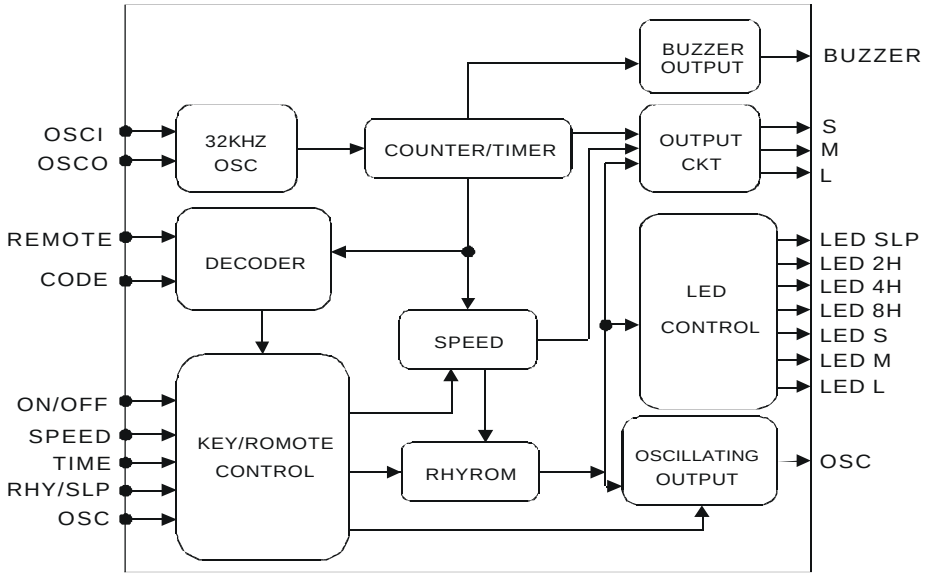
General Description :

CP8112B-L8SN24 IC is the control IC of remote fan, built-in ON/OFF, SPEED, TIME, RHY/SLP,OSC 5keys, and 7 LEDs to display the status of speed & timer.

Features :

- 3 Winds : NORMAL, RHY, SLP
- 5 Keys : ON/OFF, SPEED, TIME, RHY/SLP, OSC
- 3 Speeds available: Low(L), Medium (M), Strong(S)
- 7 LEDs : display speeds: L, M, S ; Time setting: 2H, 4H, 8H; SLP
- 4 outputs : 3 speeds: L, M, S & OSC
- ON/OFF KEY : memorize the last status, except timer
- 47 seconds RHY circulation
- SLP for at longest 4 Hrs time setting
- ON/OFF, SPEED, TIME, RHY/SLP, OSC also controlled by remote
- Co-operation remote control IC: CP8223R
- w/buzzer output

Block Diagram :



Function :

A. ON/OFF key :

1ST pressing on ON/OFF is ON, and 2nd pressing is OFF. Each pressing makes buzzer bi a sound.

B. SPEED key :

When fan works, it will automatically start at SPEED L and LED L lights on. Once SPEED key pressed again, from SPEED L to SPEED M, LED L lights off & LED M lights on. The next pressing is from SPEED M to SPEED S, and the following from SPEED S to SPEED L. The action L→ M → S → L → M, accompaning with LED display & buzzer bi, makes a circulation.

C. TIMER key :

When TIME pressed, LED 2H lights on as 2hr setting. When TIME pressed again, LED 2H lights off & LED 4H lights on as 4 hrs setting. Timer action, as same as LED display makes a cycle as OFF → 2H → 4H → 8H → OFF. Buzzer bi also sounds with each pressed key. LED displays the remaining time. For example, when 6 hrs later, timer setting at 8 hrs, LED 2H lights on & LED 4H lights off. That is only 2hrs remained. Then, the last 2hr later, all the LED light off & fan off.

D. RHY/SLP key :

Fan is ON, in the normal wind. Upon RHY/SLP key pressed, it turns to RHY and the LED displaying the speed blinks. RHY/SLP key pressed again, LED SLP, and LED 8H light on. Time set automatically at 8 hrs. TIME key offers the selection of time setting. But in the SLP, timer automatically starts to set at 8H. Each pressing makes buzzer bi a sound.

E. OSC KEY :

When OSC key is pressed, in fan' s working, OSC works. The key pressed again, OSC stops. Each pressing makes the buzzer bi a sound.

