

**LB1640N****Forward/Reverse Motor Driver with Brake****Overview**

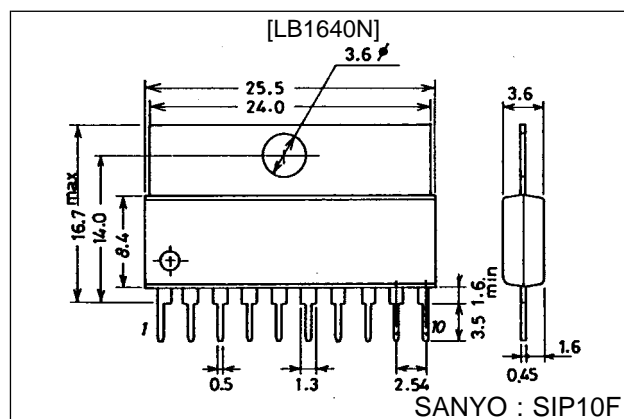
The LB1640N is a motor driver IC with a forward/reverse control feature. This IC is optimal for driving motors used in front-loading VCRs and auto-reverse cassette decks.

**Features**

- Brake function on chip
- Dash current absorption diode on chip
- Broad operating voltage range (4 to 18 V)
- Direct drive made possible by TTL

**Package Dimensions**

unit : mm

**3046B-SIP10F****Specifications****Absolute Maximum Ratings at Ta = 25 °C**

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC}$		20	V
Input voltage	$V_{IN}$		-0.3 to $V_{CC}$	V
Output current	$I_{Omax}$	t = 5 ms, with cycle time of 5 sec. or more	1.6	A
Allowable power dissipation	$Pd\ max$	No heat sink	2.5	W
		When using heat sink ( 100 x 100 x 1.5 mm <sup>3</sup> )	7.0	W
Operating temperature	$T_{opr}$		-25 to +75	°C
Storage temperature	$T_{stg}$		-55 to +125	°C

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

Parameter	Symbol	Ratings	Unit
Supply voltage	$V_{CC}$	4 to 18	V
High-level input voltage	$V_{IH}$	3 to $V_{CC}$	V
Low-level input voltage	$V_{IL}$	-0.3 to +0.4	V
Output current	$I_O$	-500 to +500	mA
Forward ↔ Reverse inhibit time	$T_{OFF}$	10 or longer	μs

# LB1640N

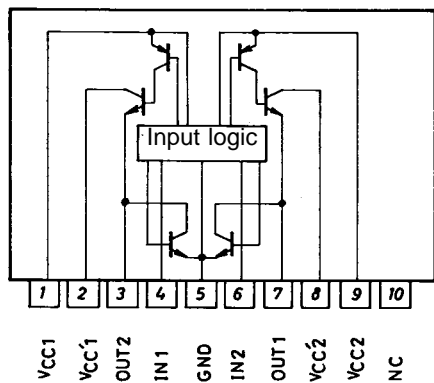
## Electrical Characteristics at $T_a = 25^\circ\text{C}$ , $V_{CC} = V_{CC'} = 12\text{ V}$

Parameter	Symbol	Output	min	typ	max	Unit
Supply Current	$I_{CC}$	$V_{I1}$ or $V_{I2} = 3\text{ V}$ , $R_L = \infty$ , $V_{CC} = V_{CC'} = 16\text{ V}$			40	mA
High-level output voltage	$V_{OH1}$	$V_{I1}$ or $V_{I2} = 3\text{ V}$ , $I_O = -300\text{ mA}$	10.8			V
	$V_{OH2}$	$V_{I1}$ or $V_{I2} = 3\text{ V}$ , $I_O = -500\text{ mA}$	10.7			V
Low-level output voltage	$V_{OL1}$	$V_{I1}$ or $V_{I2} = 3\text{ V}$ , $I_O = 300\text{ mA}$			0.5	V
	$V_{OL2}$	$V_{I1}$ or $V_{I2} = 3\text{ V}$ , $I_O = 500\text{ mA}$			0.65	V
Interoutput voltage	$V_{O1}-V_{O2}$	$V_{I1}$ or $V_{I2} = 3\text{ V}$ , $I_O = \pm 300\text{ mA}$	10.3			V
Input voltage	$V_I$	$I_I = 500\text{ }\mu\text{A}$	3			V
Output leakage current	$I_{O\text{ Leak}}$	$V_{CC} = V_{CC'} = 20\text{ V}$ $V_{IN1} = V_{IN2} = 0\text{ V}$ , $V_O = 20\text{ V}$ or $0\text{ V}$			$\pm 100$	$\mu\text{A}$

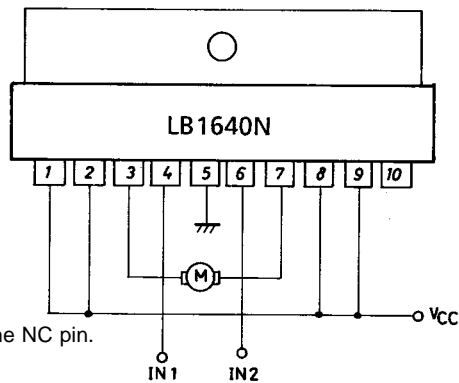
## Control Modes

Input		Output		Remarks
1	2	1	2	
0	0	—	—	Open
1	0	1	0	Forward
0	1	0	1	Reverse
1	1	0	0	Brake

