

**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**

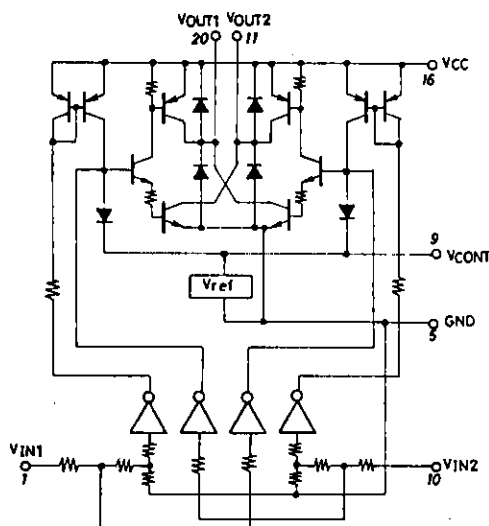
- Low-voltage (2.5V min) operation, low current dissipation ( $I_{CC} \leq 30\mu A$ ) at the standby mode
- Low-saturation voltage (upper transistor + lower transistor residual voltage 1.2V max at 400mA)
- On-chip spark killer diodes

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

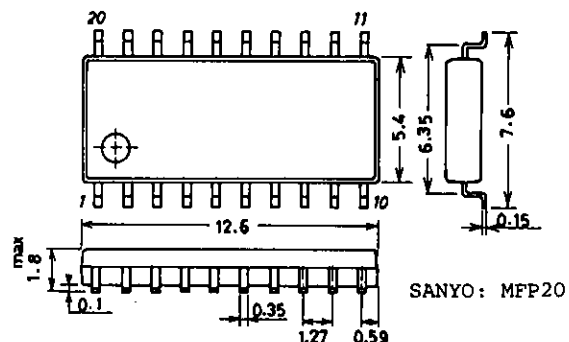
			unit
Maximum Supply Voltage	$V_{CC}$ max	-0.3 to +7.0	V
Output Supply Voltage	$V_{OUT}$	-0.3 to $V_{CC} + V_F$	V
Input Supply Voltage	$V_{IN}$	-0.3 to +7.0	V
Allowable Load Resistance	$R_M$ min	Pulse width < 50ms Duty 10%	3 ohm
GND Pin Flow-out Current	$I_{GND}$	Pulse width < 50ms Duty 10%	1 A
Allowable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

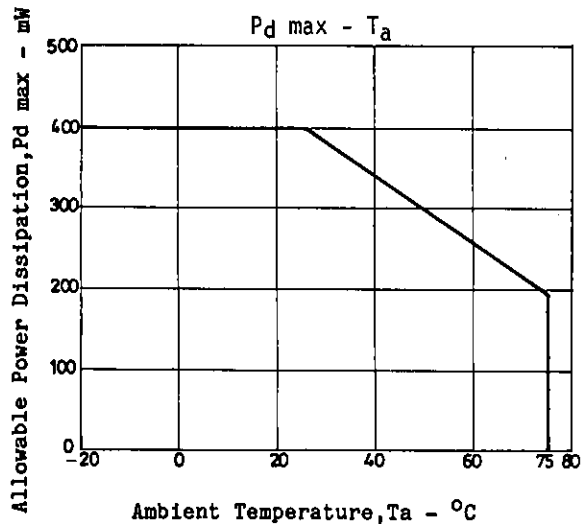
**Equivalent Circuit****Package Dimensions 3036B**

unit: mm

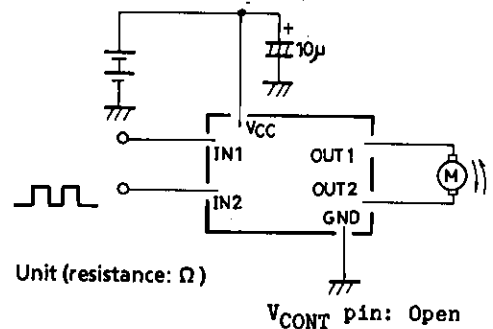


Electrical Characteristics at  $T_a=25^{\circ}\text{C}$ 

		min	typ	max	unit
Output Saturation Voltage	$V_{\text{OUT}}(1)$	$V_{\text{CC}}=3\text{V}, V_{\text{IN}}=3\text{V}, I_{\text{OUT}}=200\text{mA}$		0.6	V
(upper side + lower side)	$V_{\text{OUT}}(2)$	$V_{\text{CC}}=3.5\text{V}, V_{\text{IN}}=3\text{V}, I_{\text{OUT}}=400\text{mA}$		1.2	V
Output Sustain Voltage	$V_{\text{O(sus)}}$	$I_{\text{OUT}}=400\text{mA}$	9		V
Output Leakage Current	$I_{\text{O(leak)}}$	$V_{\text{CC}}=6\text{V}$		30	$\mu\text{A}$
Input Current	$I_{\text{IN}}$	$V_{\text{IN}}=6\text{V}$		1.0	mA
Spark Killer Diode					
Reverse Current	$I_{\text{S(leak)}}$	$V_{\text{CC}}=6\text{V}, V_{\text{IN}}=0\text{V}$		30	$\mu\text{A}$
Forward Current	$V_{\text{SF}}$	$I_{\text{OUT}}=500\text{mA}$		1.7	V
Current Dissipation	$I_{\text{CC}}$	$V_{\text{CC}}=3.5\text{V}, V_{\text{IN}}=3\text{V}, I_{\text{OUT}}=400\text{mA}$		430	mA



## Sample Application Circuit



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