F. BUZZER bi: 4KHz.

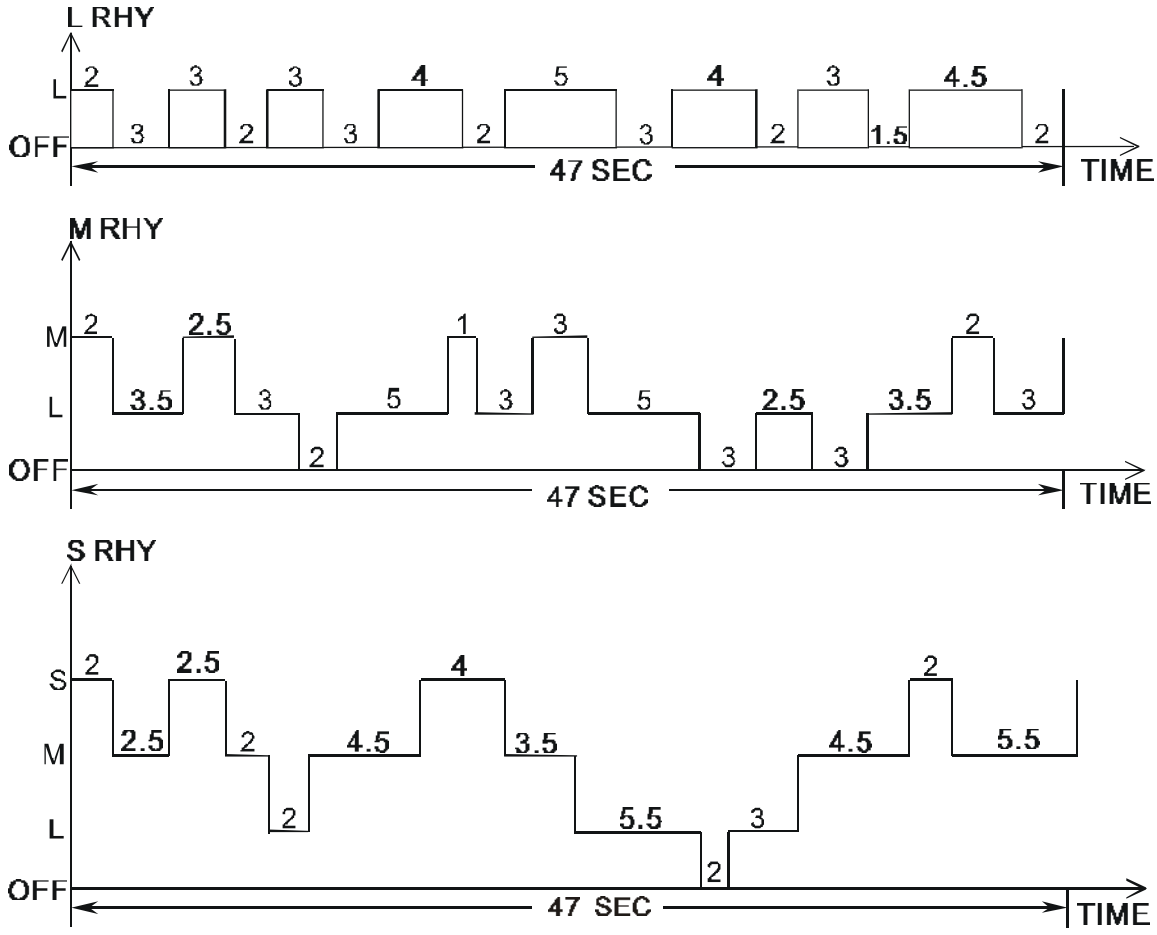
G. Oscillation frequency: 32.768KHZ.

H. Function of remote controller keys: same as above.

RHY Mode :

In RHY mode, LED displays the present status in RHY L, M, or S. When RHY L pressed, LED L blinks; and the same action is with RHY M & S. LED display changes with RHY MODE L, M, or S but not with SPEED.

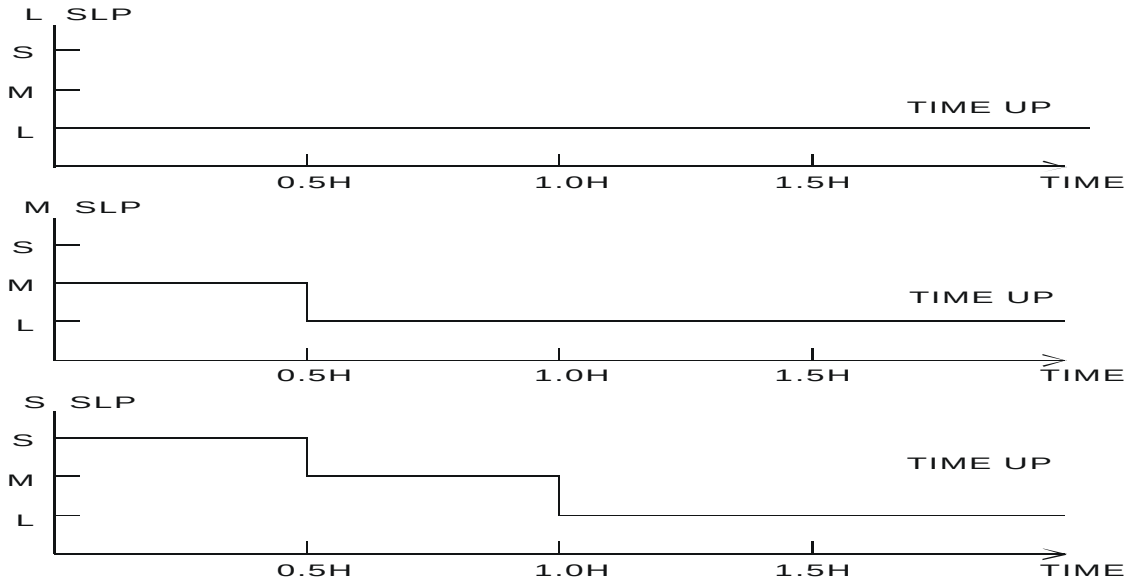
Speed cycle of RHY is as follows:



