

MOTOR CONTROL CIRCUIT—YD6651B

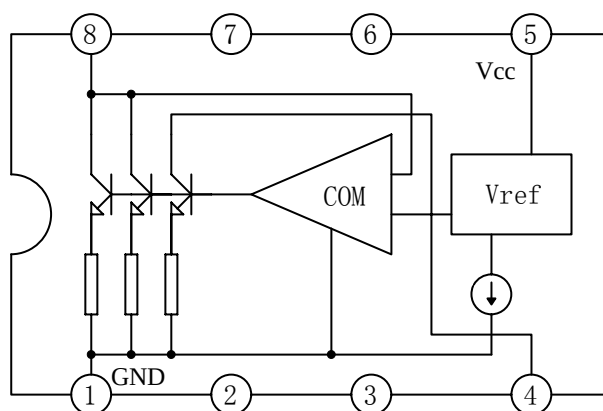
DESCRIPTION

The YD6651B is an IC designed for the rotating speed control of a compact DC motor that is used for a tape recorder, record player, etc

FEATURES

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- *Small four-lead plastic package for compact motor;
- *Fewer external parts;
- *Stable low reference voltage (1.0V typ.), wide motor speed setting
- *Highly stable operation over a wide range of supply voltage and torque supply voltage, $V_{cc}=3.5\sim 14.4V$;
- *Reverse voltage protection circuit is built-in.

BLOCK DIAGRAM



NO.	1	4	5	8	2/3/6/7
SYMBOL	GND	CON	Vcc	OUT	NC

WuXi YouDa Electronics Co., Ltd

Add: No.5 Xijin Road, National Hi-Tech Industrial Development Zone, Wuxi Jiangsu China

Tel: 86-510-85205117 86-510-85205106 Fax: 86-510-85205110 Website: www.e-youda.com

SHENZHEN OFFICE Tel: 86-755-83740369 Fax: 86-755-83741418

ABSOLUTE MAXIMUM RATINGS (T_{amb}=25℃)

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V _{CC}	14.4	V
Supply Current	I _{CC} (Note1)	2.0	A
Power Dissipation	P _D (Note 2)	0.6	W
	P _D (Note 3)	1.0	
Operating Temperature	T _{opr}	-20~+75	℃
Storage Temperature	T _{stg}	-40~+150	℃

Note 1: t ≤ 5 Second

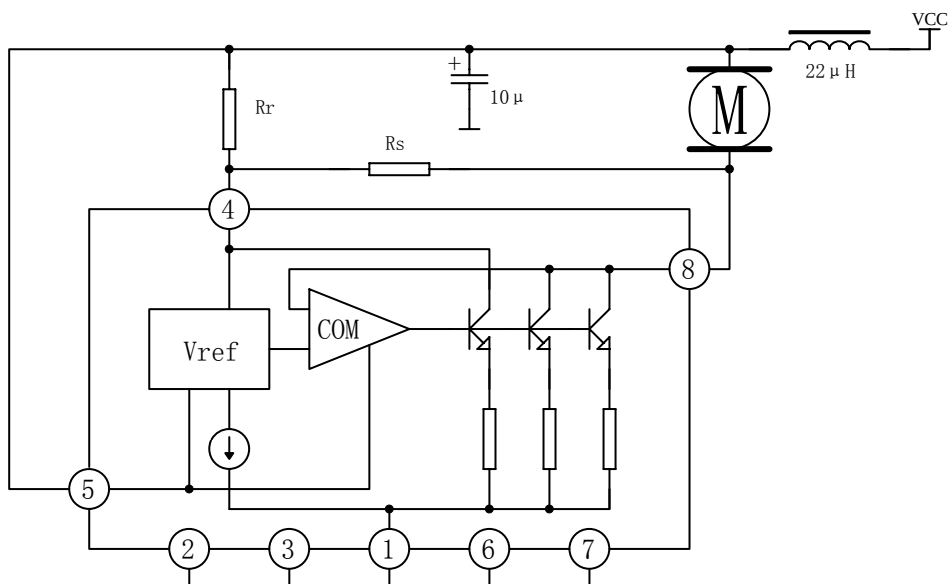
Note 2: No radiator fin

Note 3: With a 10×10mm² bakelite printed circuit board**ELECTRICAL CHARACTERISTICS**(T_{amb}=25℃, V_{CC}=6V, Unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reference Voltage	V _{ref}	V _{CC} =6V, R _M =1kΩ	0.85	1.0	1.15	V
Bias Current	I _{BIAS}	V _{CC} =6V		0.8	1.8	mA
Current Proportional Constant	K	V _{CC} =6V, I ₄ =40mA	35	40	45	
Saturation Voltage	V _{sat}	V _{CC} =4.2V, R _M =5.0Ω		1.15	2	V
Voltage Characteristics (1)	$\frac{\Delta V_{ref}}{V_{ref}} / V_{CC}$	V _{CC} =3.5V~14V R _M =1kΩ		-0.1		%/V
Voltage Characteristics (2)	$\frac{\Delta K}{K} / V_{CC}$	V _{CC} =3.5V~14V I ₄ =40mA		0.2		%/V
Current Characteristics (1)	$\frac{\Delta V_{ref}}{V_{ref}} / I_4$	I ₄ =50mA~200mA		-0.02		%/mA
Current Characteristics (2)	$\frac{\Delta K}{K} / I_4$	I ₄ =50mA~200mA		-0.01		%/mA
Temperature Characteristics (1)	$\frac{\Delta V_{ref}}{V_{ref}} / T_a$	T _a =-20℃~+75℃ V _{CC} =6V, R _M =1kΩ		0.01		%/℃
Temperature Characteristics (2)	$\frac{\Delta K}{K} / T_a$	T _a =-20℃~+75℃ I ₄ =40mA		0.01		%/℃

APPLICATION CIRCUIT

$$R_r < R_m \times 40$$



OUTLINE DRAWING

DIP-8

unit:mm

