MOTOR CONTROL CIRCUIT—YD6651

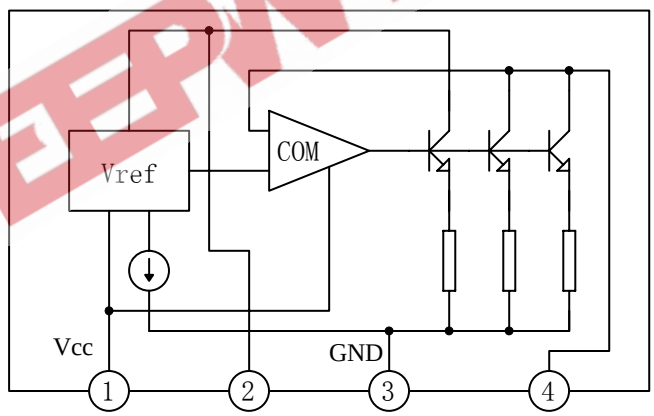
DESCRIPTION

The YD6651 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

*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, Vcc=3.5～14.4V;
*Reverse voltage protection circuit is built-in.

BLOCK DIAGRAM



NO.	1	2	3	4
SYMBOL	Vcc	CON	GND	OUT

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 (Tamb=25℃)

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	Vcc	14.4	V
Supply current	Icc (Note1)	2	A
Power Dissipation	P_D(Note 2)	0.9	W
	P_D(Note 3)	1.3	
Operating Temperature	Topr	-20～+75	℃
Storage Temperature	Tstg	-40～+150	℃

Note 1: t≤5 Second

Note 2: No radiator fin

Note 3: With a 10×10mm^2 bakelite printed circuit board

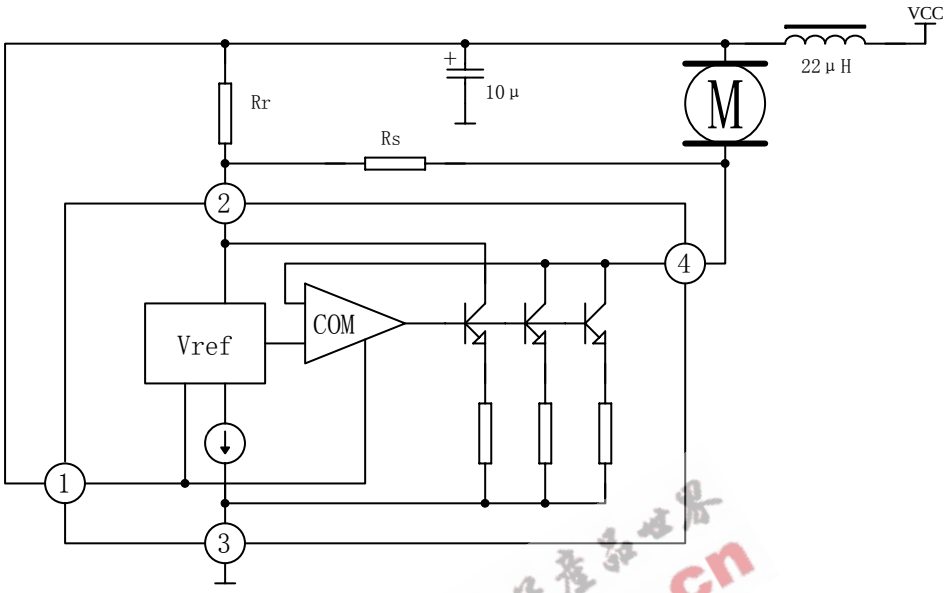
ELECTRICAL CHARACTERISTICS

(Tamb=25℃, Vcc=6V , Unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reference Voltage	Vref	Vcc=6V, R_M =1kΩ	0.85	1.0	1.15	V
Bias Current	I_{BIAS}	Vcc=6V		0.8	1.8	mA
Current Proportional Constant	K	Vcc=6V, I_4=40mA	35	40	45	
Saturation Voltage	Vsat	Vcc=4.2V, R_M =5.0Ω		1.15	2	V
Voltage Characteristics (1)	$\frac{\Delta Vref}{Vref}/Vcc$	Vcc=3.5V～14V R_M =1kΩ		-0.1		%/V
Voltage Characteristics (2)	$\frac{\Delta K}{K}/Vcc$	Vcc=3.5V～14V I_4=40mA		0.2		%/V
Current Characteristics (1)	$\frac{\Delta Vref}{Vref}/I_4$	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)	$\frac{\Delta Vref}{Vref}/Ta$	Ta=-20℃～+75℃ Vcc=6V, R_M =1kΩ		0.01		%/℃
Temperature Characteristics (2)	$\frac{\Delta K}{K}/Ta$	Ta=-20℃～+75℃ I_4=40mA		0.01		%/℃

APPLICATION CIRCUIT

Rr<Rm×40



OUTLINE DRAWING