Ordering number: EN 2846A

Monolithic Digital IC

NO.2846A

LB1731

High-Voltage, Current-Sink Output Driver

Overview

The LB1731 is a 4-channel high-voltage current sink output driver. Inputs are active-low CMOS/TTL logic-level, and outputs are high-voltage open-collector NPN Darlington pairs.
Each driver in the LB1731 sinks up to 1.5A and withstands collector voltages of up to 85V.
The LB1731 is available in a 16-pin DIP package.

Features

- Four independent high-voltage high-current drivers
- Output clamp diodes
- Input protection diodes
- 5V CMOS- and TTL-compatible logic-level inputs

Absolute Maximum Rating at Ta = 25°C

					unit
Maximum Supply Voltage	V_{DD} max			7.0	V
	V_{CC} max			82	V
Applied Output Voltage	V_O max			85	V
Applied Input Voltage	V_{IN} max	$V_{IN} \geqq$ GND	$V_{DD}-7.0$ to $V_{DD}+10.0$		V
Output Current	I_O max			1.5	A
Clamp Diode Forward Current	I_{FS}			1.5	A
Allowable Power Dissipation	Pd max	Package only		1.9	W
		With recommended circuit board pattern:		2.6W	
Operating Temperature	Topr		−20 to +75		°C
Storage Temperature	Tstg		−55 to +150		°C

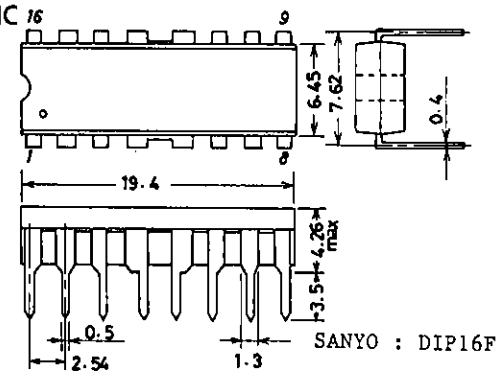
Allowable Operating Conditions at Ta = 25°C

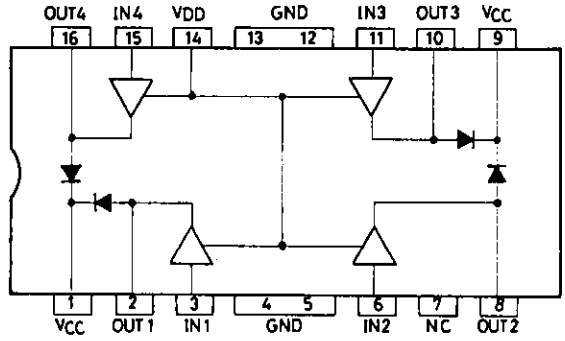
				unit
Power Supply Voltage Range	V_{DD}		3.5 to 7.0	V
Input ON-level Voltage	V_{IN} on	$V_{IN} \geqq$ GND, I_O = 1.0A	$V_{DD}-7.0$ to $V_{DD}-2.6$	V
Input OFF-level Voltage	V_{IN} off	$I_O \leqq 30\mu A$	$V_{DD}-0.3$ to $V_{DD}+10.0$	V

Electrical Characteristics at Ta = 25°C, V_{DD} = 5.0V

			min	typ	max	unit
Output Saturation Voltage	V_O sat1	$V_{IN} = V_{DD}-5.0V, I_O = 0.5A$			1.2	V
	V_O sat2	$V_{IN} = V_{DD}-5.0V, I_O = 1.0A$			1.5	V
	V_O sat3	$V_{IN} = V_{DD}-5.0V, I_O = 1.5A$			2.0	V
Output Sustain Voltage	$V_O$sus	I_O = 100mA	85			V
Input Current	I_{IN}	$V_{DD} = 7.0V, V_{IN} = V_{DD}-7.0V$			0.5	mA
Clamp Diode Forward Voltage	V_{FS}	I_{FS} = 1.5A			3.0	V
Clamp Diode Reverse Current	I_{RS}	V_{CC} = 82V, V_O = 0V			30	μA

Package Dimensions 3054A-D16FNIC
(unit : mm)

