



SANYO Semiconductors

DATA SHEET

LB1205

Monolithic Digital IC High-Voltage, Large-Current Darlington Driver

Overview

The LB1205 is a 4-unit, high withstand voltage (65V), large-current (1.5A) Darlington driver array with input low active configuration and sync output.

Features

- 4-unit, high withstand voltage design (65V), large-current (1.5A) Darlington driver.
- PNP input type (low active).
- On-chip spark killer diodes.
- On-chip input protection diodes.
- Capable of being driven directly from 5V operated CMOS, TTL.

Specifications

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

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------------|--------------|--------------------------------|-------------------------------|------------------|
| Maximum supply voltage | V_{DD} max | | 7.0 | V |
| | V_{CC} max | | 62 | V |
| Output supply voltage | V_O max | | 65 | V |
| Input supply voltage | V_{IN} max | $V_{IN} \geq \text{GND}$ | $V_{DD}-7.0$ to $V_{DD}-10.0$ | V |
| Output current | I_O max | | 1.5 | A |
| Spark killer diode forward current | I_{FS} | | 1.5 | A |
| Allowable power dissipation | P_d max | Independent IC | 1.9 | W |
| | | Mounted on the recommended PCB | 2.6 | W |
| Operating temperature | T_{opr} | | -20 to +75 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | | -55 to +150 | $^\circ\text{C}$ |

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LB1205

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

| Parameter | Symbol | Conditions | Ratings | Unit |
|---------------------------|-------------|---|-------------------------------|------|
| Supply voltage range | V_{DD} | | 3.5 to 7.0 | V |
| Input "ON" level voltage | V_{INon} | $V_{IN} \geq \text{GND}, I_O = 1.0\text{A}$ | $V_{DD}-7.0$ to $V_{DD}-2.6$ | V |
| Input "OFF" level voltage | V_{INoff} | $I_O \leq 30\mu\text{A}$ | $V_{DD}-0.3$ to $V_{DD}+10.0$ | V |

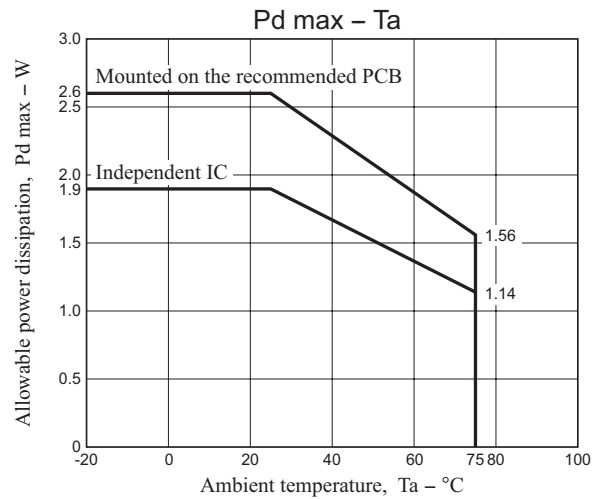
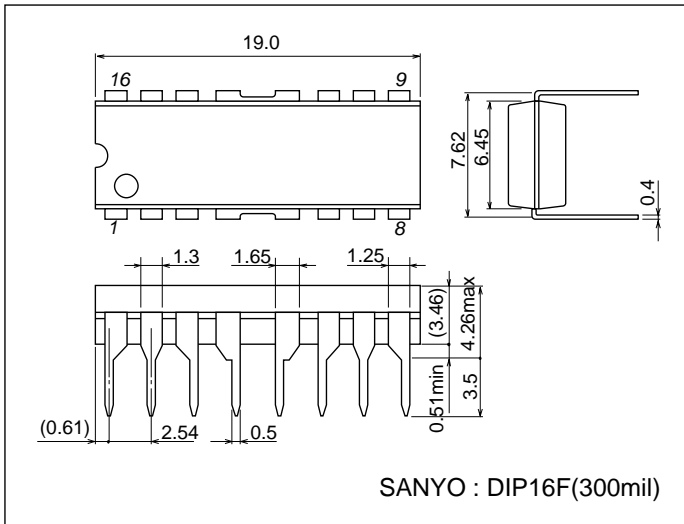
Electrical Characteristics at $T_a = 25^\circ\text{C}, V_{DD} = 5\text{V}$

