



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

LB1205M — Monolithic Digital IC High-Voltage, Large-Current Darlington Driver

Overview

The LB1205M 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	0.65	W
		Mounted on the recommended PCB	1.7	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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LB1205M

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 _{INon}	V _{IN} ≥ GND, I _O = 1.0A	V _{DD} -7.0 to V _{DD} -2.6	V
Input "OFF" level voltage	V _{INoff}	I _O ≤ 30μA	V _{DD} -0.3 to V _{DD} +10.0	V

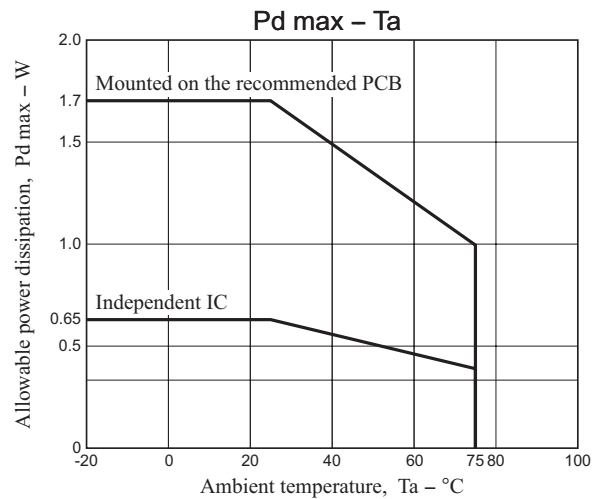
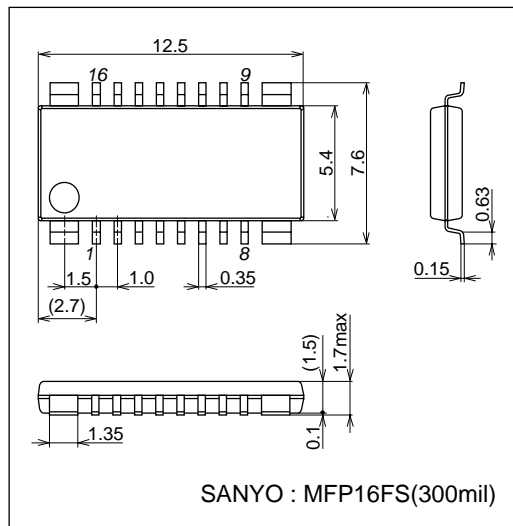
Electrical Characteristics at Ta = 25°C, V_{DD} = 5V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output saturation voltage	V _{OSat1}	V _{IN} = V _{DD} -5.0V, I _O = 0.5A			1.2	V
	V _{OSat2}	V _{IN} = V _{DD} -5.0V, I _O = 1.0A			1.5	V
	V _{OSat3}	V _{IN} = V _{DD} -5.0V, I _O = 1.5A			2.0	V
Output sustain voltage	V _{OSus}	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	μA

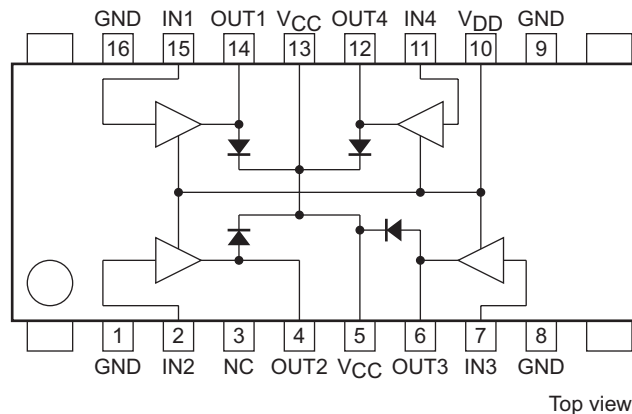
Package Dimensions

unit : mm (typ)

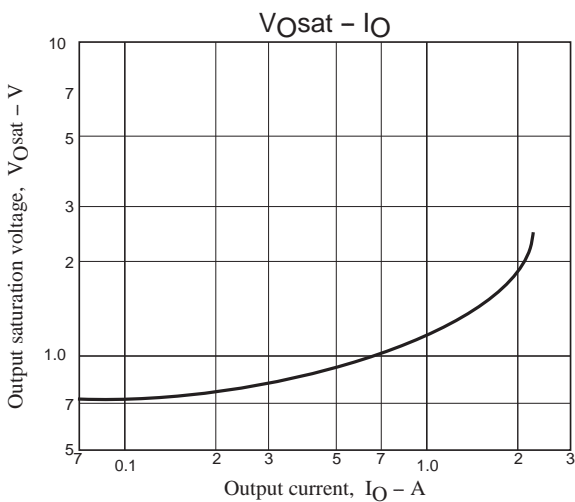
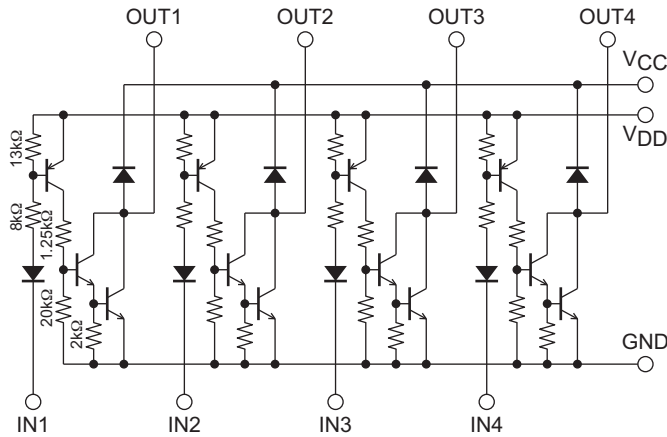
3097B



Pin Assignment



Equivalent Circuit



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