

**SANYO**

No. 1371C

**LB1645N****Bidirectional Motor Driver**

The LB1645N is a bidirectional motor driver IC. Since it has a 2-input logic circuit and performs the functions of bidirectional driving and braking, it is capable of direct driving 6V, 9V, 12V motors. The output voltage can be varied by using an external Zener diode.

**Features**

- . 2-input logic can be used to exercise control of bidirectional driving and braking.
- . On-chip elements to absorb dash current of motor
- . Input connectable direct to MOS LSI
- . Output voltage variable by use of external Zener diode

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

			unit
Maximum Supply Voltage	$V_{CCmax}$	18	V
Input Voltage	$V_{IN}$	-0.3 to $V_{CC}$	V
Output Current	$I_{OUT}$	$\pm 1.6$	A
Allowable Power Dissipation	$P_{dmax}$	2.2	W
Operating Temperature	$T_{opr}$	-25 to +75	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +125	$^\circ\text{C}$

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

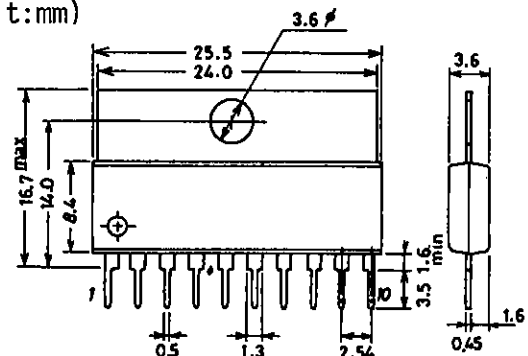
			unit
Supply Voltage	$V_{CC1}$	7 to 18	V
"	$V_{CC2}$	5 to 18	V

**Electrical Characteristics at  $T_a=25^\circ\text{C}$ ,  $V_{CC}=12\text{V}$ , See Test Circuit.**

			min	typ	max	unit
Input Threshold Voltage	$V_{th}$	$R_L=\infty$	1.1	1.3	1.5	V
Minimum Input ON Current	$I_{IN}$	$R_L=\infty$		10	15	$\mu\text{A}$
Output Voltage	$V_O$	$R_L=60\text{ohms}, V_Z=7.4\text{V}$	6.6	7.2	7.4	V
Output Leakage Current	$I_{OL}$	Pins 5, 6 GND, $R_L=\infty$		0.01	1.0	mA
Current Dissipation	$I_{CC}$	" "	3	6	-10	mA
Saturation Voltage(Upper)	$V_{sat1}$	$V_{CC}=12\text{V}, I_{OUT}=300\text{mA}$		1.9	2.2	V
	$V_{sat1}'$	$V_{CC}=12\text{V}, I_{OUT}=500\text{mA}$		1.9	2.3	V
Saturation Voltage(Lower)	$V_{sat2}$	$V_{CC}=12\text{V}, I_{OUT}=300\text{mA}$	0.25	0.5		V
	$V_{sat2}'$	$V_{CC}=12\text{V}, I_{OUT}=500\text{mA}$	0.4	0.65		V

**Package Dimensions 3046B**

(unit:mm)



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**Truth Table**

Input		Output		Function
IN1	IN2	OUT1	OUT2	
0	0	0	0	Braking
1	0	1	0	Forward (reverse) drive
0	1	0	1	Reverse (forward) drive
1	1	0	0	Braking

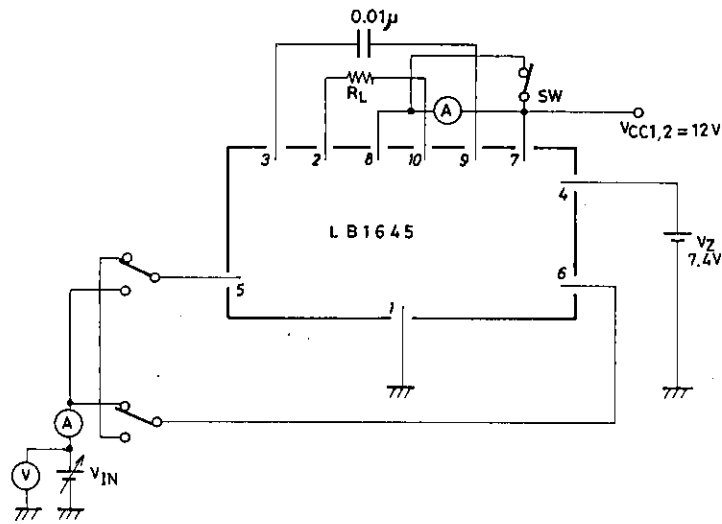
Input level  
 1 : 2.0V or more  
 0 : 0.7V or less