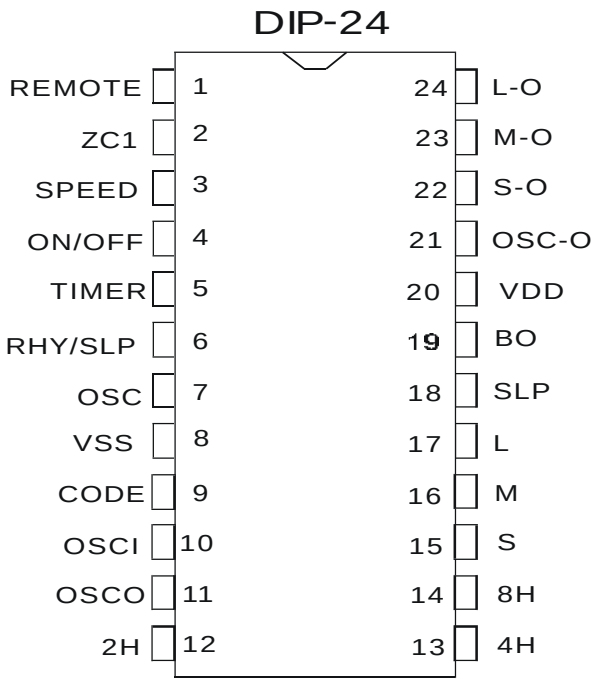
SLP MODE :

NOTE：A．If SPEED is changed, during SLEEP MODE, SLP will be reset.

B．If timer finishes the time counting, it turns to OFF.



Package Diagram :



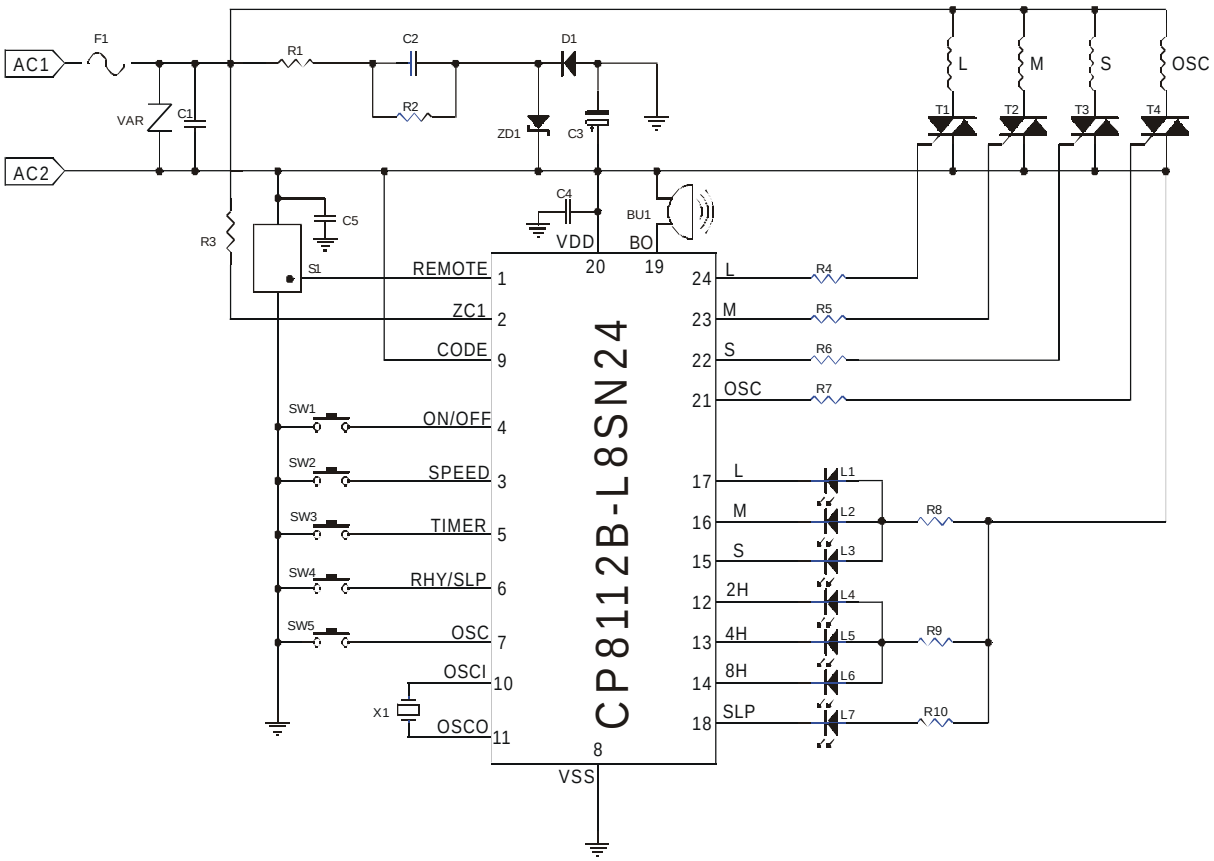
DC Characteristics :

