Ordering number : EN5916

Monolithic Digital IC

LB1205M

High-Voltage/Large-Current Darlington Driver

Overview

The LB1205M is a four-channel, high withstand voltage (65V), large-current (1.5A) Darlington driver array with input low active configuration and sync output.

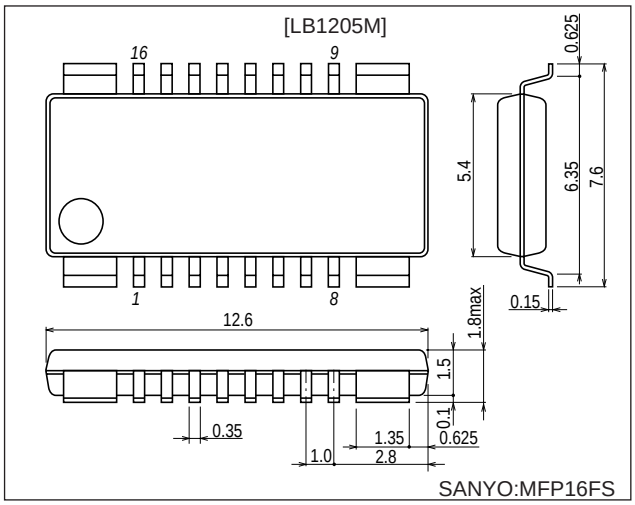
Features

- 4-channel, high withstand voltage design (65V), large-current (1.5A) Darlington driver.
- PNP input type (low active)
- Built-in spark killer diode
- Built-in input protection diode
- Direct drive capable with 5V TTL, CMOS output

Package Dimensions

unit:mm

3097-MFP16FS



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
Applied output voltage	V_O max		65	V
Applied input voltage	V_{IN} max	V_{IN} ≥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	Pd max	1.7W when mounted on a recommended PCB	0.63	W
Operating temperature	Topr		–20 to +75	°C
Storage temperature	Tstg		–55 to +150	°C

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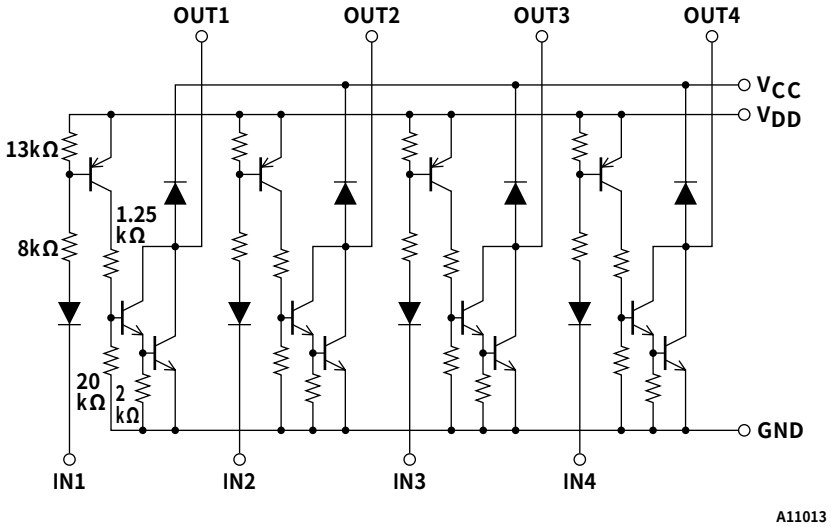
Allowable Operating Ranges at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Power supply voltage	V_{DD}		3.5 to 7.0	V
Input ON level voltage	V_{INon}	$V_{IN} \geq$ GND, I_O = 1.0A	V_{DD} – 7.0 to V_{DD} – 2.6	V
Input OFF level voltage	V_{INoff}	$I_O \leq$ 30 μA	V_{DD} – 0.3 to V_{DD} + 10.0	V

Electrical Characteristics at Ta = 25°C, V_{DD} = 5.0V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output saturation voltage	V_O(sat)1	V_{IN} = V_{DD} – 5.0V, I_O = 0.5A			1.2	V
	V_O(sat)2	V_{IN} = V_{DD} – 5.0V, I_O = 1.0A			1.5	V
	V_O(sat)3	V_{IN} = V_{DD} – 5.0V, I_O = 1.5A			2.0	V
Output sustain voltage	$V_O$sus	I_O = 100 mA	65			V
Input current	I_{IN}	V_{DD} = 7.0V, V_{IN} = V_{DD} – 7.0V			1.0	mA
Spark killer diode forward current	V_{FS}	I_{FS} = 1.5A			3.0	V
Spark killer backward voltage	I_{RS}	V_{CC} = 62V, V_O = 0V			30	μA

Equivalent Circuit



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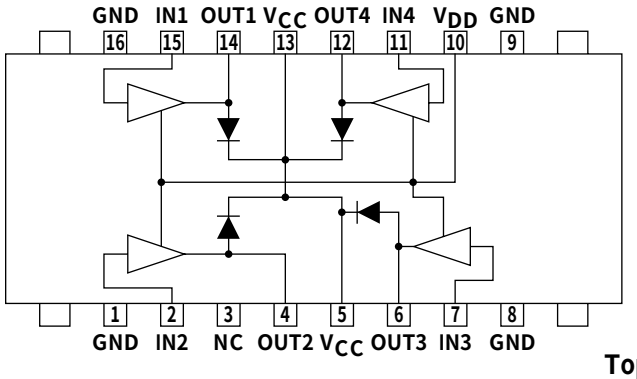
Pin Assignment



Top view

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