**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**

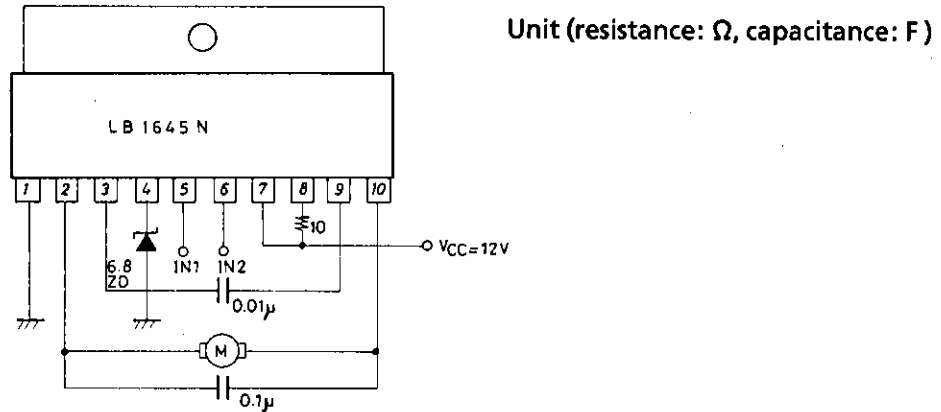
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

