



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

Bi-CMOS LSI

LV8082LP — Constant-voltage 1ch + Constant-current 1ch H-Bridge

Overview

The LV8082LP is a Constant-voltage 1ch + Constant-current 1ch driver that supports low-voltage operation. It is optimal for constant-voltage and constant-current drive of voice coil motors (AF and Shutter) in portable equipment such as camera cell phones.

Features

- Constant-voltage 1ch + Constant-current 1ch H-bridge driver
- Built-in power supply switch and position detection comparator for use with a photoreflector
- Implemented in a low-power MOS IC process.
- Ultraminiature easy to solder VCT16 package (2.6 × 2.6mm)
- Built-in thermal protection and low-voltage sensing circuits

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V _{CC} max		6.5	V
Output voltage	V _{OUT} max	OUT1, OUT2, OUT3, OUT4	6.5	V
Input voltage	V _{IN} max	IN1, IN2, IN3, IN4	-0.3 to +6.5	V
Ground pin source current	IGND	Per channel	400	mA
Allowable power dissipation	Pd max	Mounted on a circuit board.*	700	mW
Operating temperature	T _{opr}		-30 to +85	°C
Storage temperature	T _{stg}		-40 to +150	°C

* Specified circuit board : 50×40×0.8mm³ : 4-layer (2S2P) glass epoxy printed circuit board

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LV8082LP

Allowable Operating Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	V _{CC}		2.5 to 6.0	V
High-level input voltage	V _{IH}	IN1, IN2, IN3, IN4	0.53V _{CC} or more	V
Low-level input voltage	V _{IL}		Up to 0.2V _{CC}	V

Electrical Characteristics at Ta = 25°C, V_{CC} = 3.0V

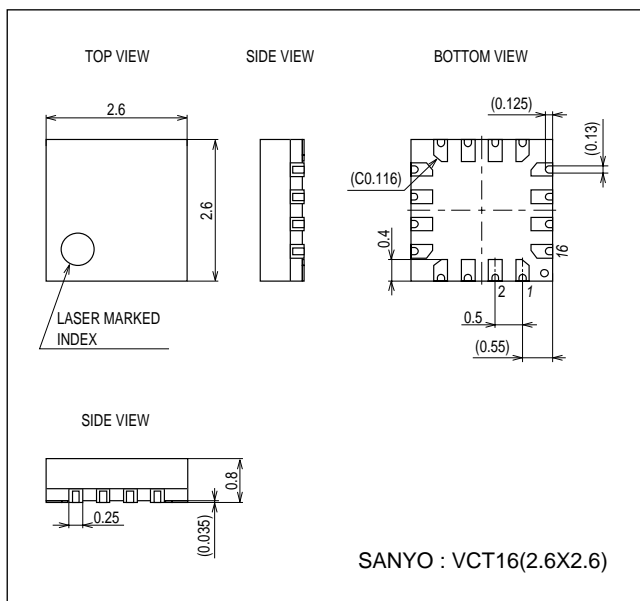
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Current drain	I _{CCO}	IN = 0V		0.1	1	μA
	I _{CCO1}	IN = 3V		0.7	1	mA
Output on resistance	Ron1	V _{CC} = 3.0V (High and low side total) IN = 3.0V, I _{OUT} = 100mA		2.0	3.0	Ω
	Ron2	V _{CC} = 5.0V (High and low side total) IN = 5.0V, I _{OUT} = 100mA		1.50	2.0	Ω
Constant-voltage output 1	V _{OUT1}	VC = 1V, V _{CC} = 3.0V	1.94	2.0	2.06	V
Constant-current output 1	I _{OUT1}	Between RFG and ground : 1Ω	95	100	105	mA
Constant-current output 2	I _{OUT2}	Between RFG and ground : 0.5Ω (Design specification)	190	200	210	mA
Output turn-on time	Trise	With RFG shorted to ground (Design specification)		1.5	3	μs
Output turn-off time	Tfall	With RFG shorted to ground (Design specification)		0.2	0.65	μs
Comparator threshold high-level voltage	V _H			1.3	1.37	V
Comparator threshold Low-level voltage	V _L		0.86	0.91		V
Comparator hysteresis	V _{hys}			0.39		V
Input current	I _{IN}	V _{IN} = 3V		15	30	μA

Note : The design specification items are design guarantees and are not measured.