PARAMETER	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
VDD	-----	4.5	5	5.5	VOLT
OPERATING CURREND (IDD)	NO LOAD	-----	550	800	uA
PULL HIGH IMPEDENCE INPUT SW AND BONDING PIN	VDD = 5V	15K	30K	45K	Ohm
PULL HIGH IMPEDENCE REMOTE PIN	VDD = 5V	700K	1M	1.3M	Ohm
PULL LOW IMPEDENCE	VDD = 5V	10K	115K	25K	Ohm
BO FREQUENCY	-----	-----	4096	-----	Hz
SINK CURRENT BO, ALL LED OUTPUT PIN	VDD = 5V VO = 2.5V	-----	16	-----	mA
SINK CURRENT S,M,L,OSCILLATING	VDD = 5V VO = 0.5V	-----	20	-----	mA
DRIIVE CURRENT BO	VDD = 5V VO = 2.5V	-----	17	-----	mA

Pin Description :

PIN NAME	PIN NUMBER	I/O	FUNCTION
REMOTE	1	I	REMOTE INPUT PIN
ZC1	2	I	ZERO CROSSING INPUT PIN
SPEED	3	I	SPEED INPUT KEY
ON/OFF	4	I	ON/OFF INPUT KEY
TIMER	5	I	TIMER INPUT KEY
RHY/SLP	6	I	RHY/SLP INPUT KEY
OSC	7	I	OSCILLATING INPUT KEY
VSS	8	P	POWER PIN (-)
CODE	9	I	PIN OPTION
OSCI	10	I	CRYSTAL 32.768KHz
OSCO	11	O	CRYSTAL 32.768KHz
LED 2H	12	O	TIMER(2H) LED OUTPUT
LED 4H	13	O	TIMER(4H) LED OUTPUT
LED 8H	14	O	TIMER(8H) LED OUTPUT
LED S	15	O	S SPEED LED OUTPUT
LED M	16	O	M SPEED LED OUTPUT
LED L	17	O	L SPEED LED OUTPUT
LED SLP	18	O	SLEEP MODE LED OUTPUT
BO	19	O	BUZZER OUTPUT 4KHz
VDD	20	P	POWER PIN (+)
OSC-O	21	O	OSCILLATING OUTPUT
S-O	22	O	STRONG OUTPUT
M-O	23	O	MID OUTPUT
L-O	24	O	LOW OUTPUT

Typical application Circuit (for reference only) :



Application Circuit BOM (for reference only) :

POWER：110V		
SPARE PARTS	SPEC PARTS	LOCATION
VARISTOR	07D221K	VAR
CAPACITOR	0.1μf	C4,C5
CAPACITOR	2.2μF / 250V	C2
CAPACITOR	0.1μF / 250V	C1
ELECTROLYTIC CAPACITOR	470μF / 10V	C3
RESISTOR	47Ω / 2W	R1
RESISTOR	100KΩ / 0.25W	R2
RESISTOR	1MΩ / 0.25W	R3
RESISTOR	470Ω / 0.25W	R4~R10
DIODE	1N4004	D1
ZENER DIODE	5.6V / 0.5W	ZD1
LED	as requirement	L1~L7
FUSE	1A / 125V	F1
CRYSTAL OSCILLATOR	32.768 KHZ	X1
BUZZER	4 KHZ	BU1
IR RECEIVER	38 KHZ	S1
TACT SWITCH	as requirement	SW1~SW5
TRIAC	IGT = 3~5 mA	T1~T4
IC	CP8112	U1