

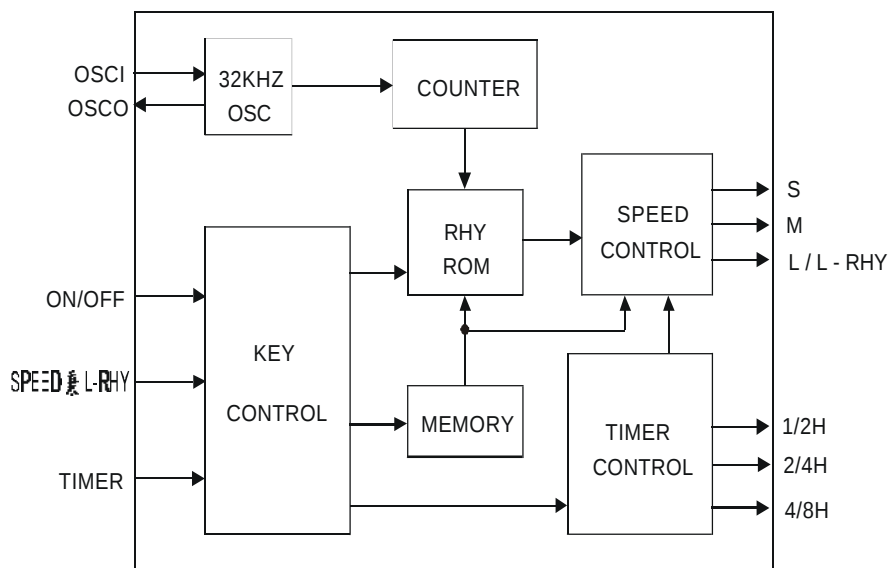
General Description :

CP8110 IC is the control IC of fan without remote, built-in ON/OFF, SPEED/L-RHY, TIME 3 keys, and 6 LEDs to display the status of speed & timer.

Features :

- 2 Winds: Normal, L-RHY
- 3 Keys: ON/OFF, SPEED/L-RHY, TIME
- 3 Speeds available: Low (L), Medium (M), Strong (S))
- 2 Timer setting: timer hours can be selected by OPTION, 1H, 2H, 4H or 2H, 4H, 8H mode
- 6 LEDs: display speeds: L, M, S ; time setting: 1/2H, 2/4H, 4/8H
- 3 Outputs: 3 speeds: L, M, S
- ON/OFF KEY : memorize the last status, except timer
- 47 seconds RHY circulation

Block Diagram :



Function :

A. ON/OFF key :

1ST pressing on ON/OFF is ON, and 2nd pressing is OFF.

B. SPEED/L-RHY control :

When fan works, it will automatically start at SPEED L with the light of LED L. Once SPEED key pressed again, from SPEED L to SPEED M, LED L lights off & LED M lights on. The next pressing is from LED M to LED S, and the following from LED S to LED L. The action L → M → S → L-RHY → L → M, accompanying with LED blinking , makes a circulation.

C. TIME key :

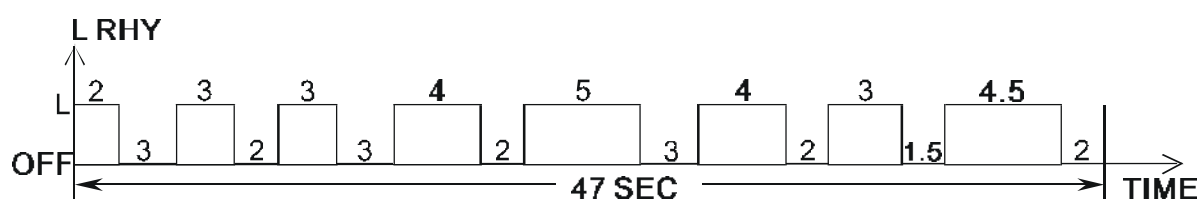
When TIME pressed, LED 1H(2H) lights on as 1hr (2hrs) setting. When TIME pressed again, LED 1H (2H) light off & LED 2H(4H) light on as 2 hrs (4hrs) setting. Timer action, as same as LED display moves in circles as OFF → 1H(2H) → 2H(4H) → 4H(8H) → OFF. LED displays the remaining time. For example, when 2 (4) hrs later, timer setting at 4 (8) hrs, LED 2H (4H) lights on & LED 4H (8H) lights off. That is, there is only 1 (2) hrs remaining. Then, the last 1 (2) hr later, all the LED light off & fan off.

