

LB8620M

Low-voltage, Low-saturation, Dual-motor Driver

OVERVIEW

The LB8620M is a low-voltage, low-saturation, dual-motor driver IC that incorporates four independently adjustable, constant-voltage outputs for forward and reverse motor drive, making it ideal for use in portable videos, cameras and radio cassette players.

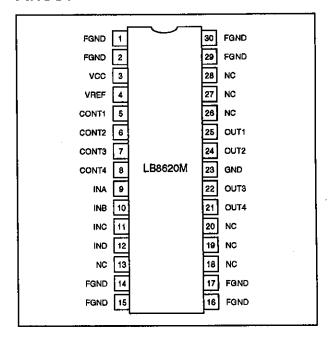
The LB8620M features 1 V (typ) output saturation voltage when $I_0 = 1$ A and less than 1 μ A (typ) standby supply current.

The LB8620M operates from a 3.0 to 7.0 V (unregulated) or a 4.5 to 7.0 V (regulated) supply and is available in 30-pin MFPs.

FEATURES

- 1 V (typ) output saturation voltage when $I_0 = 1$ A
- Less than 1 μA (typ) standby supply current when motors are OFF.
- Four independently adjustable, constant-voltage outputs
- Motor braking
- On-chip spark suppression diodes
- 3.0 to 7.0 V (unregulated) or 4.5 to 7.0 V (regulated) supply
- 30-pin MFP

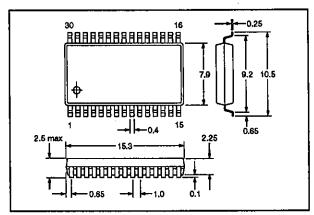
PINOUT



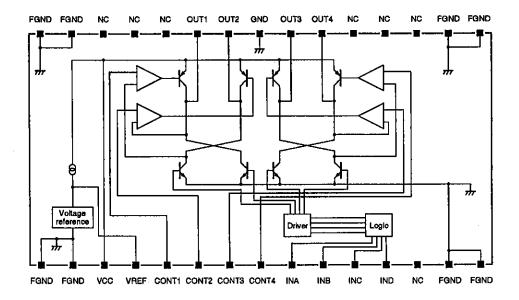
PACKAGE DIMENSIONS

Unit: mm

3073A-MFP30S



BLOCK DIAGRAM



PIN DESCRIPTION

Number	Name	Description		
1, 2, 14 to 17, 29, 30	FGND	Frame ground		
.3	VCC	Vollage supply		
4	VREF	Reference voltage output		
5	CONT1			
6	CONT2	Constant voltage adjustment insute		
7	CONT3	Constant-voltage adjustment inputs		
8	CONT4			
9	INA	Makes framed source and broke made calest insute		
10	INB	Motor forward, reverse and brake mode select inputs		
11	INC	Motor constant-voltage and high-speed mode select input		
12	IND	Motor 1 and motor 2 select input		
13, 18 to 20, 26 to 28	NC	No connection		
21	OUT4	Motor 2 control cultura		
22	ОЛТЗ	Motor 2 control outputs		
23	GND	Ground		
24	OUT2	Mater + control authorite		
25	OUT1	Motor 1 control outputs		

SPECIFICATIONS

Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Supply voltage	Vcc	8	V
Input voltage range	Vı	-0.3 to 8.0	V
Output current	ю	1.5	Α
Power dissipation	Po	1	W
Operating temperature range	Торт	-20 to 80	°C
Storage temperature range	T _{stg}	-40 to 125	°C

Recommended Operating Conditions

 $T_a = 25 \ ^{\circ}C_{\setminus}$

Parameter	Symbol	Rating	Unit	
Supply voltage	V∞	6	٧	
County with the second	V	4.5 to 7.0 (regulated)	v	
Supply voltage range	Vcc	3.0 to 7.0 (unregulated)	<u> </u>	

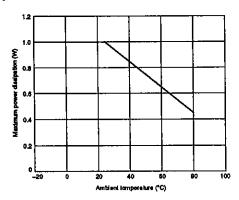
Electrical Characteristics

 V_{CC} = 6 V, T_a = 25 °C unless otherwise noted

B	Symbol	Condition	Rating			1116
Parameter			min	typ	max	Unit
Supply current	lcc	Forward or reverse mode, OUT1 to OUT4 open	-	45	-	mA
		Brake mode, OUT1 to OUT4 open	-	75	_	
Quiescent supply current	loco	Standby mode	_	0.5	10.0	μА
LOW-level input voltage	VIL		-0.3	-	0.3	٧
HIGH-level input voltage	VIH		2	-	7	٧
	V _{sat}	l _O = 200 mA		0.2	0.3	v
Output saturation voltage		l _O = 500 mA	-	0.5	0.75	
		I _O = 1 A	_	1.0	1.5	
Output voltage vs. supply voltage characteristic	$\left(\frac{\Delta V_{o}}{V_{o}}\right)\Delta V_{CC}$	V _O = 4 V, V _{CC} = 4.5 to 7.0 V, I _O = 100 mA	-	0.5	_	%∕V
Output voltage vs. supply current characteristic	$\left(\frac{\Delta V_{O}}{V_{O}}\right)/\Delta I_{CC}$	Vo = 4 V, lo = 30 to 500 mA	-	-0.005	••	%/mA

Typical Performance Characteristics

Maximum power dissipation vs. ambient temperature



FUNCTIONAL DESCRIPTION

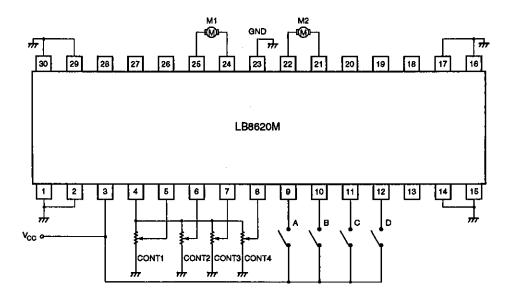
Operating Mode Selection Table

INA	INB	INC	IND	Operating mode
LOW	HIGH	LOW	LOW	M1 constant-voltage (CONT1), forward
LOW	HIGH	HIGH	LOW	M1 high-speed, forward
HIGH	LOW	LOW	LOW	M1 constant-voltage (CONT2), reverse
HIGH	LOW	HIGH	LOW	M1 high-speed, reverse
HIGH	HIGH	×	LOW	M1 brake
LOW	HIGH	FOM	HIGH	M2 constant-voltage (CONT3), forward
LOW	HIGH	HIGH	HIGH	M2 high-speed, forward
HIGH	LOW	LOW	HIGH	M2 constant-voltage (CONT4), reverse
HIGH	LOW	HIGH	HIGH	M2 high-speed, reverse
HIGH	HIGH	×	HIGH	M2 brake
LOW	LOW	×	LOW	OFF

Note

 \times = don't care

TYPICAL APPLICATION



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