



# LB1246

## Active-Low Input Printer Driver

### Overview

The LB1246 is a 7-channel driver array with large current, low saturation output and contains a motor driver with brake circuit. It is suited for use in low active input, low voltage, large current driver applications.

### Features

- Low active input type.
- Large current capacity (400mA) and low saturation output voltage (0.5V max at 400mA).
- Motor driver with spark killer.
- Input protecting diode.
- Especially suited for battery-operated printer drivers of various types.

### Specifications

#### Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

| Parameter                          | Symbol        | Conditions                               | Ratings                         | Unit             |
|------------------------------------|---------------|--|---------------------------------|------------------|
| Maximum supply voltage             | $V_{CC\ max}$ |  | -0.3 to +7.0                    | V                |
| Output supply voltage              | $V_{OUT}$     |  | -0.3 to +10                     | V                |
| Input supply voltage               | $V_{IN}$      | $GND \leq V_{IN}$                        | $V_{CC} - 7.0$ to $V_{CC} + 15$ | 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 $\leq 35\text{ms}$           | 3200                            | mA               |
| Instantaneous current drain        | $I_{CCP}$     | Pulse width $\leq 35\text{ms}$ , duty 5% | 400                             | mA               |
| Allowable power dissipation        | $P_d\ max$    |  | 1130                            | mW               |
| Operating temperature              | $T_{opr}$     |  | -20 to +75                      | $^\circ\text{C}$ |
| Storage temperature                | $T_{stg}$     |  | -40 to +125                     | $^\circ\text{C}$ |

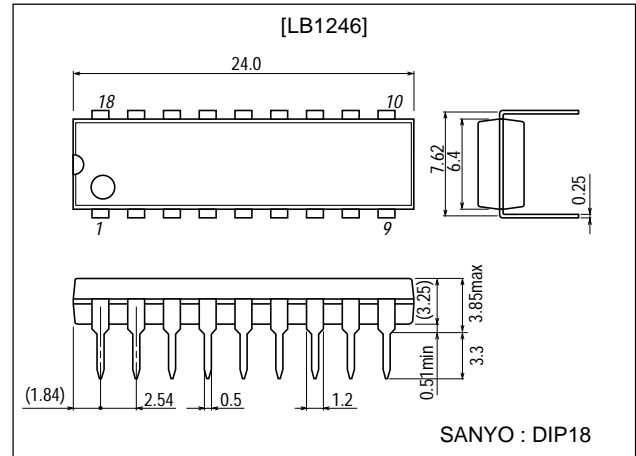
#### Allowable Operating Ranges at $T_a = 25^\circ\text{C}$