Package Dimensions

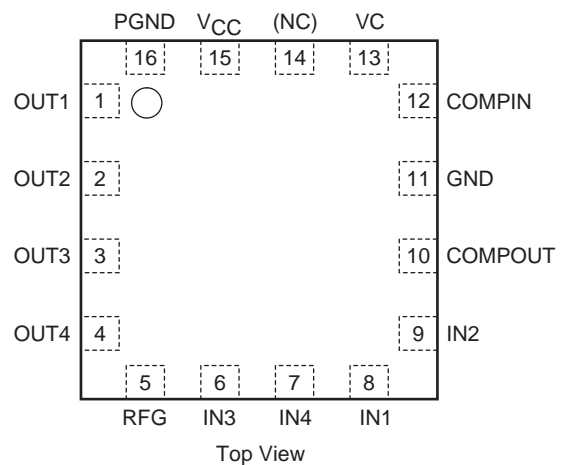
unit : mm (typ)

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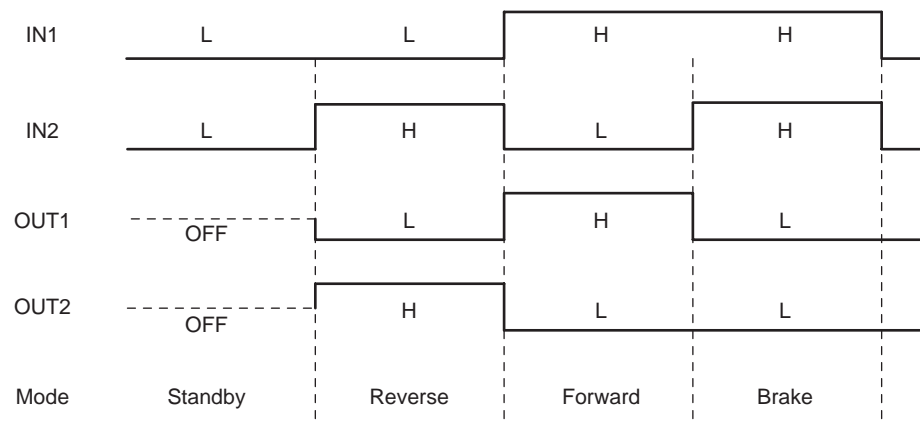
Pin Assignment

(VCT16)

