⁺ to ground if the V⁻ pin is open circuited or pulled above ground. If this is possible, connecting a diode from V⁻ to ground will prevent the high current state. Any low cost diode can be used.