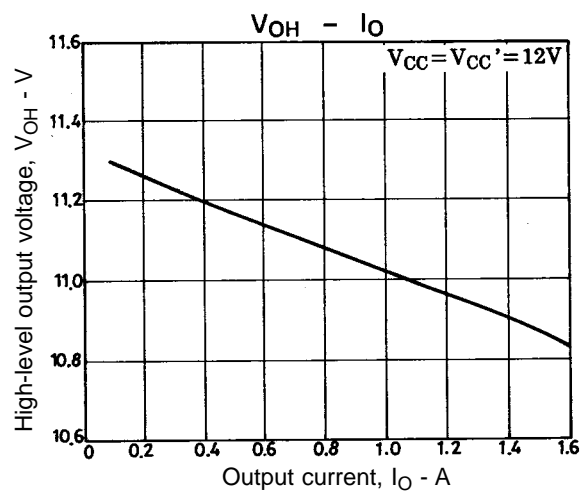
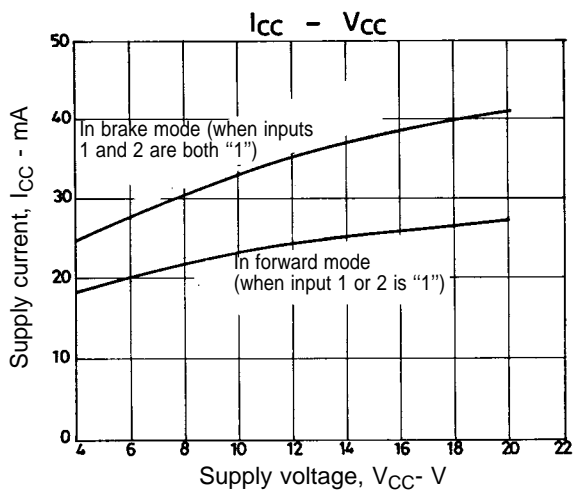
## Equivalent Circuit Block Diagram

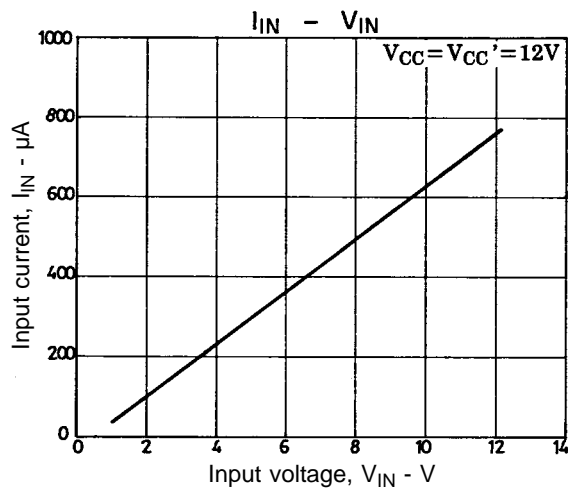
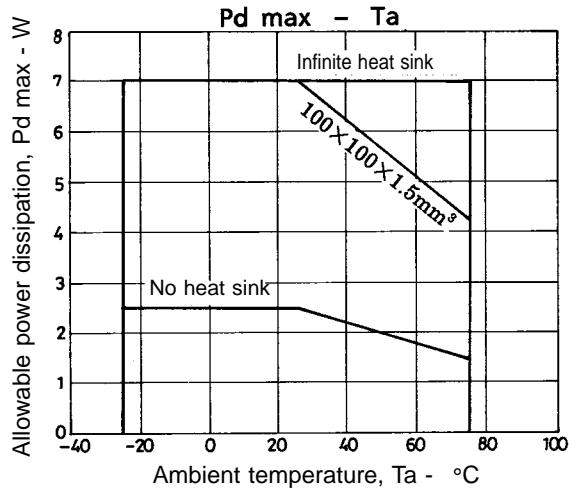
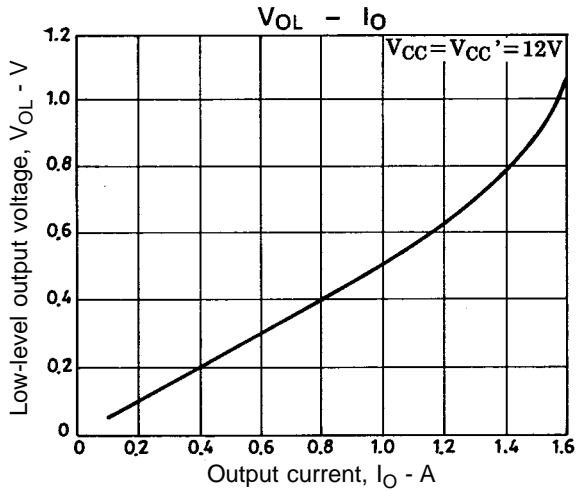


## Sample Application Circuit



Note: Do not use the NC pin.





- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
  - ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use:
  - ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.

This catalog provides information as of May, 1995. Specifications and information herein are subject to change without notice.

This datasheet has been download from:

[www.datasheetcatalog.com](http://www.datasheetcatalog.com)

Datasheets for electronics components.