D. Oscillation frequency: 32.768KHZ.

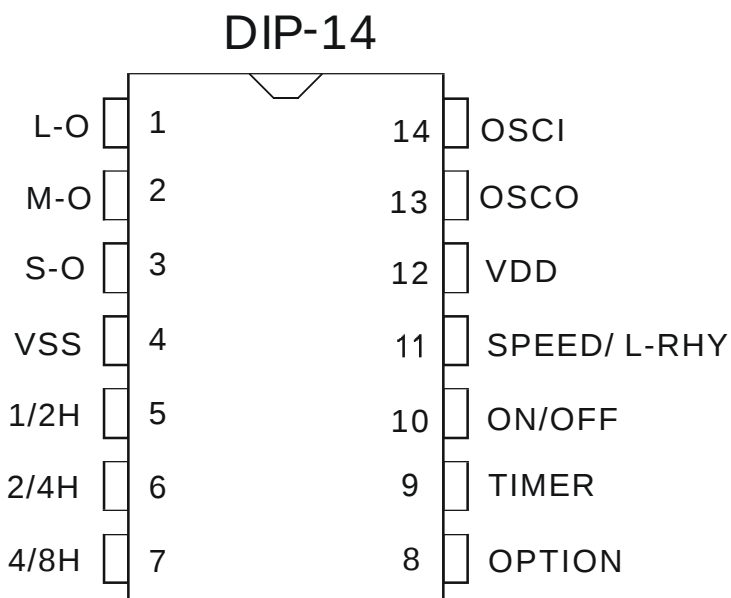
L-RHY Mode :

In L-RHY mode, LED L blinking displays the present status in L-RHY. LED displaying the speed simultaneously changes with SPEED.

Speed cycle of L-RHY is as follows :



Package Diagram :



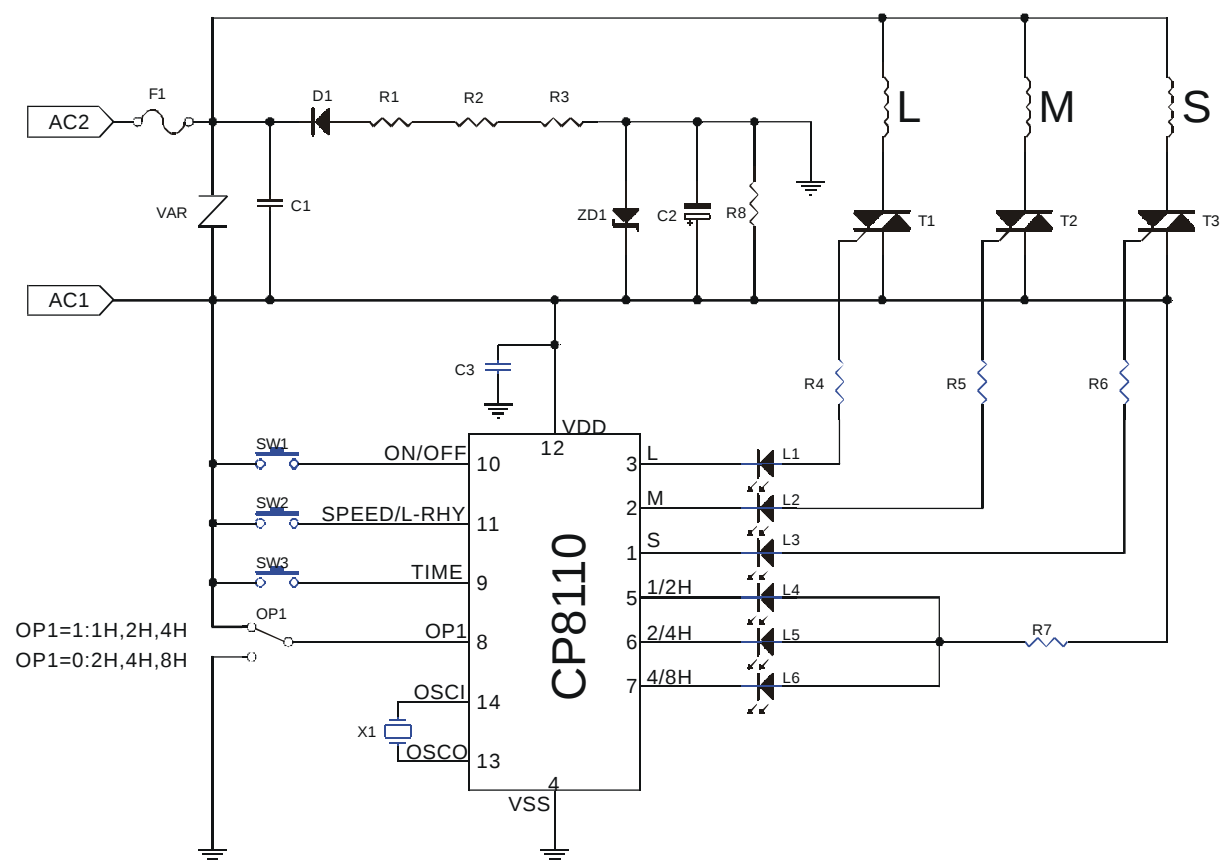
DC Characteristics :

