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Ordering number : EN5916A

LB1205M

Monolithic Digital IC

High-Voltage, Large-Current Darlington Driver

ON Semiconductor®

http://onsemi.com

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 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	$V_{IN} \geq$ 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	Pd max	Independent IC	0.65	W
		Mounted on the recommended PCB	1.7	W
Operating temperature	Topr		-20 to +75	°C
Storage temperature	Tstg		-55 to +150	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

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	$V_{IN} \geq$ GND, I_O = 1.0A	V_{DD}-7.0 to V_{DD}-2.6	V
Input "OFF" level voltage	V_{IN}off	$I_O \leq$ 30μA	V_{DD}-0.3 to V_{DD}+10.0	V

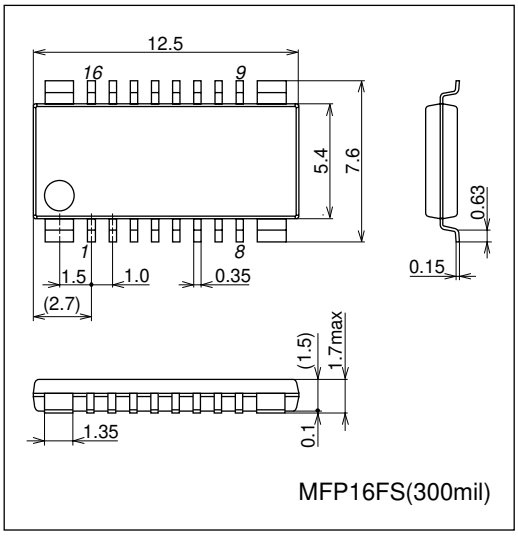
Electrical Characteristics at Ta = 25°C, V_{DD} = 5V

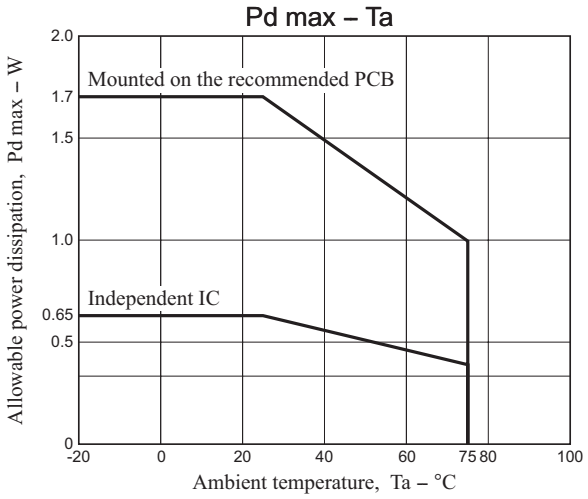
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output saturation voltage	$V_O$sat1	V_{IN} = V_{DD}-5.0V, I_O = 0.5A			1.2	V
	$V_O$sat2	V_{IN} = V_{DD}-5.0V, I_O = 1.0A			1.5	V
	$V_O$sat3	V_{IN} = V_{DD}-5.0V, I_O = 1.5A			2.0	V
Output sustain voltage	$V_O$sus	I_O = 100mA	65			V
Input current	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	μA

Package Dimensions

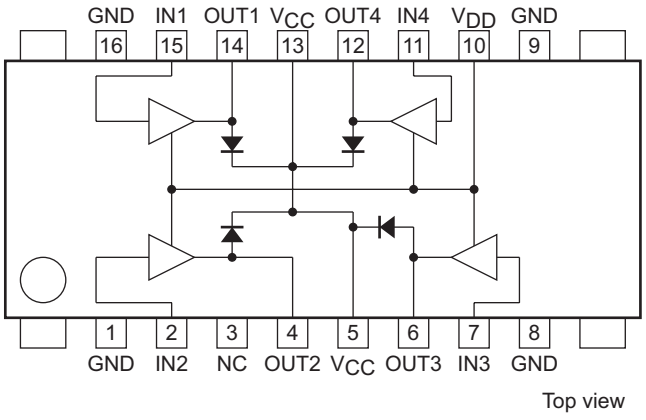
unit : mm (typ)

3097B





Pin Assignment



Top view

Equivalent Circuit