



LB1641

Bidirectional Motor Driver

The LB1641 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 interfaceable to MOS LSI
- . Output voltage variable by use of external zener diode

Absolute Maximum Ratings at Ta=25°C

			unit
Maximum Supply Voltage	V_{CCmax}	18	V
Input Voltage	V_{IN}	-0.3 to V_{CC}	V
Output Current	I_{OUT}	± 1.6	A
Allowable Power Dissipation	P_{dmax}	1.2	W
Operating Temperature	T_{opr}	-25 to +75	°C
Storage Temperature	T_{stg}	-55 to +125	°C

Allowable Operating Conditions at Ta=25°C

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

Electrical Characteristics at Ta=25°C, $V_{CC}=12V$

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

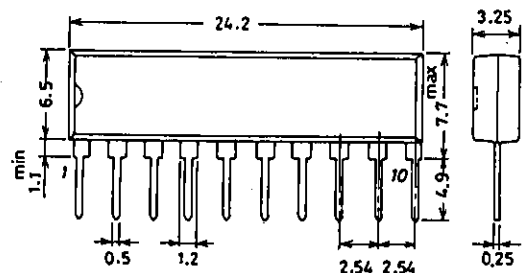
Truth Table

Input		Output		Operation
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 greater
 0: 0.7V or less

Package Dimensions 3043A

(unit: mm)



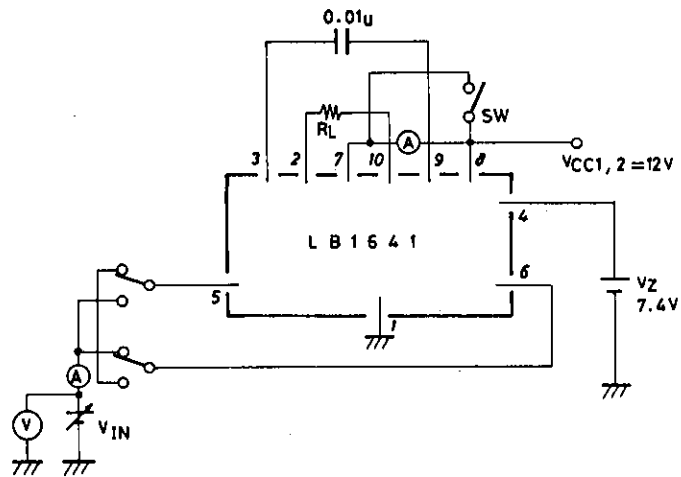
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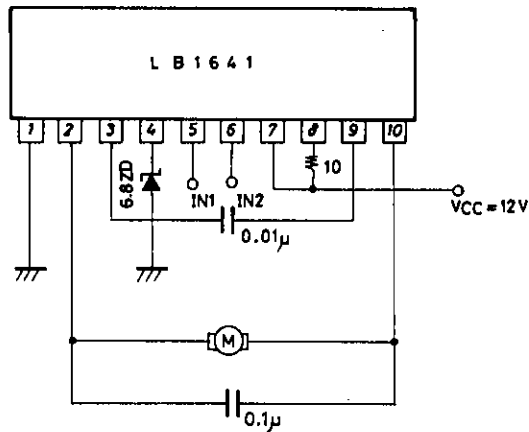
Test Circuit



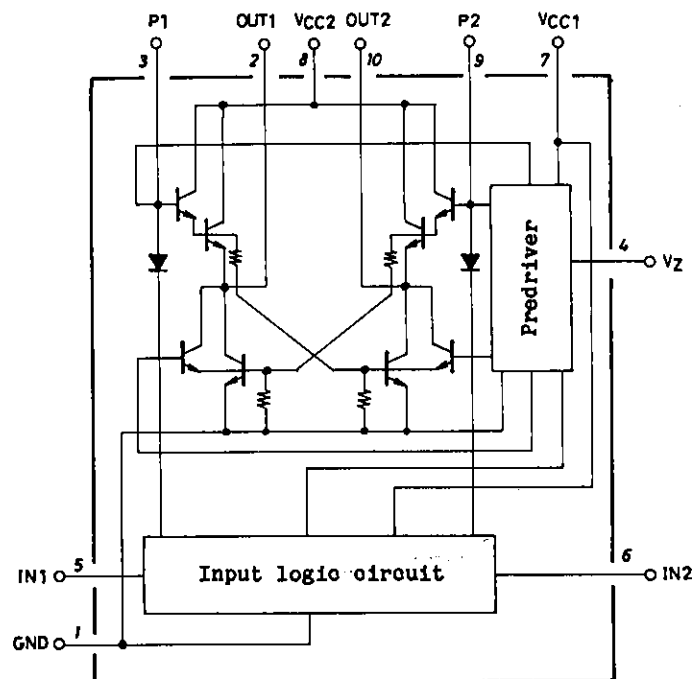
Unit (capacitance: F)

