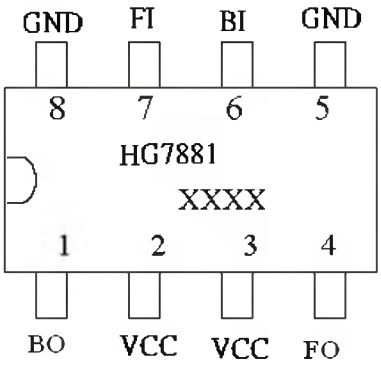
海格电子
HAIGE ELECTRONIC

Single-Channel DC Motor Driver HG7881C Ver : 1.0

Description：

HG7881C is a DC motor control and drive the design of the power amplifier application specific integrated circuit devices, The discrete circuitry integrated into the IC chip, To reduce the cost of external devices，Improve machine reliability. The chip has a good resistance; Two output Pin can directly drive the motor forward and backward movement, It has a large current drive capability, At the same time, it has a low output saturation voltage and quiescent current；Built-in clamp diode to reverse the impact of the release of inductive load current, It in the driving relays, DC motors, stepper motors or control the use of switching power safe and reliably. HG7881C are widely used in motor drive toy cars, remote-controlled aircraft motor drive, automatic valve motor drive, electromagnetic lock drive, digital camera, camera motors, precision instruments and other circuits.



Features：

- Quiescent current is less than 2μA
- Low no-load operating current: 15±5 mA
- Wide supply voltage range:2.4V~10V
- Built-in clamp-diode
- Emergency-stop function (braking function when both inputs are high, "11" protection)

Pin Assignment：

Pin No.	Name	Function
1	BO	backward output
2	VCC	power supply
3	VCC	power supply
4	FO	forward output
5	GND	ground
6	BI	backward input
7	FI	forward input
8	GND	ground

Input truth table：

Pin 7 FI	Pin 6 BI	Pin 4 FO	Pin 1 BO	
H	L	H	L	forward
L	H	L	H	backward
H	H	L	L	brake
L	L	Open	Open	stand-by (stop)

Absolute Maximum Ratings

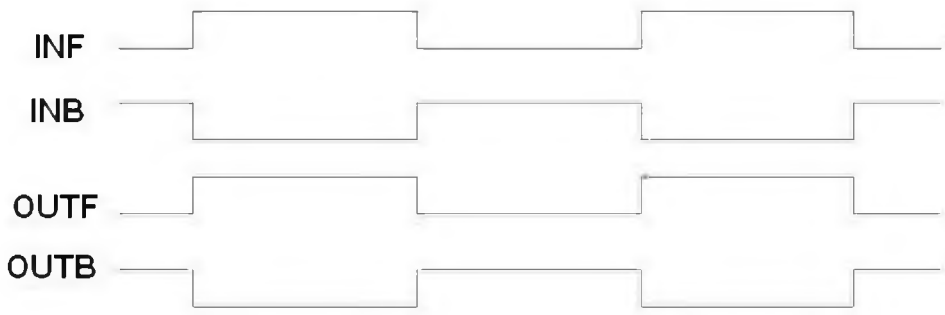
Parameter	Symbol	Rating	Unit
power dissipation	P_D	1	W
max. supply voltage	Vcc	15	V
peak output current	Iout	1.5	A
operating temperature	Top	-25 ~ +85	℃
storage temperature	Tstg	-55 ~ +125	℃

Electrical characteristics

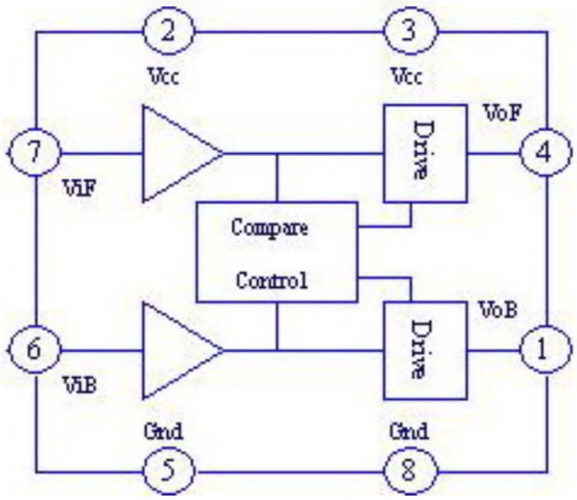
(Vcc=9v, Ta=25℃ unless specified otherwise)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
operating voltage	V_{OPR}		2.4	--	10	V
quiescent current	Is	V_i = 0			2	μA
no-load operating curr.	Icc	Vcc = 6V V_i = 2V (no load)	10	15	20	mA
high output voltage	VH_{OUT}	Vcc = 6V Io = 800mA	4.5	4.8	5.2	V
low output voltage	VL_{OUT}		0.3	0.5	0.9	V
high input voltage	V_{iH}		1.8	2	6	V
low input voltage	V_{iL}			0.5	0.7	V
low input current	Ii	Vcc = 6V Vi = 2V		70	100	μA
		Vcc = 6V Vi = 3V		100	150	μA
continuous input current	Iout	SOP8 package		0.6	0.8	A
		DIP8 package		1.0	1.1	A
peak output current	I_{PEAK}				1.5	A
clamp diode leakage curr.	I_{LEAK}	V_{CC} =9V	-	-	30	μA
clamp diode voltage drop	V_D	I_{OUT} =0.4A	-	-	1.7	V

