Ordering number:ENN1367B

Monolithic Digital IC

LB1247

Active-Low Input, 8-Unit, High-Current, Low-Saturation Driver

Overview

The LB1247 is a low active input type 8-unit driver array with high current, low saturation output.

Applications

- 4-phase stepping motor driver of 2 channels.
- Especially suited for X-Y axis plotter printer driver.
- High current, low saturation voltage general-purpose 8-unit driver (relay, LED, lamp solenoid, etc.).

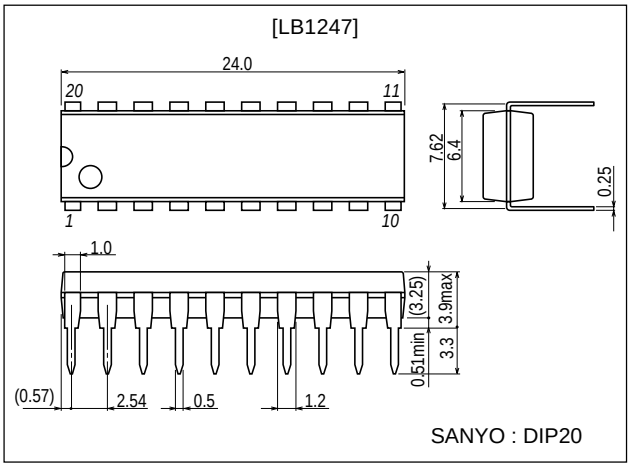
Features

- Low active input type.
- Input protecting diodes.
- High current capacity (400mA) and low saturation voltage (0.5V max).
- With spark killer diodes.

Package Dimensions

unit:mm

3021C-DIP20



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC}1,2 max		–0.3 to +7.0	V
Output supply voltage	V_{OUT}		–0.3 to +10.0	V
Input supply voltage	V_{IN}	GND≤V_{IN}	V_{DD}–7.0 to V_{DD}+15	V
Output current	I_{OUT}	Per unit	400	mA
Spark killer diode forward current	I_{FSM}	Pulse width≤35ms, duty 5%	400	mA
GND pin current	I_{GND}	Pulse width≤35ms	3000	mA
Instantaneous current drain	I_{CCP}	Pulse width≤35ms, duty 5%	3000	mA
Allowable power dissipation	Pd max		1130	mW
Operating temperature	Topr		–20 to +75	˚C
Storage temperature	Tstg		–40 to +125	˚C

Allowable Operating Ranges at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	V_{CC}1		2.3 to 6.0	V
	V_{DD}		2.3 to 6.0	V
Input H-level voltage	V_{IH}	GND≤V_{IN}, I_{OUT}=200mA	V_{DD}–6.0 to V_{DD}–2.3	V
Input L-level voltage	V_{IL}	I_{OUT}≤100μA	V_{DD}–0.7 to V_{DD}+15	V

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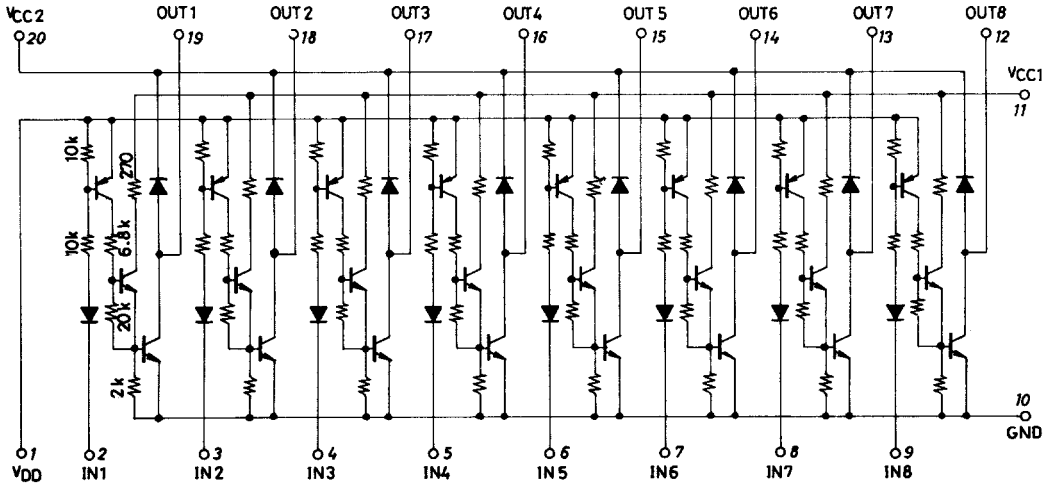
Electrical Characteristics at Ta = 25°C, $V_{DD}=V_{CC1}=V_{CC}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output voltage	V_{OUT1}	V_{CC}=2.3V, $V_{IN}=V_{CC}$–2.3V, I_{OUT}=200mA			0.4	V
	V_{OUT2}	V_{CC}=3.5V, $V_{IN}=V_{CC}$–3.0V, I_{OUT}=200mA			0.25	V
	V_{OUT3}	V_{CC}=6.0V, $V_{IN}=V_{CC}$–5.5V, I_{OUT}=400mA			0.5	V
Output sustain voltage	$V_{O(SUS)}$	I_{OUT}=400mA, t ≤10μs	10			V
Input current	I_{IN}	$V_{IN}=V_{CC}$–6.0V, I_{OUT}=0	–1.0			mA
Supply leakage current	$I_{CC(OFF)}$	V_{CC}=6.0V, $V_{IN}=V_{CC}$			20	μA
Output leakage current	I_{OFF}	$V_{OUT}=V_{CC}$=6.0V, $V_{IN}=V_{CC}$=–0.7V			100	μA
Spark killer diode forward voltage	$V_{F(S)}$	$I_{F(S)}$=400mA			3.0	V
Spark killer diode reverse voltage	$I_{R(S)}$	V_{OUT}=0V, V_{CC2}=6.0V			30	μA

Equivalent Circuit



Unit (resistance: Ω)