

<b>SANYO</b>	No.2615A	<b>LB1630M</b>
	<b>Low-Saturation Bidirectional Motor Driver for Low-Voltage Applications</b>	

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

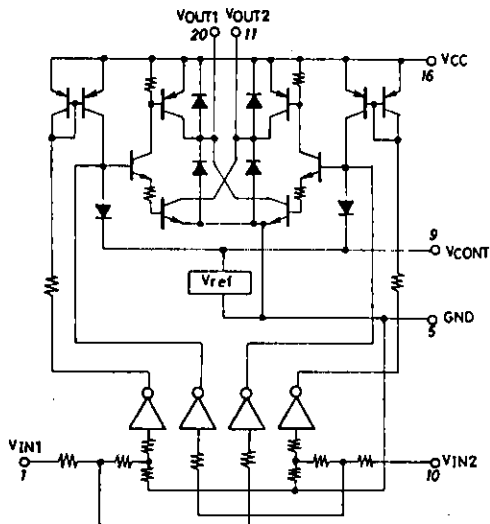
**Absolute Maximum Ratings at  $T_a = 25^\circ C$**

			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  $T_a = 25^\circ C$**

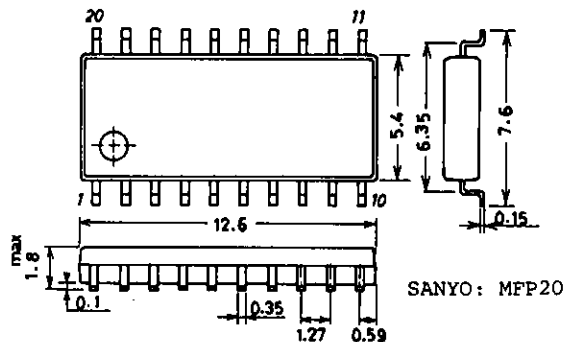
			unit
Supply Voltage	$V_{CC}$	2.5 to 6.0	V
Input "H"-Level Voltage	$V_{IH}$	2.0 to 6.0	V
Input "L"-Level Voltage	$V_{IL}$	-0.3 to +0.7	V

**Equivalent Circuit**



**Package Dimensions 3036B**

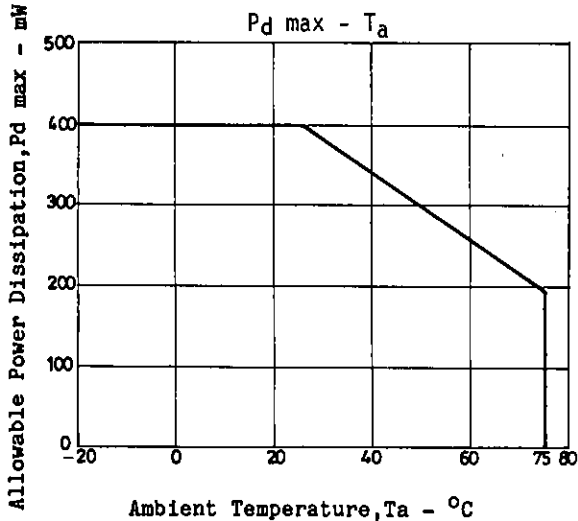
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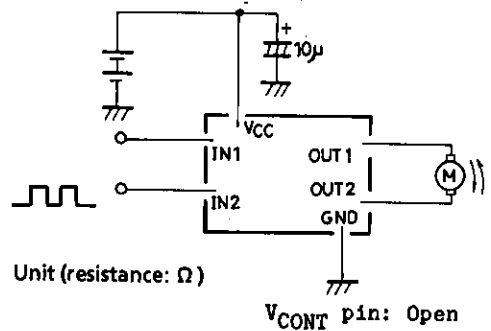
LB1630M

Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Output Saturation Voltage (upper side + lower side)	V <sub>OUT(1)</sub> V <sub>OUT(2)</sub>	V <sub>CC</sub> =3V, V <sub>IN</sub> =3V, I <sub>OUT</sub> =200mA V <sub>CC</sub> =3.5V, V <sub>IN</sub> =3V, I <sub>OUT</sub> =400mA			0.6 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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