

MOTOR CONTROL CIRCUIT—YD6652

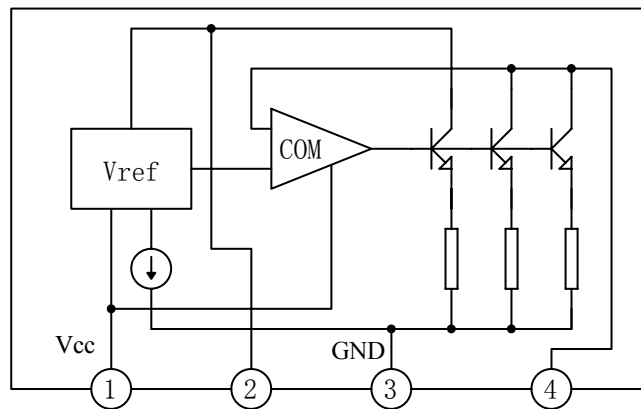
DESCRIPTION

The YD6652 is an IC designed for the rotating speed control of a compact DC motor which is used for a tape recorder, record played, etc

FEATURES

- *Small four-lead plastic package for compact motor;
- *Fewer external parts;
- *Stable low reference voltage (1.27V typ.), wide motor speed setting;
- *Highly stable operation over a wide range of supply voltage and torque supply voltage: $V_{cc}=3.5\sim 16V$;
- *Reverse voltage protection circuit is built-in.

BLOCK DIAGRAM



NO.	1	2	3	4
SYMBOL	Vcc	CON	GND	OUT

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ABSOLUTE MAXIMUM RATINGS (Tamb=25°C)

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V _{CC}	18	V
Power Dissipation	P _D	1.4	W
Operating Temperature t	Topr	-25~+75	°C
Storage Temperature	Tstg	-55~+150	°C

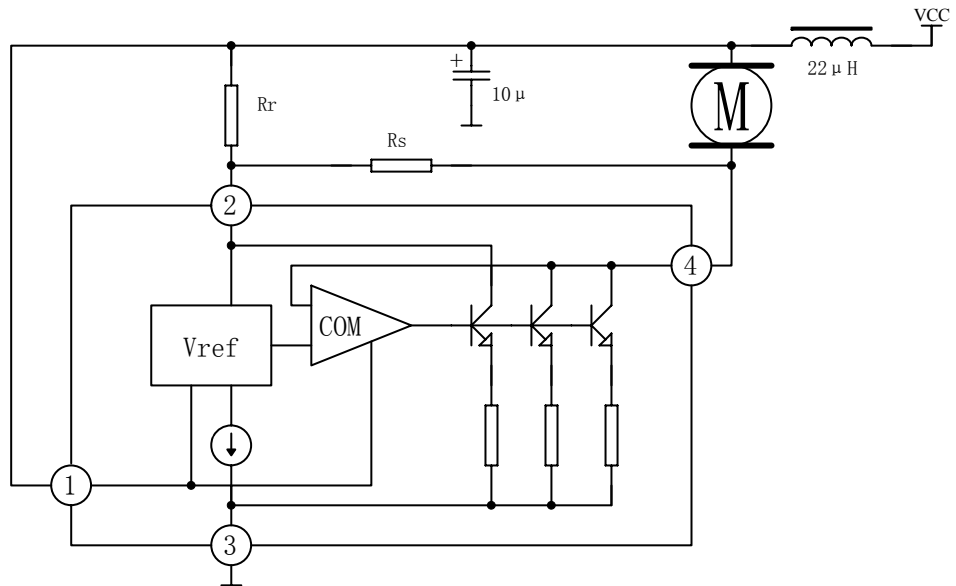
ELECTRICAL CHARACTERISTICS

(Tamb=25°C, Vcc=12V, Unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reference Voltage	V _{ref}	I _M =10mA	1.10	1.27	1.40	V
Bias Current	I _{BIAS}	R _M =180 Ω	0.5	0.8	1.2	mA
Current Proportional Constant	K	R _{M1} =44 Ω, R _{M2} =33 Ω	19.5	22	23.5	
Saturation Voltage	V _{sat}	V _{CC} =4.2V, R _M =4.4 Ω		1.5	2.0	V
Voltage Characteristics (1)	$\frac{\Delta V_{ref}}{V_{ref}} / \Delta V_{CC}$	V _{CC} =6.3V~16V I _M =100mA		0.06		%/V
Voltage Characteristics (2)	$\frac{\Delta K}{K} / \Delta V_{CC}$	V _{CC} =6.3V~16V I _M =100mA		0.4		%/V
Current Characteristics (1)	$\frac{\Delta V_{ref}}{V_{ref}} / \Delta I_M$	I _M =30mA~200mA		-0.02		%/mA
Current Characteristics (2)	$\frac{\Delta K}{K} / \Delta I_M$	I _M =30mA~200mA		-0.02		%/mA
Temperature Characteristics (1)	$\frac{\Delta V_{ref}}{V_{ref}} / \Delta T_a$	Tamb=-20°C~+75°C I _M =100mA		0.01		%/°C
Temperature Characteristics (2)	$\frac{\Delta K}{K} / \Delta T_a$	Tamb=-20°C~+75°C I _M =100mA		0.01		%/°C

APPLICATION CIRCUIT

$$R_r < R_m \times 20$$



OUTLINE DRAWING