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

### Package Dimensions

unit:mm

3007B-DIP18



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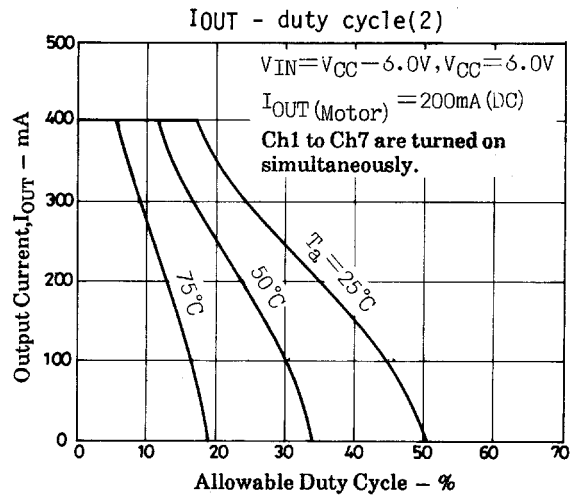
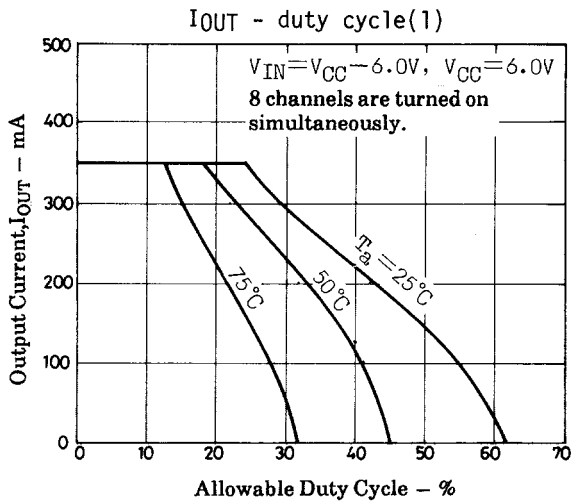
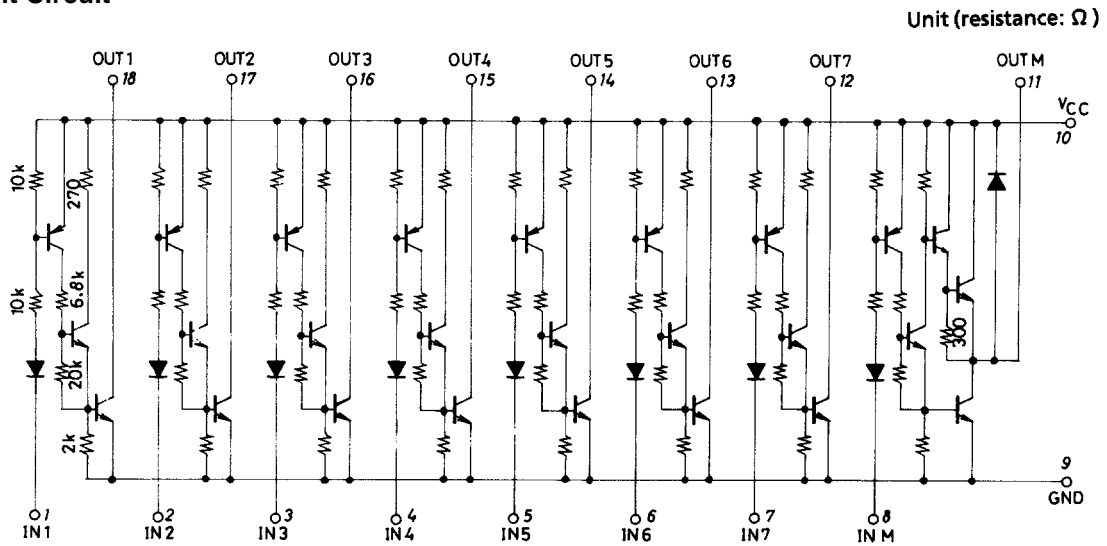
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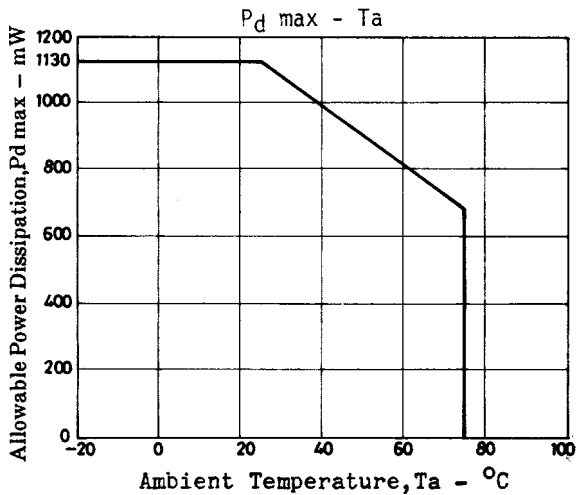
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## Electrical Characteristics at Ta = 25°C

| Parameter                          | Symbol               | Conditions   | Ratings |     |      | Unit |
|------------------------------------|----------------------|--|---------|-----|------|------|
|                                    |                      |  | min     | typ | max  |      |
| Output voltage                     | V <sub>OUT1</sub>    | V <sub>CC</sub> =2.3V, V <sub>IN</sub> =V <sub>CC</sub> -2.3V, I <sub>OUT</sub> =200mA |         |     | 0.4  | V    |
|                                    | V <sub>OUT2</sub>    | V <sub>CC</sub> =3.5V, V <sub>IN</sub> =V <sub>CC</sub> -3.0V, I <sub>OUT</sub> =200mA |         |     | 0.25 | V    |
|                                    | V <sub>OUT3</sub>    | V <sub>CC</sub> =6.0V, V <sub>IN</sub> =V <sub>CC</sub> -5.5V, I <sub>OUT</sub> =400mA |         |     | 0.25 | V    |
| Output sustain voltage             | V <sub>O(SUS)</sub>  | I <sub>OUT</sub> =400mA  | 10      |     |      | V    |
| Input current                      | I <sub>IN</sub>      | V <sub>CC</sub> =6.0V, V <sub>IN</sub> =V <sub>CC</sub> -6.0V                          | -1.0    |     |      | mA   |
| Supply leakage current             | I <sub>CC(OFF)</sub> | V <sub>IN</sub> =V <sub>CC</sub> =6.0V   |         |     | 20   | μA   |
| Output leakage current             | I <sub>OFF</sub>     | V <sub>OUT</sub> =V <sub>CC</sub> =6.0V, V <sub>IN</sub> =V <sub>CC</sub> =-0.7V       |         |     | 100  | μA   |
| Spark killer diode forward voltage | V <sub>F(S)</sub>    | I <sub>F(S)</sub> =400mA   |         |     | 3.0  | V    |

## Equivalent Circuit





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