



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.).

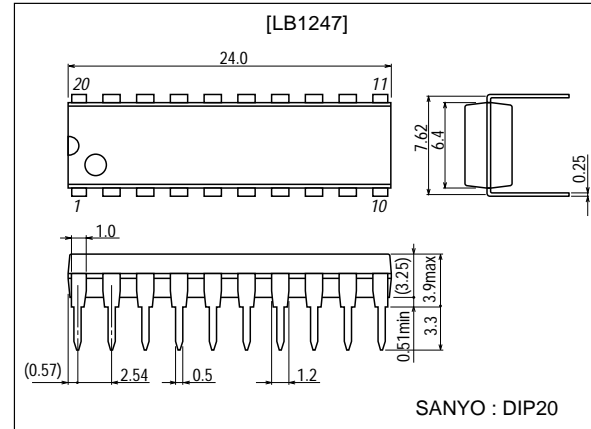
Features

- 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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC1,2 \text{ max}}$		-0.3 to +7.0	V
Output supply voltage	V_{OUT}		-0.3 to +10.0	V
Input supply voltage	V_{IN}	$GND \leq V_{IN}$	$V_{DD} - 7.0$ to $V_{DD} + 15$	V
Output current	I_{OUT}	Per unit	400	mA
Spark killer diode forward current	I_{FSM}	Pulse width $\leq 35\text{ms}$, duty 5%	400	mA
GND pin current	I_{GND}	Pulse width $\leq 35\text{ms}$	3000	mA
Instantaneous current drain	I_{CCP}	Pulse width $\leq 35\text{ms}$, duty 5%	3000	mA
Allowable power dissipation	$P_d \text{ max}$		1130	mW
Operating temperature	T_{opr}		-20 to +75	$^\circ\text{C}$
Storage temperature	T_{stg}		-40 to +125	$^\circ\text{C}$

Allowable Operating Ranges at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	V_{CC1}		2.3 to 6.0	V
	V_{DD}		2.3 to 6.0	V
Input H-level voltage	V_{IH}	$GND \leq V_{IN}$, $I_{OUT} = 200\text{mA}$	$V_{DD} - 6.0$ to $V_{DD} - 2.3$	V
Input L-level voltage	V_{IL}	$I_{OUT} \leq 100\mu\text{A}$	$V_{DD} - 0.7$ to $V_{DD} + 15$	V

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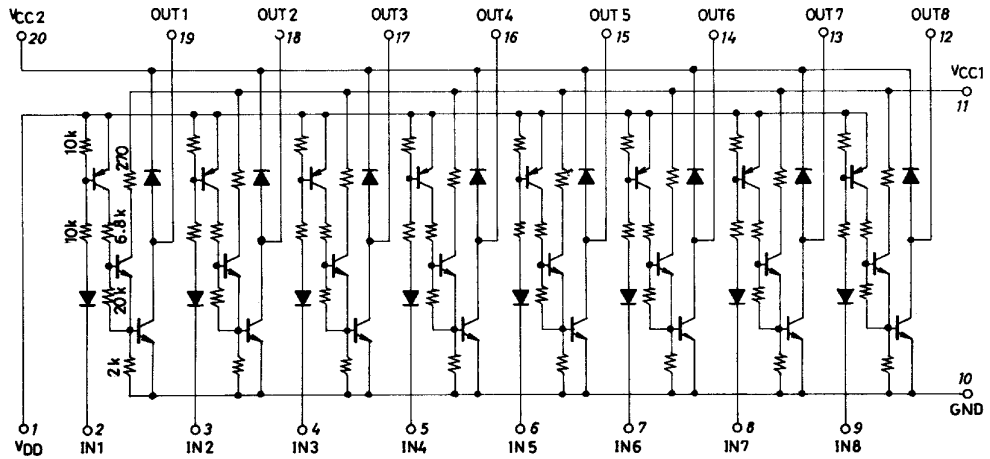
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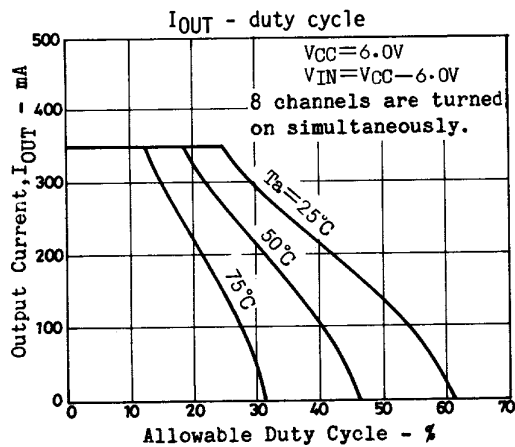
Electrical Characteristics at $T_a = 25^\circ\text{C}$, $V_{DD}=V_{CC1}=V_{CC}$

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

Equivalent Circuit



Unit (resistance: Ω)



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