

LB1636M

3035A

Monolithic Digital IC

T-52-13-25

E2616

Low-Saturation Bidirectional Motor Driver for Low-Voltage Applications

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 ($I_{CC} \leq 30\mu A$) at the standby mode
- Low-saturation voltage (upper transistor + lower transistor residual voltage 1.2V max at 400mA)
- On-chip spark killer diodes

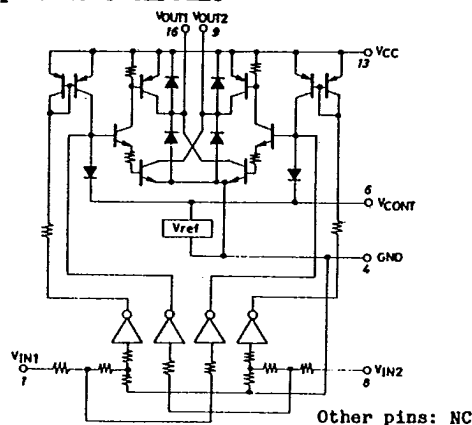
Absolute Maximum Ratings at $T_a = 25^\circ C$

			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 ohm
GND Pin Flow-out Current	I_{GND}	Pulse width < 50ms Duty 10%	1 A
Allowable Power Dissipation	P_d max	380	mW
Operating Temperature	T_{opg}	-20 to +75	$^\circ C$
Storage Temperature	T_{stg}	-40 to +125	$^\circ C$

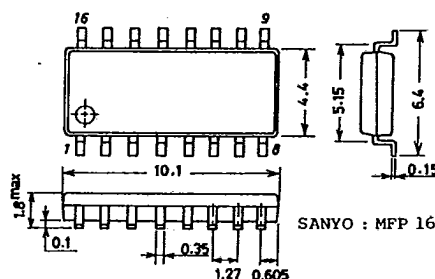
Allowable Operating Conditions at $T_a = 25^\circ C$

			unit
Supply Voltage	V_{CC}	2.5 to 6.0	V
Input "H"-Level Voltage	V_{IH}	2.0 to 6.0	V
Input "L"-Level Voltage	V_{IL}	-0.3 to +0.7	V

Equivalent Circuit



Case Outline 3035A-M16IC (unit:mm)



7107TA, TS No. 2616-1/2

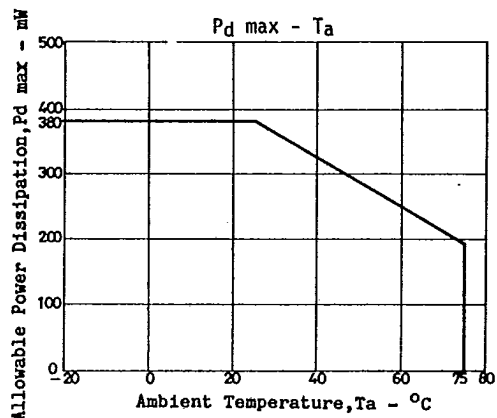
433

LB1635M

T-52-13-25

Electrical Characteristics at Ta=25°C

		min	typ	max	unit
Output Saturation Voltage	$V_{OUT(1)}$	$V_{CC}=3V, V_{IN}=3V, I_{OUT}=200mA$		0.6	V
(upper side + lower side)	$V_{OUT(2)}$	$V_{CC}=3.5V, V_{IN}=3V, I_{OUT}=400mA$		1.2	V
Output Sustain Voltage	$V_o(sus)$	$I_{OUT}=400mA$	9		V
Output Leakage Current	$I_o(leak)$	$V_{CC}=6V$		30	uA
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	uA
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

**Sample Application Circuit**