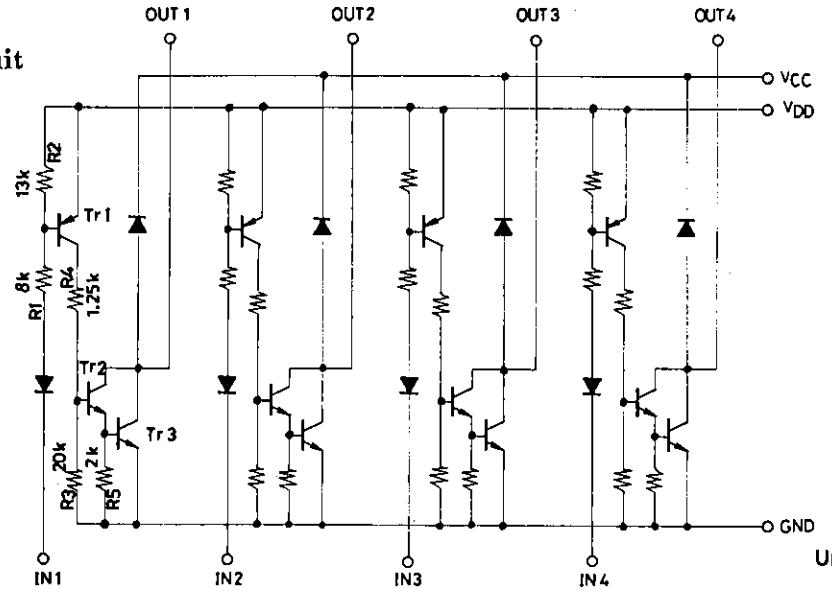




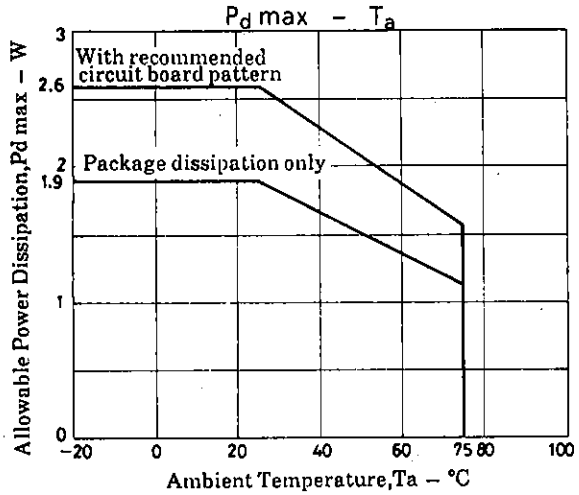
Do not use no-connection (NC) pins.

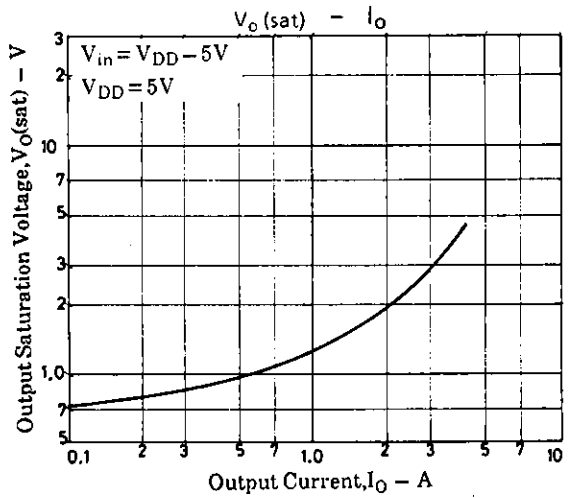
Pins 1 and 9 are shorted internally.

Equivalent Circuit

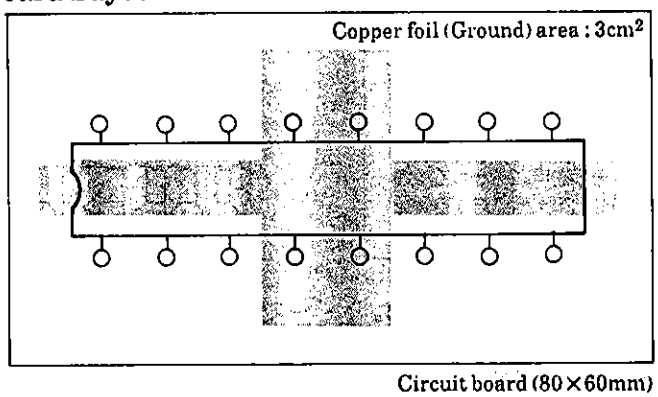


Unit (capacitance: F)





Recommended Circuit Board Layout



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