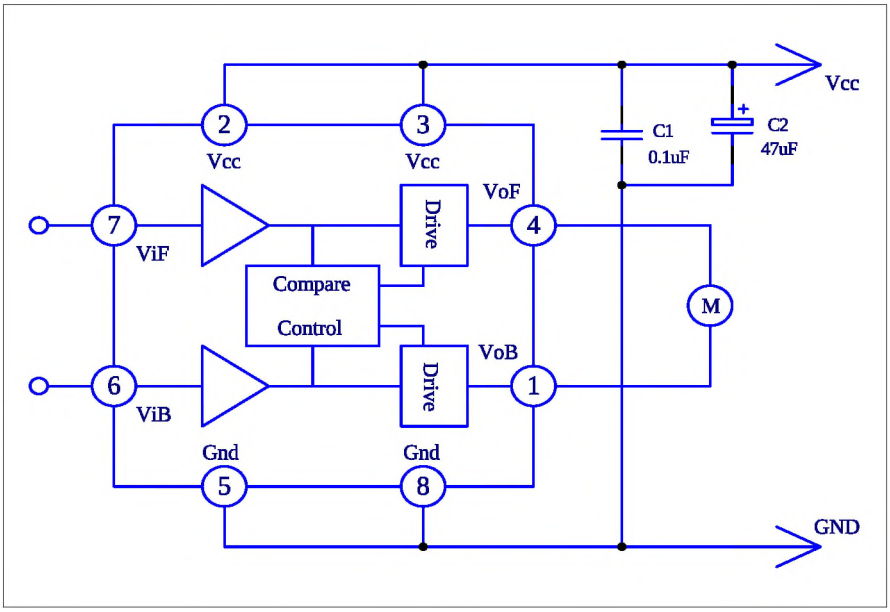
Pins Waveforms :



Function block diagram



Application circuit



Package mechanical drawing

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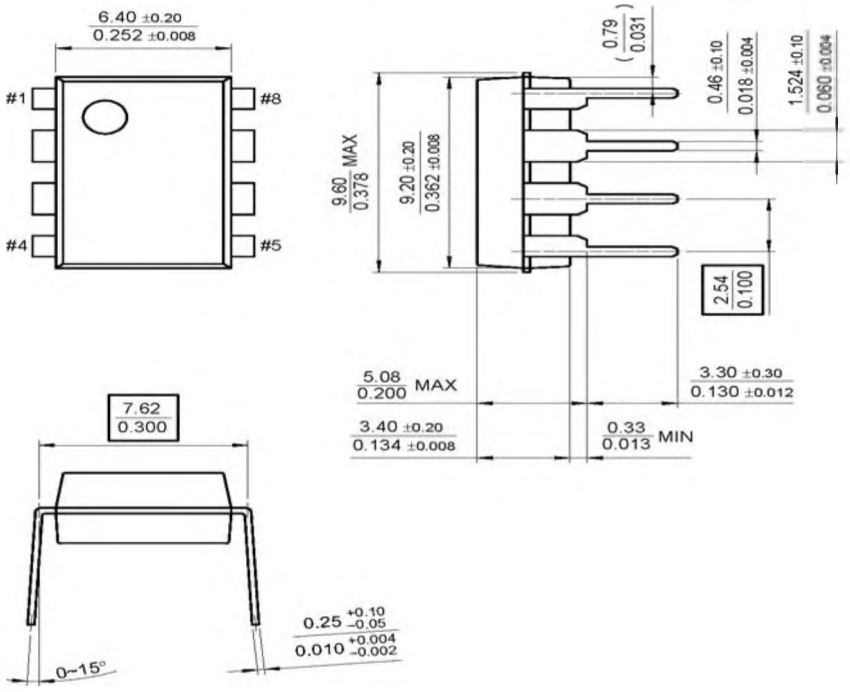

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