

<b>SANYO</b>	No.2616A	LB1636M
	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

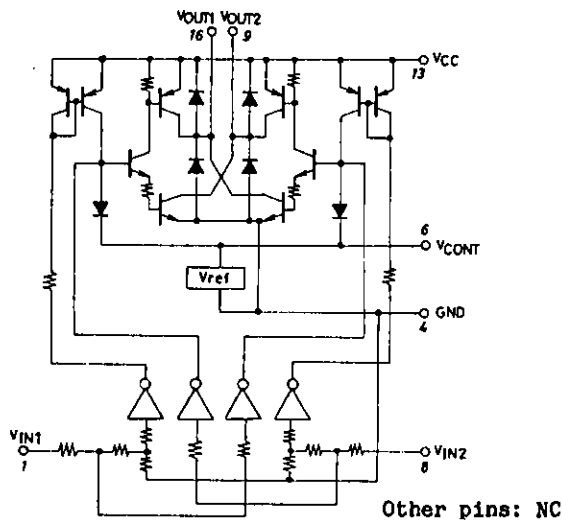
**Absolute Maximum Ratings at  $T_a = 25^\circ C$**

				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	mA
Operating Temperature	$T_{opr}$	-20 to +75		$^\circ C$
Storage Temperature	$T_{stg}$	-40 to +125		$^\circ C$

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

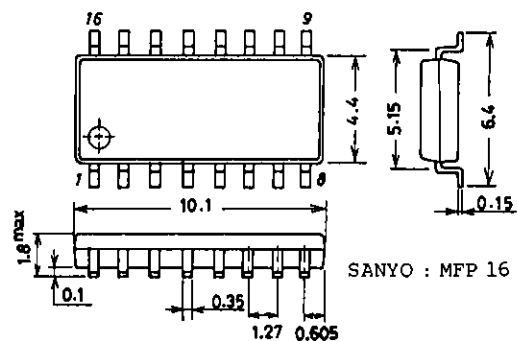
				unit
Supply Voltage	$V_{CC}$	2.5 to 6.0		V
Input "H"-Level Voltage	$V_{IH}$	2.0 to 6.0		V
Input "L"-Level Voltage	$V_{IL}$	-0.3 to +0.7		V

**Equivalent Circuit**



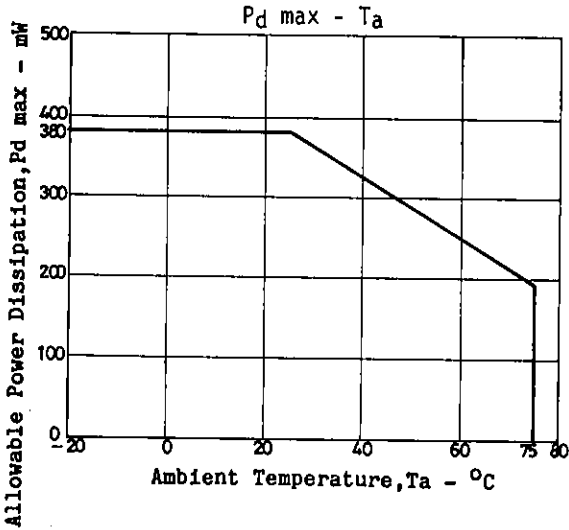
**Package Dimensions 3035A**

unit: mm

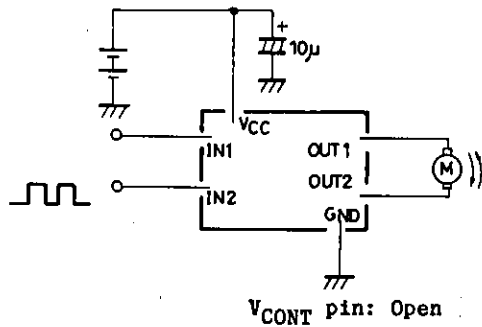


**Electrical Characteristics at Ta=25°C**

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



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