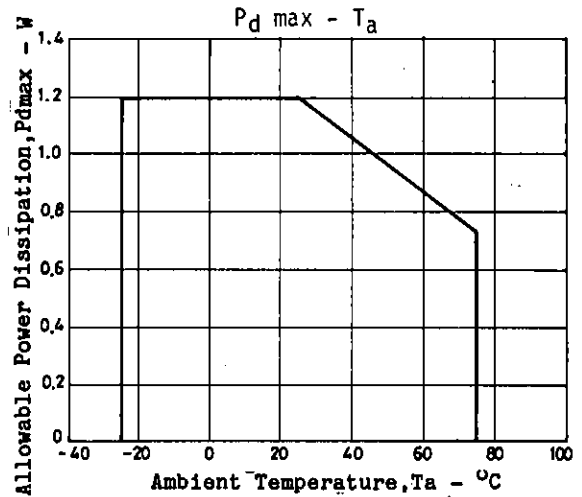
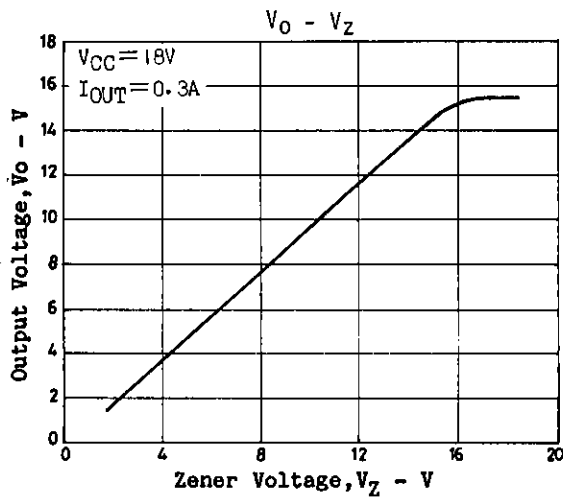
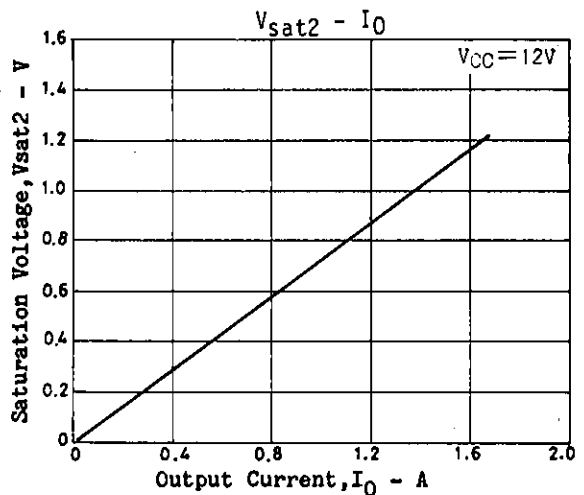
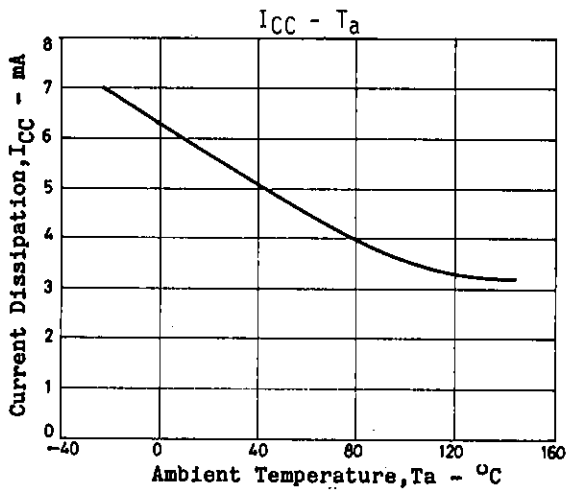
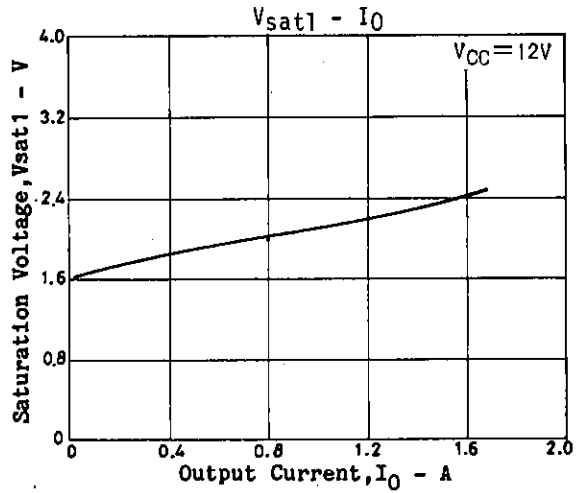
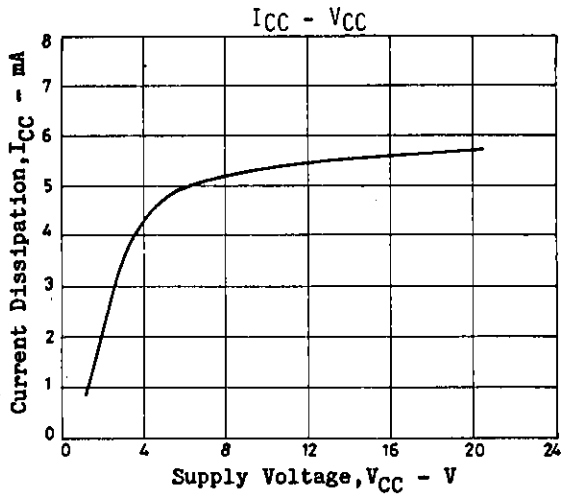
Sample Application Circuit: 6V motor circuit

Unit (resistance: Ω, capacitance: F)



Equivalent Circuit Block Diagram





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