



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.

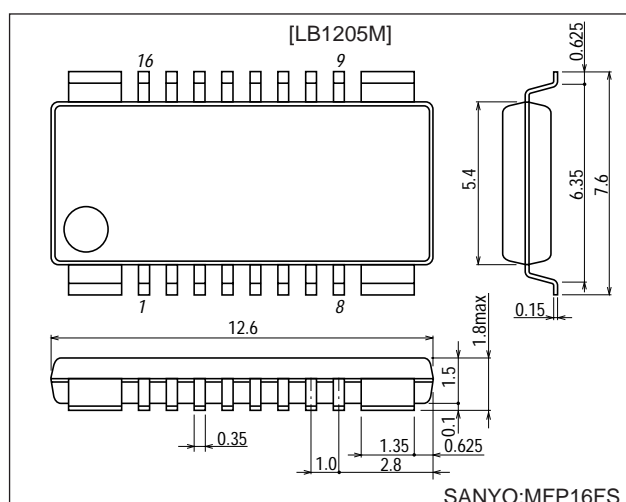
Features

- 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	$V_{DD\text{ max}}$		7.0	V
	$V_{CC\text{ max}}$		62	V
Applied output voltage	$V_O\text{ max}$		65	V
Applied input voltage	$V_{IN\text{ max}}$	$V_{IN} \geq \text{GND}$	$V_{DD} - 7.0$ to $V_{DD} + 10.0$	V
Output current	$I_O\text{ max}$		1.5	A
Spark killer diode forward current	I_{FS}		1.5	A
Allowable power dissipation	$P_d\text{ max}$	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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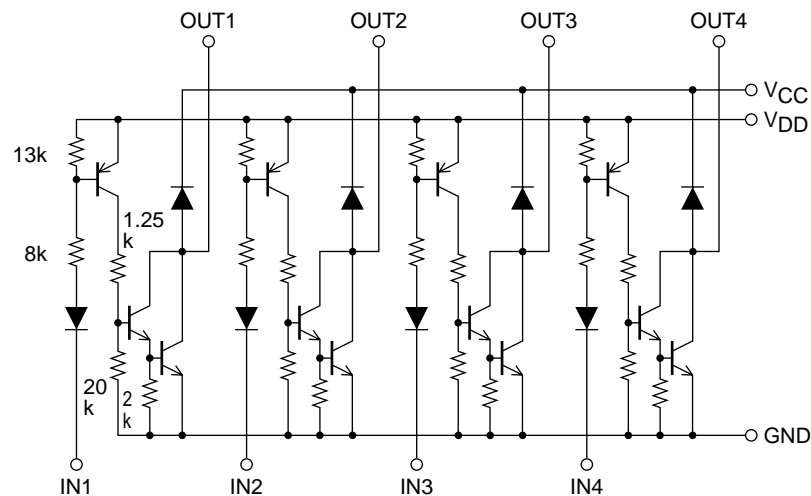
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

Allowable Operating Ranges at $T_a = 25^\circ\text{C}$

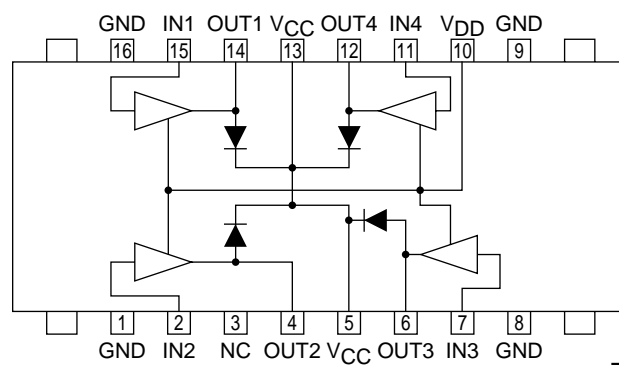
Parameter	Symbol	Conditions	Ratings	Unit
Power supply voltage	V_{DD}		3.5 to 7.0	V
Input ON level voltage	V_{INon}	$V_{IN} \geq GND$, $I_O = 1.0\text{A}$	$V_{DD} - 7.0$ to $V_{DD} - 2.6$	V
Input OFF level voltage	V_{INoff}	$I_O \leq 30\text{ }\mu\text{A}$	$V_{DD} - 0.3$ to $V_{DD} + 10.0$	V

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

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

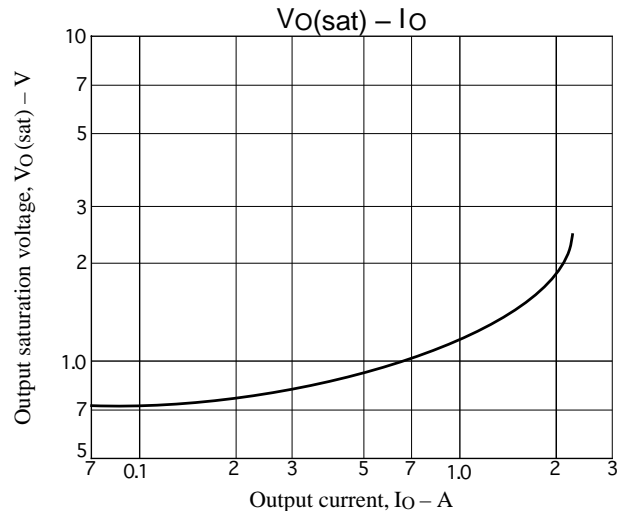
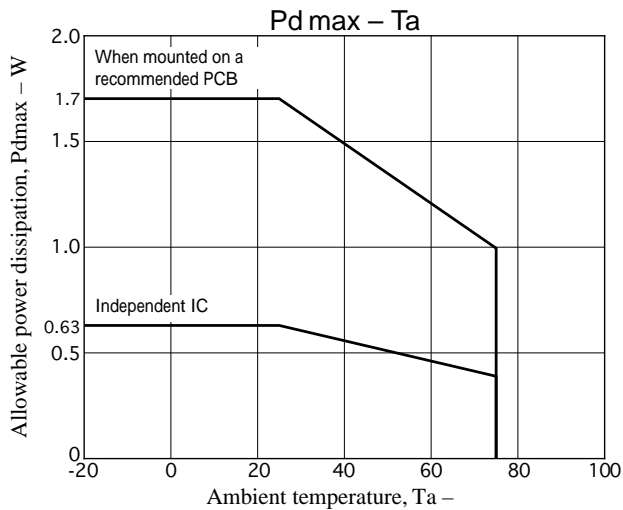
Equivalent Circuit

A11013

Pin Assignment

Top view

A11014



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