



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

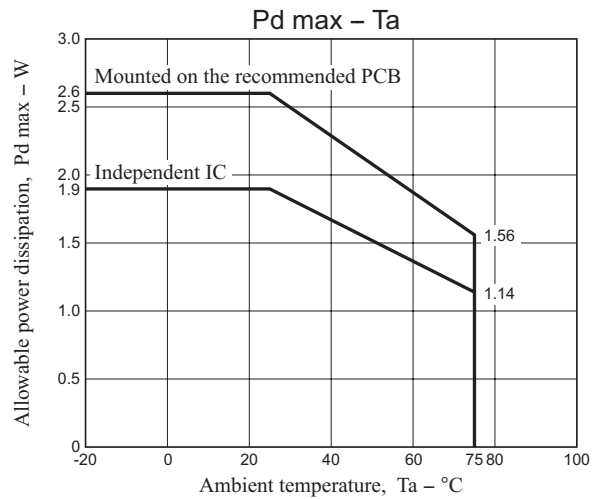
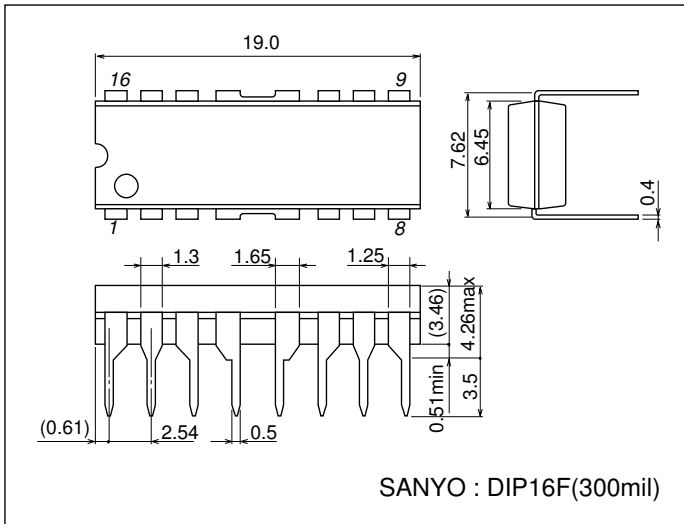
Electrical Characteristics at $T_a = 25^\circ\text{C}, V_{DD} = 5\text{V}$

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

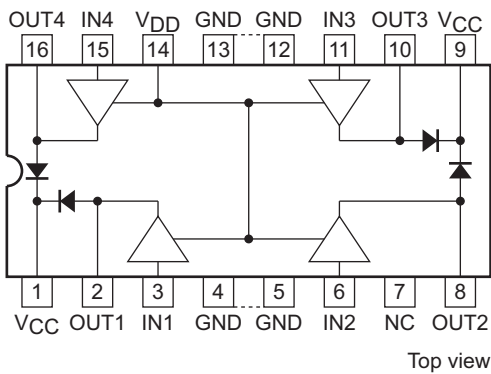
Package Dimensions

unit : mm (typ)

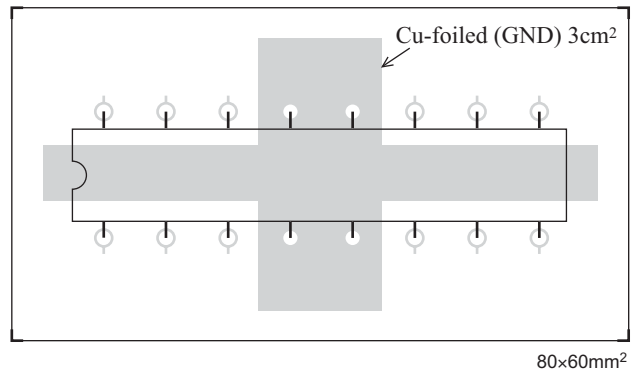
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Pin Assignment

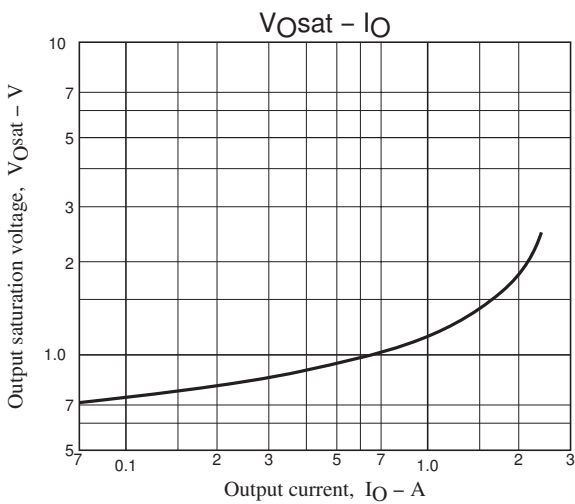
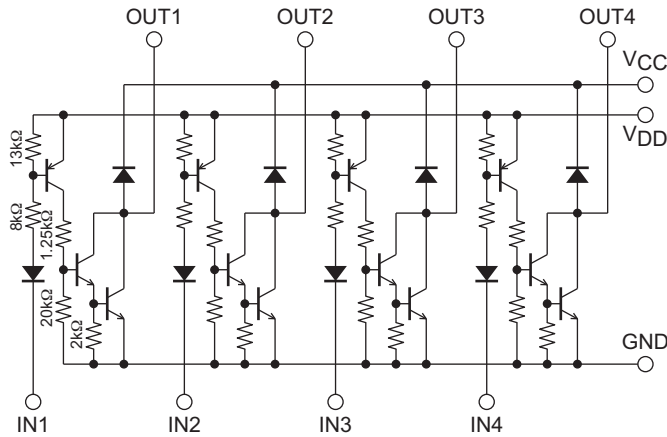


Recommended PCB



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

Equivalent Circuit



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