

Monolithic Digital IC

**SANYO**

No.2615A

**LB1630M****Low-Saturation Bidirectional Motor Driver  
for Low-Voltage Applications**

The LB1630M 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**

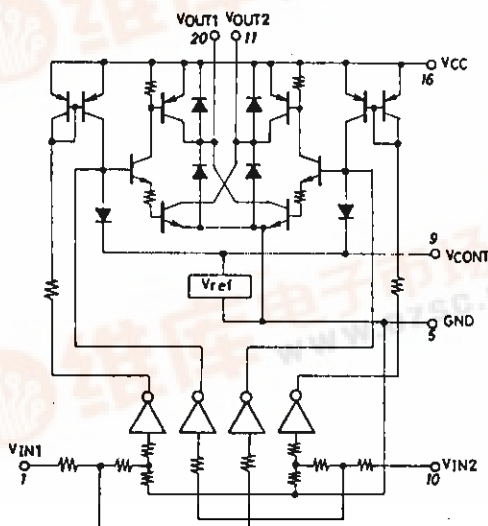
- Low-voltage (2.5V min) operation, low current dissipation ( $I_{CC} \leq 30\mu A$ ) at the standby mode
- Low-saturation voltage (upper transistor + lower transistor residual voltage 1.2V max at 400mA)
- On-chip spark killer diodes

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

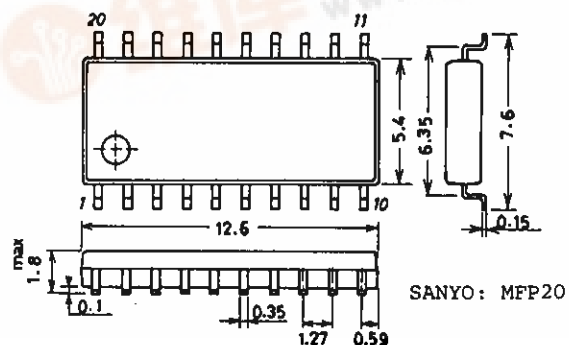
			unit
Maximum Supply Voltage	$V_{CC}$ max	-0.3 to +7.0	V
Output Supply Voltage	$V_{OUT}$	-0.3 to $V_{CC} + V_F$	V
Input Supply Voltage	$V_{IN}$	-0.3 to +7.0	V
Allowable Load Resistance	$R_M$ min	Pulse width < 50ms Duty 10%	3 ohm
GND Pin Flow-out Current	$I_{GND}$	Pulse width < 50ms Duty 10%	1 A
Allowable Power Dissipation	$P_d$ max	400	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 3036B**

unit: mm

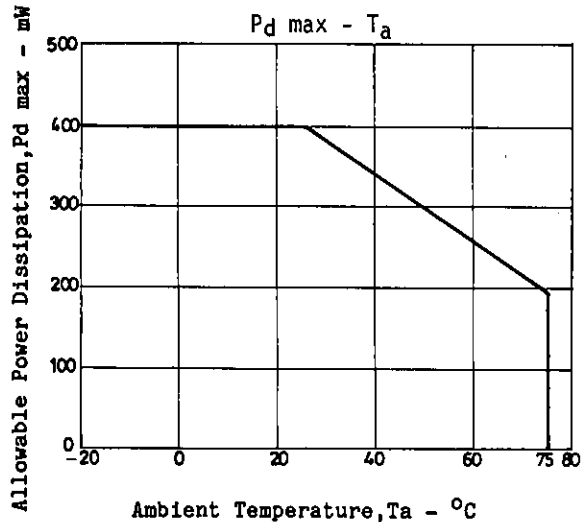


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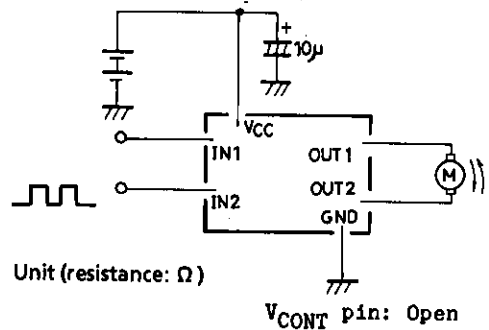
# LB1630M

## Electrical Characteristics at Ta=25°C

		min	typ	max	unit
Output Saturation Voltage	V <sub>OUT(1)</sub>	V <sub>CC</sub> =3V, V <sub>IN</sub> =3V, I <sub>OUT</sub> =200mA		0.6	V
(upper side + lower side)	V <sub>OUT(2)</sub>	V <sub>CC</sub> =3.5V, V <sub>IN</sub> =3V, I <sub>OUT</sub> =400mA		1.2	V
Output Sustain Voltage	V <sub>o(sus)</sub>	I <sub>OUT</sub> =400mA	9		V
Output Leakage Current	I <sub>O(leak)</sub>	V <sub>CC</sub> =6V		30	μA
Input Current	I <sub>IN</sub>	V <sub>IN</sub> =6V		1.0	mA
Spark Killer Diode					
Reverse Current	I <sub>S(leak)</sub>	V <sub>CC</sub> =6V, V <sub>IN</sub> =0V		30	μA
Forward Current	V <sub>SF</sub>	I <sub>OUT</sub> =500mA		1.7	V
Current Dissipation	I <sub>CC</sub>	V <sub>CC</sub> =3.5V, V <sub>IN</sub> =3V, I <sub>OUT</sub> =400mA		430	mA



## Sample Application Circuit



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