Ordering number:EN2616A

Monolithic Digital IC

LB1636M

Low-Saturation Bidirectional Motor Driver for Low-Voltage Applications

Overview

The LB1636M is a low-saturation bidirectional motor driver IC for use in low-voltage applications. It is especially suited for use in small-sized low-voltage motors for printers, cassette tape recorders, and commercial equipment.

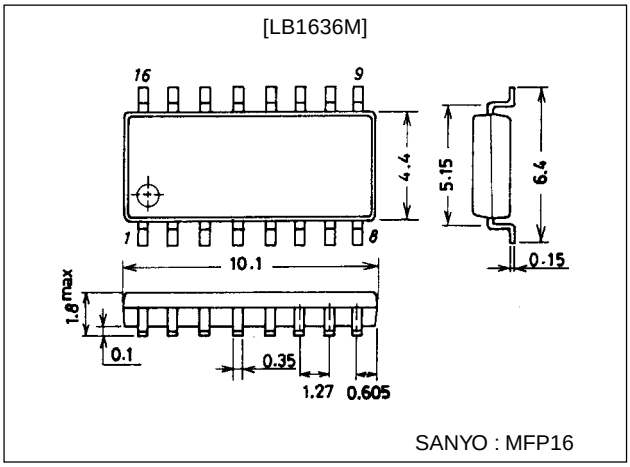
Features

- Low-voltage (2.5V min) operation, low current dissipation (I_{CC}≤30μA) at the standby mode.
- Low-saturation voltage (upper transistor + lower transistor residual voltage 1.2V max at 400mA).
- On-chip spark killer diodes.

Package Dimensions

unit:mm

3035A-MFP16



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max		–0.3 to +7.0	V
Output supply voltage	V_{OUT}		–0.3 to V_{CC}+V_F	V
Input supply voltage	V_{IN}		–0.3 to +7.0	V
Allowable load resistance	R_M min	Pulse width<50ms, duty 10%	3	Ω
GND pin flow-out current	I_{GND}	Pulse width<50ms, duty 10%	1	A
Allowable power dissipation	Pd max		380	mA
Operating temperature	Topr		–20 to +75	˚C
Storage temperature	Tstg		–40 to 125	˚C

Allowable Operating Conditions at Ta = 25˚C

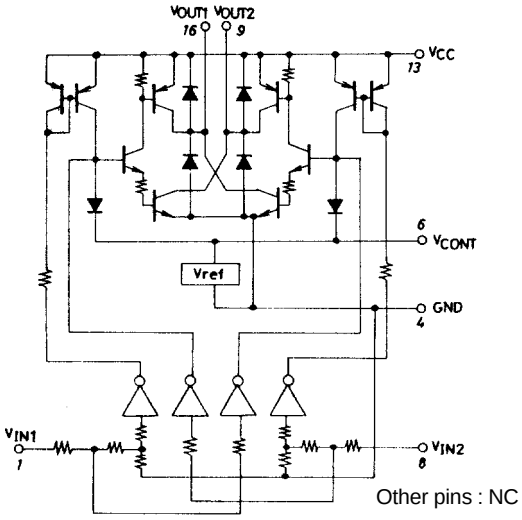
Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	V_{CC}		2.5 to 6.0	V
Input high-level voltage	V_{IH}		2.0 to 6.0	V
Input low-level voltage	V_{IL}		–0.3 to +0.7	V

SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

Electrical Characteristics at Ta = 25˚C

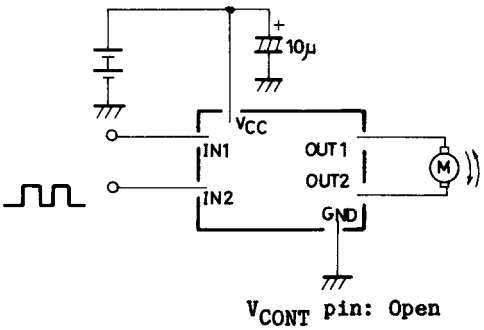
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output saturation voltage (upper side +lower side)	$V_{OUT}1$	V_{CC}=3V, V_{IN}=3V, I_{OUT}=200mA			0.6	V
	$V_{OUT}2$	V_{CC}=3.5V, V_{IN}=3V, I_{OUT}=400mA			1.2	V
Output sustain voltage	$V_{O(sus)}$	I_{OUT}=400mA	9			V
Output leakage current	$I_{O(leak)}$	V_{CC}=6V			30	µA
Input current	I_{IN}	V_{IN}=6V			1.0	mA
[Spark killer diode]						
Reverse current	$I_{S(leak)}$	V_{CC}=6V, V_{IN}=0V			30	µA
Forward current	V_{SF}	I_{OUT}=500mA			1.7	V
Current dissipation	I_{CC}	V_{CC}=3.5V, V_{IN}=3V, I_{OUT}=400mA			430	mA

Equivalent Circuit



Other pins : NC

Sample Application Circuit



V_{CONT} pin: Open