LB1205

Monolithic Digital IC

High-Voltage, Large-Current Darlington Driver



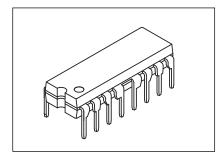
http://onsemi.com

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.



DIP16F(300mil)

Specifications

Absolute Maximum Ratings at Ta = 25°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	$V_{IN} \ge GND$	V _{DD} -7.0 to V _{DD} -10.0	V
Output current	I _O max		1.5	Α
Spark killer diode forward current	I _{FS}		1.5	Α
Allowable power dissipation	Pd max	Independent IC	1.9	W
		Mounted on the recommended PCB	2.6	W
Operating temperature	Topr		-20 to +75	°C
Storage temperature	Tstg		-55 to +150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

Allowable Operating Conditions at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage range	V_{DD}		3.5 to 7.0	V
Input "ON" level voltage	V _{IN} on	$V_{IN} \ge GND$, $I_O = 1.0A$	V _{DD} -7.0 to V _{DD} -2.6	V
Input "OFF" level voltage	V _{IN} off	I _O ≤ 30μA	V _{DD} -0.3 to V _{DD} +10.0	V

Functional operation above the stresses listed in the Recommended Operating Ranges is not implied. Extended exposure to stresses beyond the Recommended Operating Ranges limits may affect device reliability.

ORDERING INFORMATION

See detailed ordering and shipping information on page 4 of this data sheet.

Electrical Characteristics at Ta = 25°C, $V_{DD} = 5V$

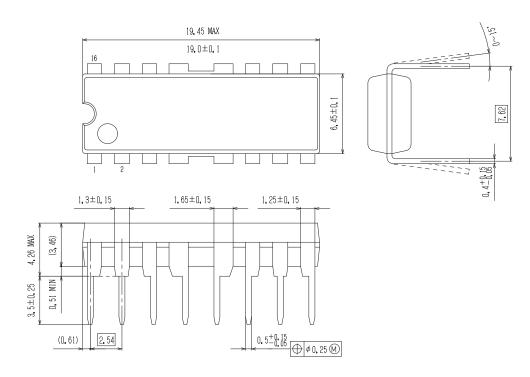
Parameter	Symbol	Conditions	Ratings			11.2
			min	typ	max	Unit
Output saturation voltage	V _O sat1	$V_{IN} = V_{DD}$ -5.0V, $I_{O} = 0.5A$			1.2	V
	V _O sat2	$V_{IN} = V_{DD}$ -5.0V, $I_{O} = 1.0A$			1.5	V
	V _O sat3	$V_{IN} = V_{DD}$ -5.0V, $I_{O} = 1.5A$			2.0	V
Output sustain voltage	V _O sus	I _O = 100mA	65			V
Input current	I _{IN}	$V_{DD} = 7.0V, V_{IN} = V_{DD} - 7.0V$			1.0	mA
Spark killer diode forward voltage	V _{FS}	I _{FS} = 1.5A			3.0	V
Spark killer diode reverse current	I _{RS}	$V_{CC} = 62V, V_O = 0V$			30	μА

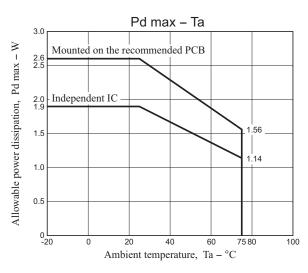
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

Package Dimensions

unit: mm

PDIP16 FUSED LEADS / DIP16F (300 mil) CASE 646AQ ISSUE O

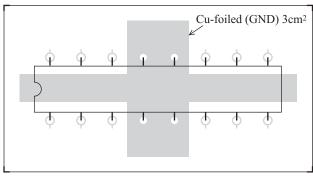




Pin Assignment

OUT4 IN4 VDD GND GND IN3 OUT3 VCC 13 10 16 15 14 12 11 4 2 3 5 6 8 VCC OUT1 IN1 GND GND NC OUT2 IN2 Top view

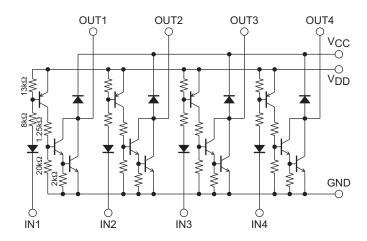
Recommended PCB

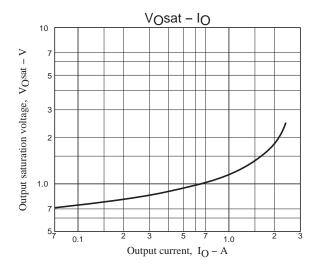


 $80 \times 60 \text{mm}^2$

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

Equivalent Circuit





LB1205

ORDERING INFORMATION

Device	Package	Shipping (Qty / Packing)
LB1205-E	DIP16F(300mil) (Pb-Free / Halogen Free)	25 / Fan-Fold
LB1205-L-E	DIP16F(300mil) (Pb-Free / Halogen Free)	25 / Fan-Fold
LB1205L-E	DIP16F(300mil) (Pb-Free / Halogen Free)	25 / Fan-Fold
LB1205Z-E	DIP16F(300mil) (Pb-Free / Halogen Free)	25 / Fan-Fold

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