No.2011A

LB1642B

Monolithic Digital IC

BIDIRECTIONAL MOTOR DRIVER WITH BRAKING FUNCTION

The LB1642B is a bidirectional motor driver IC. It is especially suited for use in motor drive applications where the arm control function of a player or the auto reverse function of a cassette deck is performed.

Features

- On-chip braking function
- On-chip diodes to absorb dash current
- Wide operating voltage range (4 to 16V)
- Direct drivable with TTL

Absolute Maximum Ratings at Ta=25°C

				unit
Maximum Supply Voltage	V_{CC}max		18	V
Input Voltage	V_{IN}		-0.3 to V_{CC}	V
Output Current	$I_O$max	t=5ms,cycle time=5s or more	0.7	A
		t=2ms,cycle time=0.2s or more	1.0	A
Allowable Power Dissipation	Pdmax		1.3	W
Operating Temperature	Topg		-25 to +75	°C
Storage Temperature	Tstg		-55 to +125	°C

Allowable Operating Conditions at Ta=25°C

			unit
Supply Voltage	V_{CC}	4 to 16	V
"H"-Level Input Voltage	V_{IH}	2 to V_{CC}	V
"L"-Level Input Voltage	V_{IL}	-0.3 to +0.4	V
Output Current	I_O	-300 to +300	mA
Forward Reverse Inhibit Time	T_{OFF}	10 or more	us

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

			min	typ	max	unit
"H"-Level Output Voltage	V_{OH1}	V_{I1} or V_{I2}=2V, I_O=-50mA	11.0			V
"H"-Level Output Voltage	V_{OH2}	V_{I1} or V_{I2}=2V, I_O=-300mA	10.9			V
"L"-Level Output Voltage	V_{OL1}	V_{I1} or V_{I2}=2V, I_O=50mA			0.3	V
"L"-Level Output Voltage	V_{OL2}	V_{I1} or V_{I2}=2V, I_O=300mA			0.35	V
Interoutput Voltage	V_{O1}-V_{O2}	V_{I1} or V_{I2}=2V, I_O=±300mA	10.6			V
Input Current	I_I	V_I=2V	70		200	uA
Output Leakage Current	I_OLeak	V_{CC}=V_{CC}'=18V, V_{IN1}=V_{IN2}=0V, V_O=18V or 0V			±100	uA

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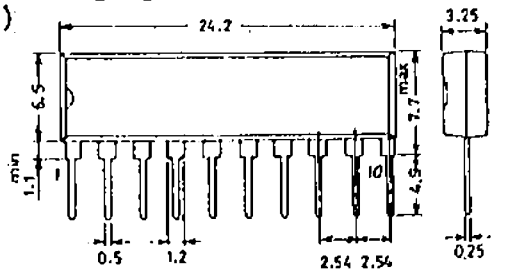
Control Mode

Input		Output		Remarks
1	2	1	2	
0	0	-	-	Open
1	0	1	0	Forward drive
0	1	0	1	Reverse drive
1	1	0	0	Braking

Case Outline 3043A-S10IC
(unit:mm)



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SANYO Electric Co.,Ltd. Semiconductor Overseas Marketing Div.
15-13, 6 chome, Sotokanda, Chiyoda-ku, TOKYO 101 JAPAN

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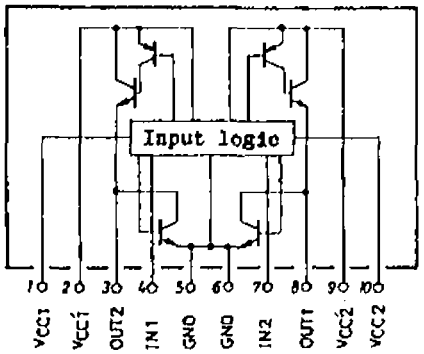
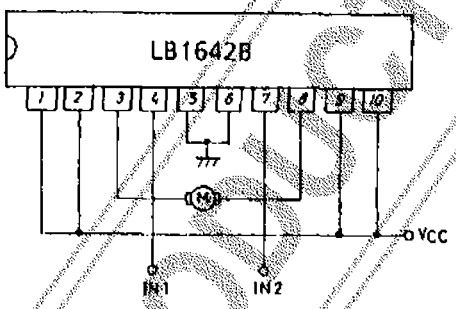
			min	typ	max	unit
Current Dissipation	I_{CC}	V_{IN1}=2V or V_{IN2}=2V, V_{CC}=V_{CC}'=16V			30	mA
		V_{IN1}=V_{IN2}=2V, V_{CC}=V_{CC}'=16V			60	mA

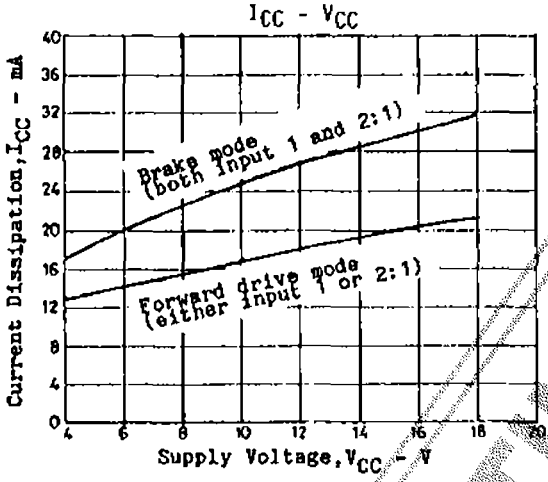
Equivalent Circuit Block Diagram



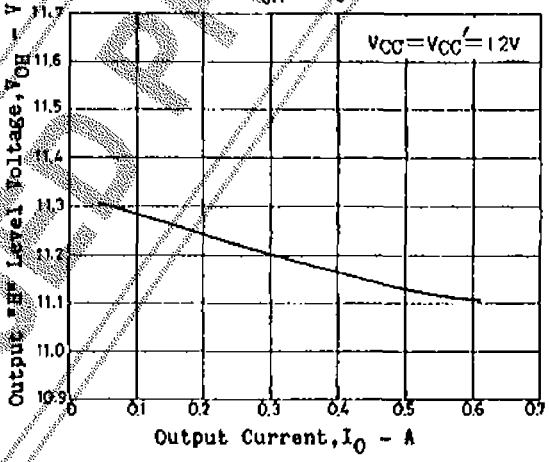
Sample Application Circuit



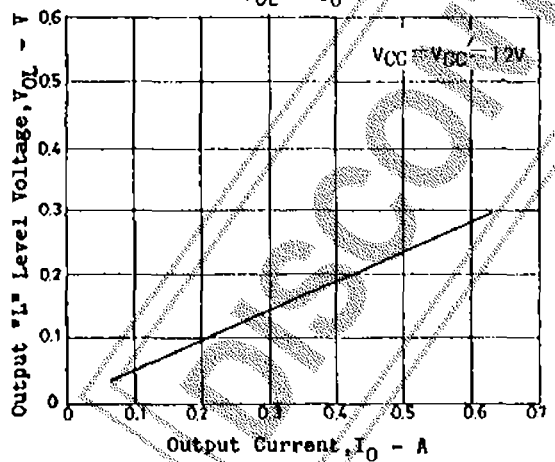
I_{CC} - V_{CC}



V_{OH} - I_O



V_{OL} - I_O



P_d max - T_a