

<b>SANYO</b>	No.1261E	LB1630
	<b>Low-Saturation Bidirectional Motor Driver for Low-Voltage Applications</b>	

The LB1630 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 consumer equipment.

**Features**

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

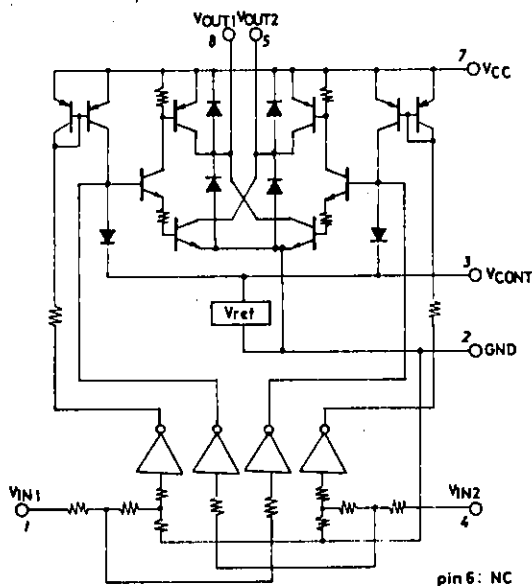
**Absolute Maximum Ratings at Ta=25°C**

				unit
Maximum Supply Voltage	$V_{CCmax}$	-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	$R_{Mmin}$	Pulse width<50ms Duty 10%	3	ohm
GND Pin Flow-out Current	$I_{GND}$	Pulse width<50ms Duty 10%	2	A
Allowable Power Dissipation	$P_{dmax}$		785	mW
Operating Temperature	$T_{opr}$		-20 to +75	°C
Storage Temperature	$T_{stg}$		-40 to +125	°C

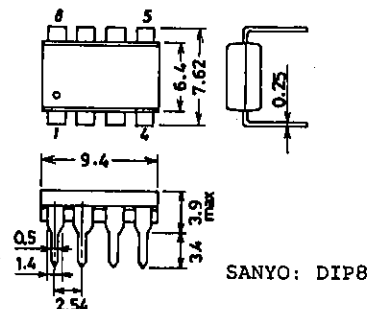
**Allowable Operating Conditions at Ta=25°C**

			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 3001B**  
unit: mm



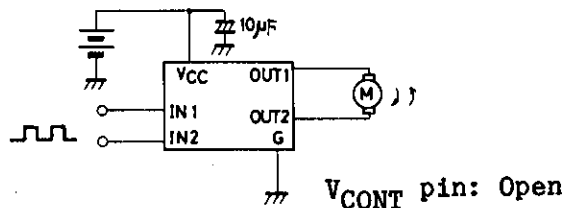
## LB1630

Electrical Characteristics at Ta=25°C				min	typ	max	unit
Output Saturation Voltage (upper side + lower side)	V <sub>OUT(1)</sub>	V <sub>CC</sub> =3V, V <sub>IN</sub> =3V, I <sub>OUT</sub> =200mA		0.6			V
	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 Voltage	V <sub>SF</sub>	I <sub>OUT</sub> =500mA				1.7	V
Current Dissipation	I <sub>CC</sub>	I <sub>CC</sub> =3.5V, V <sub>IN</sub> =3V, I <sub>OUT</sub> =400mA				430	mA

### Truth Table

IN1	IN2	OUT1	OUT2	MOTOR
H	L	H	L	Forward
L	H	L	H	Reverse
H	H	off	off	Standby
L	L	off	off	Standby

### Sample Application Circuit



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