# LB1645N

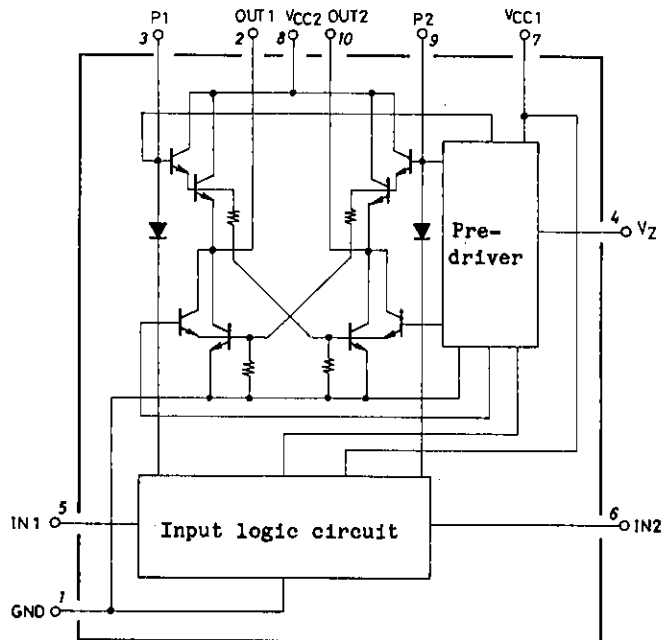
## Test Circuit

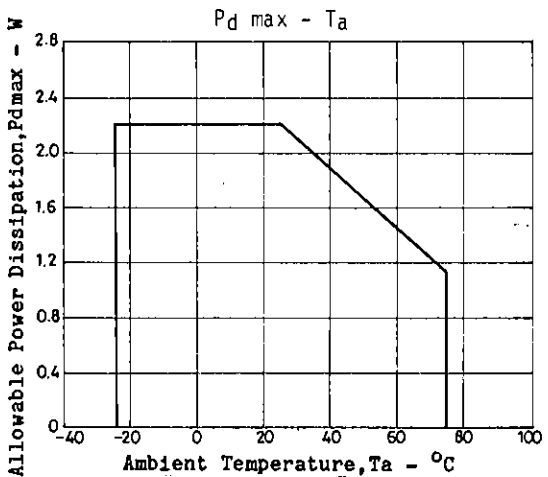
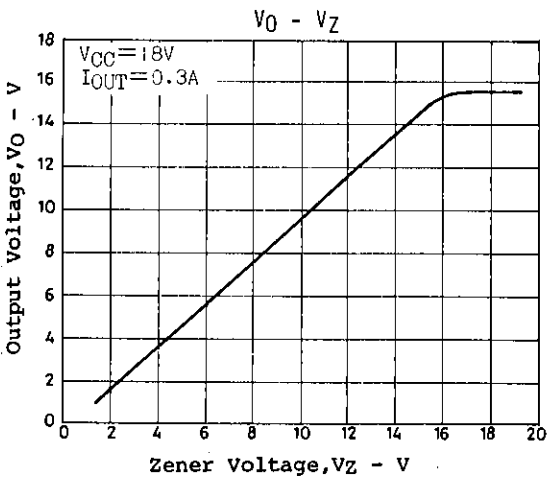
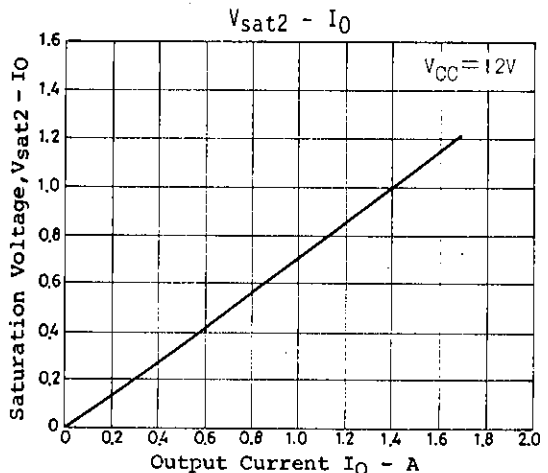
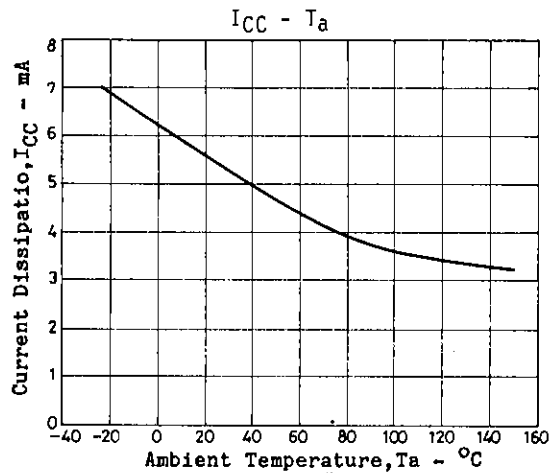
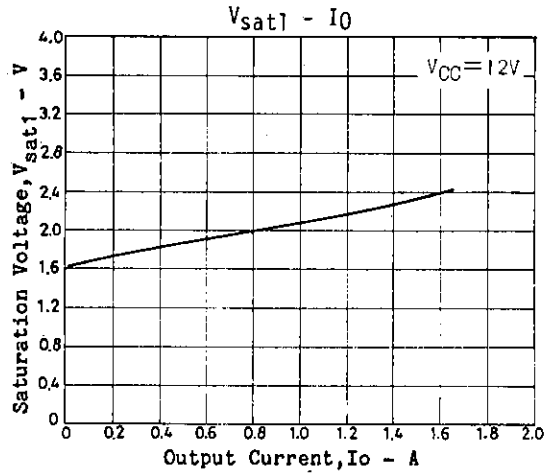
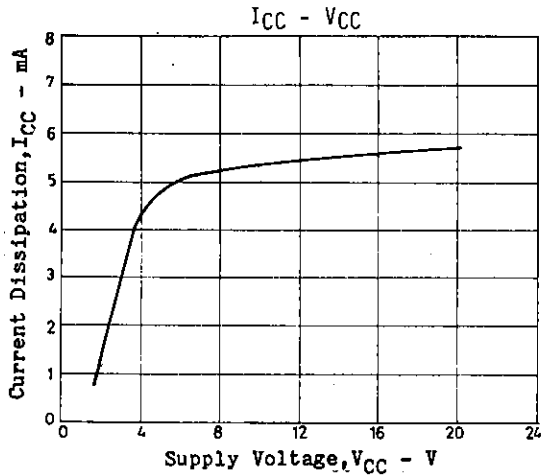


## Sample Application Circuit : 6V motor



## Equivalent Circuit Block Diagram





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