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|------------------------------------|-------------|---|---------|-----|-----|---------------|
| | | | min | typ | max | |
| Output saturation voltage | V_{Osat1} | $V_{IN} = V_{DD}-5.0\text{V}, I_O = 0.5\text{A}$ | | | 1.2 | V |
| | V_{Osat2} | $V_{IN} = V_{DD}-5.0\text{V}, I_O = 1.0\text{A}$ | | | 1.5 | V |
| | V_{Osat3} | $V_{IN} = V_{DD}-5.0\text{V}, I_O = 1.5\text{A}$ | | | 2.0 | V |
| Output sustain voltage | V_{Osus} | $I_O = 100\text{mA}$ | 65 | | | V |
| Input current | I_{IN} | $V_{DD} = 7.0\text{V}, V_{IN} = V_{DD}-7.0\text{V}$ | | | 1.0 | mA |
| Spark killer diode forward voltage | V_{FS} | $I_{FS} = 1.5\text{A}$ | | | 3.0 | V |
| Spark killer diode reverse current | I_{RS} | $V_{CC} = 62\text{V}, V_O = 0\text{V}$ | | | 30 | μA |

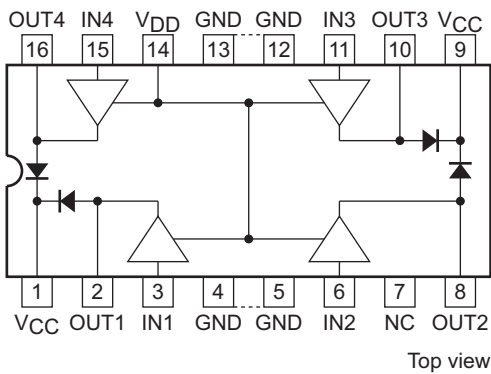
Package Dimensions

unit : mm (typ)

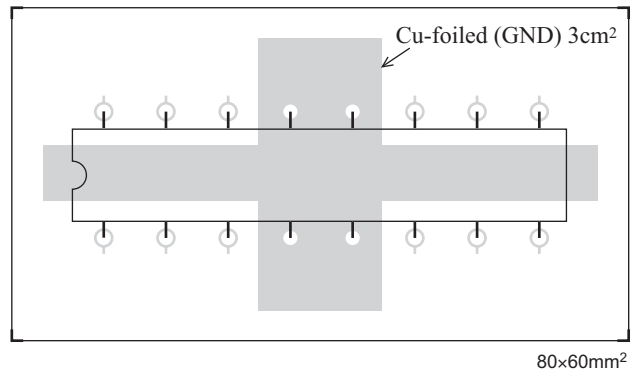
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Pin Assignment

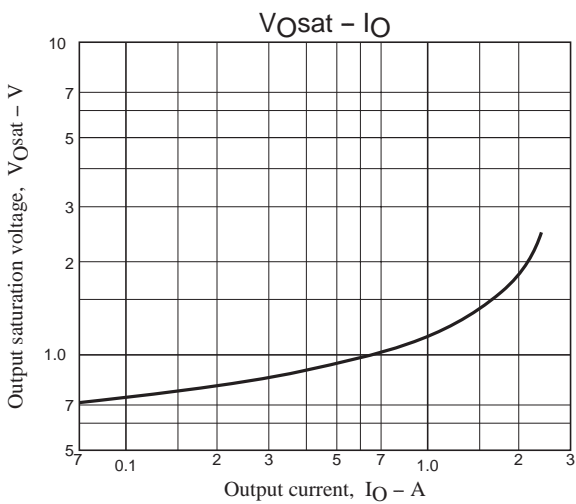
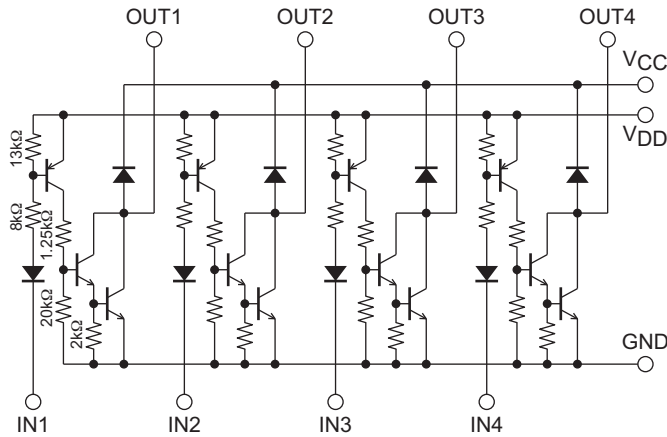


Recommended PCB



Note: V_{CC} (pins 1 and 9) is shorted internally.

Equivalent Circuit



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