



# 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.

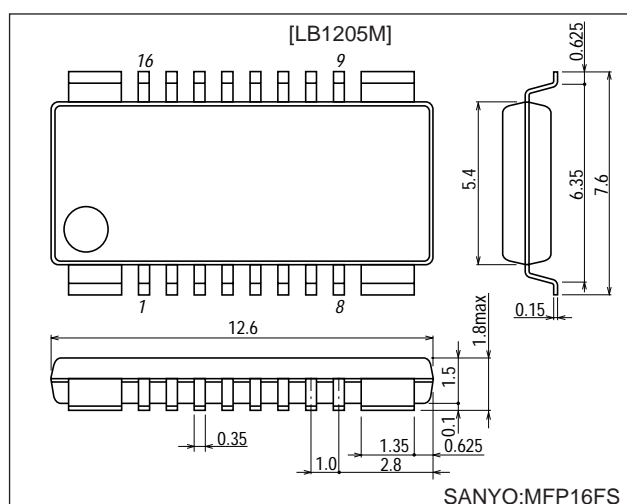
### Features

- 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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{DD\ max}$		7.0	V
	$V_{CC\ max}$		62	V
Applied output voltage	$V_O\ max$		65	V
Applied input voltage	$V_{IN\ max}$	$V_{IN} \geq GND$	$V_{DD} - 7.0$ 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	$P_d\ max$	1.7W when mounted on a recommended PCB	0.63	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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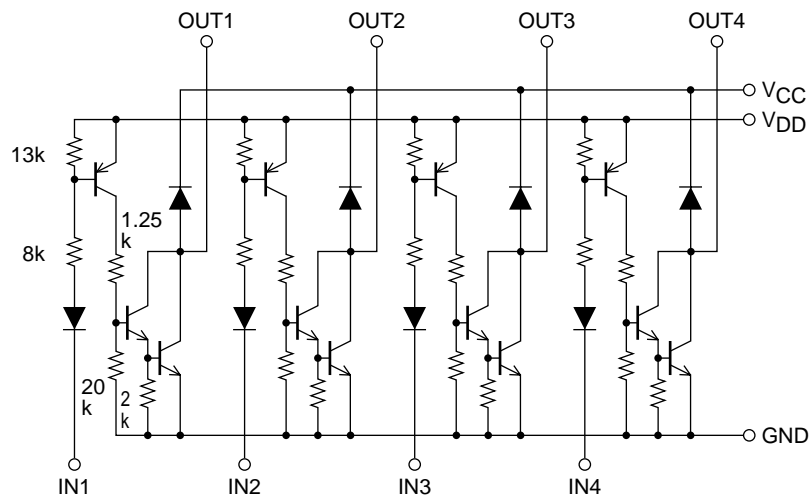
## Allowable Operating Ranges at $T_a = 25^\circ\text{C}$

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	$V_{INoff}$	$I_O \leq 30 \mu A$	$V_{DD} - 0.3$ to $V_{DD} + 10.0$	V

## Electrical Characteristics at $T_a = 25^\circ\text{C}, V_{DD} = 5.0V$

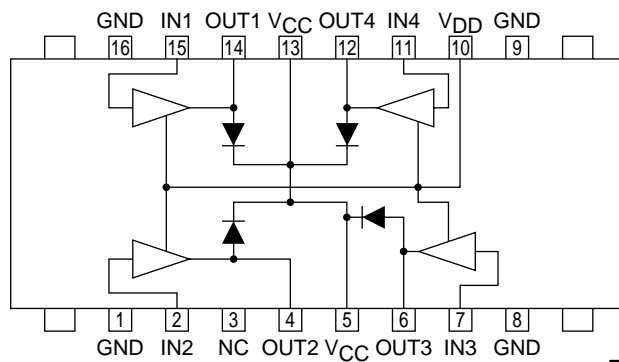
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output saturation voltage	$V_{O(sat)1}$	$V_{IN} = V_{DD} - 5.0V, I_O = 0.5A$			1.2	V
	$V_{O(sat)2}$	$V_{IN} = V_{DD} - 5.0V, I_O = 1.0A$			1.5	V
	$V_{O(sat)3}$	$V_{IN} = V_{DD} - 5.0V, I_O = 1.5A$			2.0	V
Output sustain voltage	$V_{O(sus)}$	$I_O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

## Equivalent Circuit



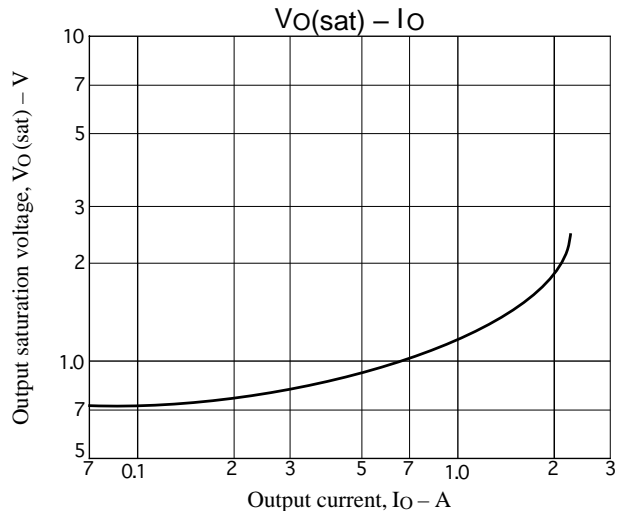
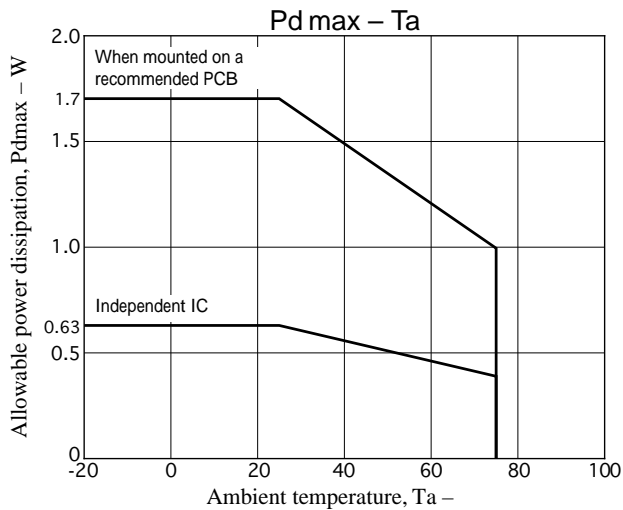
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## Pin Assignment



Top view

A11014



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