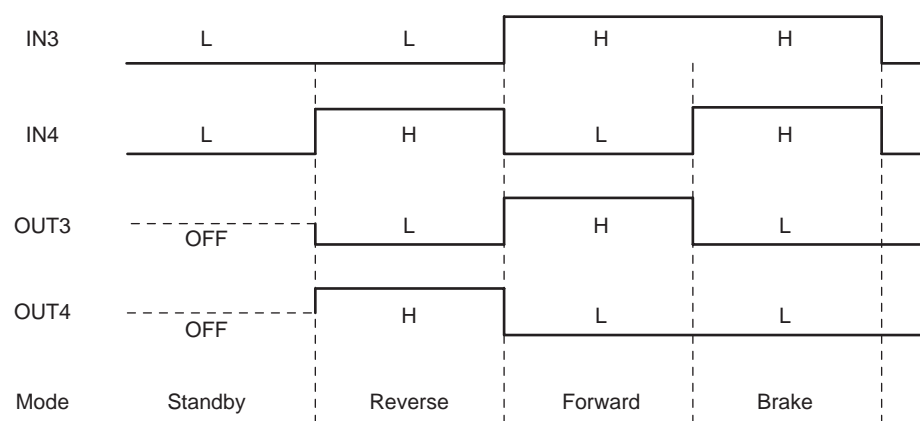


Timing Chart

(1) Constant voltage channel timing chart

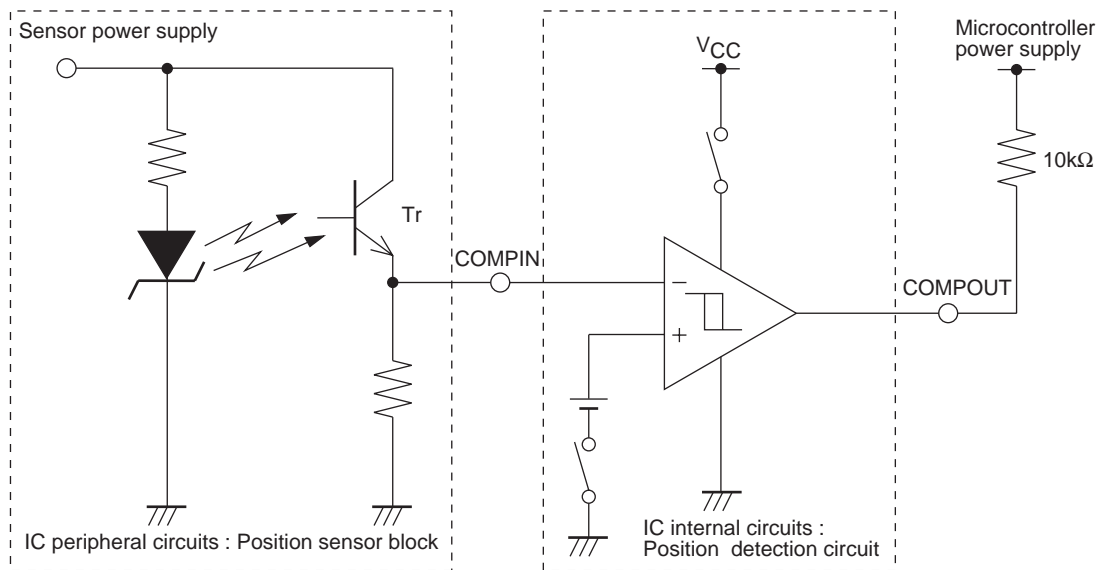


(2) Constant current channel timing chart

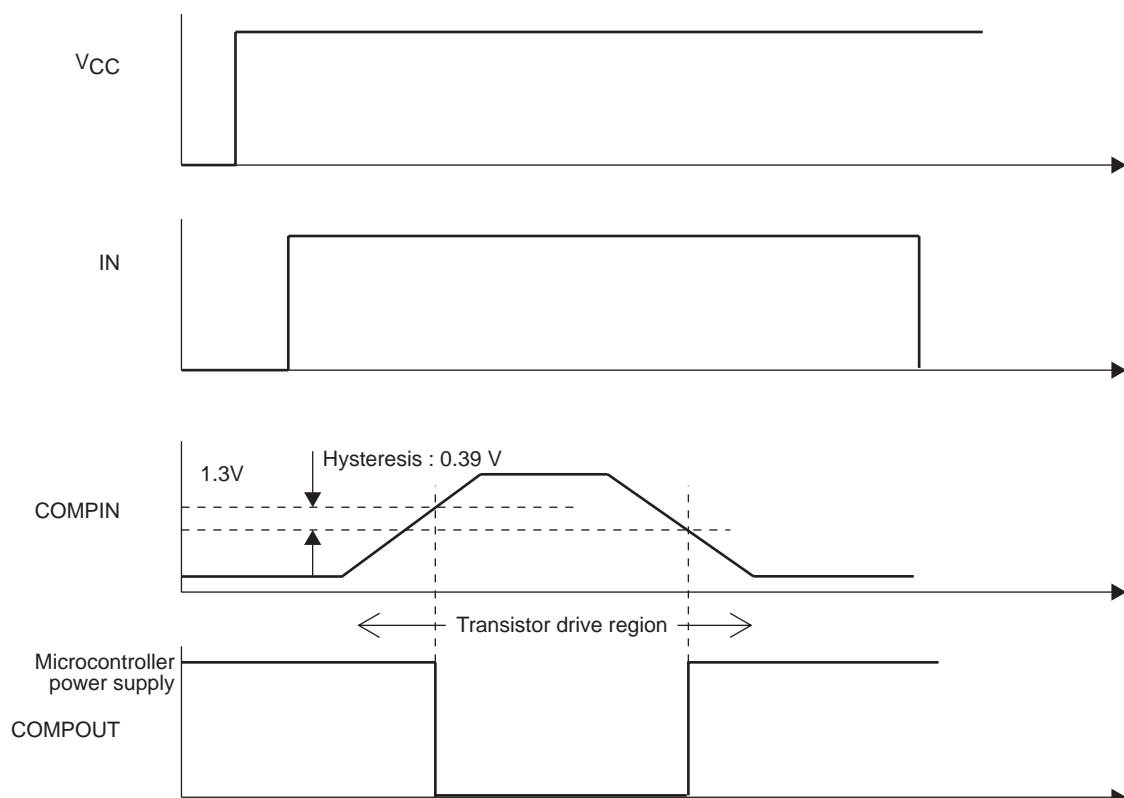


Photosensor Position Detection Application Circuit Example

(a) Application circuit



(b) Timing chart



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