PARAMETER	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
VDD	-----	4.5	5	5.5	VOLT
OPERATING CURREND (IDD)	NO LOAD	-----	65	80	uA
PULL HIGH IMPEDENCE	VDD = 5V	22K	36K	54K	Ohm
PULL LOW IMPEDENCE	VDD = 5V	7K	9K	15K	Ohm
SINK CURRENT	VDD = 5V	-----	16	-----	mA
S,M,L	VO = 1V	-----	10	-----	mA
DRIIVE CURRENT	VDD = 5V	-----	17	-----	mA

Pin Description :

PIN NAME	PIN NUMBER	I/O	FUNCTION
LED S	1	O	S SPEED LED OUTPUT
LED M	2	O	M SPEED LED OUTPUT
LED L	3	O	L SPEED LED OUTPUT
VSS	4	P	POWER PIN (-)
LED 1/2H	5	O	TIMER(1/2H) LED OUTPUT
LED 2/4H	6	O	TIMER(2/4H) LED OUTPUT
LED 4/8H	7	O	TIMER(4/8H) LED OUTPUT
OPTION	8	I	TIMER MODE OPTION
TIMER	9	I	TIMER INPUT KEY
ON/OFF	10	I	ON/OFF INPUT KEY
SPEED W/ L- RHY	11	I	SPEED W/ L-RHY INPUT KEY
VDD	12	P	POWER PIN (+)
OSCO	13	O	CRYSTAL 32.768KHz
OSCI	14	I	CRYSTAL 32.768KHz

Typical application Circuit (for reference only) :



Application Circuit BOM :

POWER : 110V		
SPARE PARTS	SPEC PARTS	LOCATION
VARISTOR	07D221K	VAR
CAPACITOR	0.1 μ f	C3
CAPACITOR	0.1 μ F / 250V	C1
ELECTROLYTIC CAPACITOR	220 μ F / 10V	C2
RESISTOR	1.5K Ω / 2W	R1~R3
RESISTOR	5.1K Ω / 0.25W	R8
RESISTOR	1.2K Ω / 0.25W	R7
RESISTOR	470 Ω / 0.25W	R4~R6
RECTIFIER DIODE	1N4004	D1
ZENER DIODE	5.1V / 0.5W	ZD1
LED	as requirement	L1~L6
FUSE	1A / 125V	F1
CRYSTAL OSCILLATOR	32.768 KHZ	X1
TACT SWITCH	as requirement	SW1~SW4
TRIAC	IGT = 3~5 mA	T1~T3
IC	CP8110	U1