

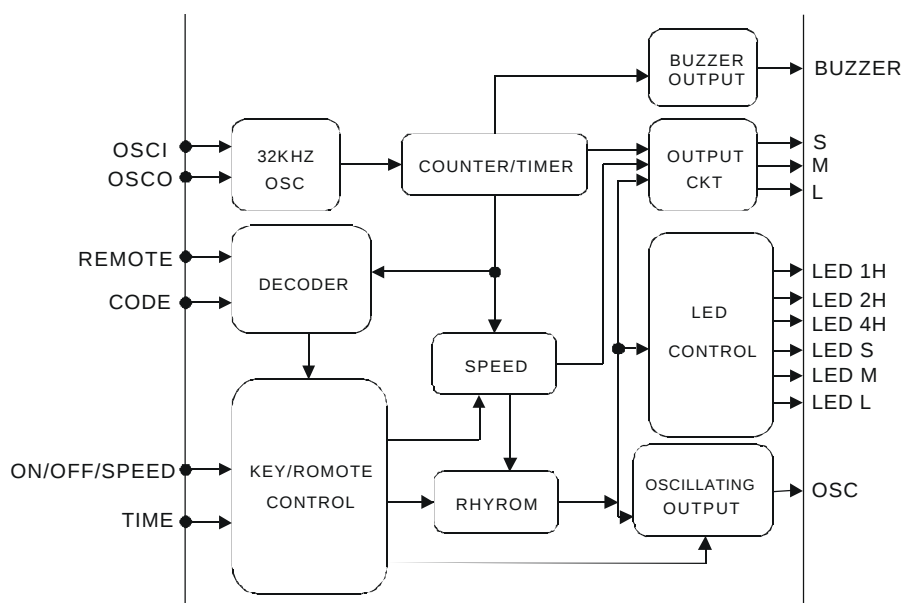
General Description :

CP8113-L4RC20 IC is the control IC of remote fan, built-in ON/OFF/SPEED, TIME 2keys, and 6 LEDs to display the status of speed & timer.

Features :

- 2 Winds : NORMAL, RHY
- 2 Keys : ON/OFF/SPEED, TIME
- 3 Speeds available: Low(L), Medium (M), Strong(S)
- 6 LEDs : display speeds: L, M, S; Time setting: 1H, 2H, 4H
- 4 outputs : 3 speeds: L, M, S & OSC
- ON/OFF with speed KEY : memorize the last status, except timer
- 47 seconds RHY circulation
- ON/OFF, SPEED, TIME, RHY, OSC also controlled by remote
- Co-operation remote control IC: CP8223R
- w/buzzer output

Block Diagram :



Function :**A.ON/OFF/SPEED key :**

When ON/OFF is pressed, IC automatically starts at SPEED L & LED L lights on. The key is pressed again, SPEED L turns to SPEED M. The key is pressed one more time, SPEED M turns to SPEED S. In order, SPEED S turns to OFF. The action, ON/L → M → S → OFF → ON/L, makes a cycle. Each pressing makes the buzzer bi a sound.

B.TIMER key :

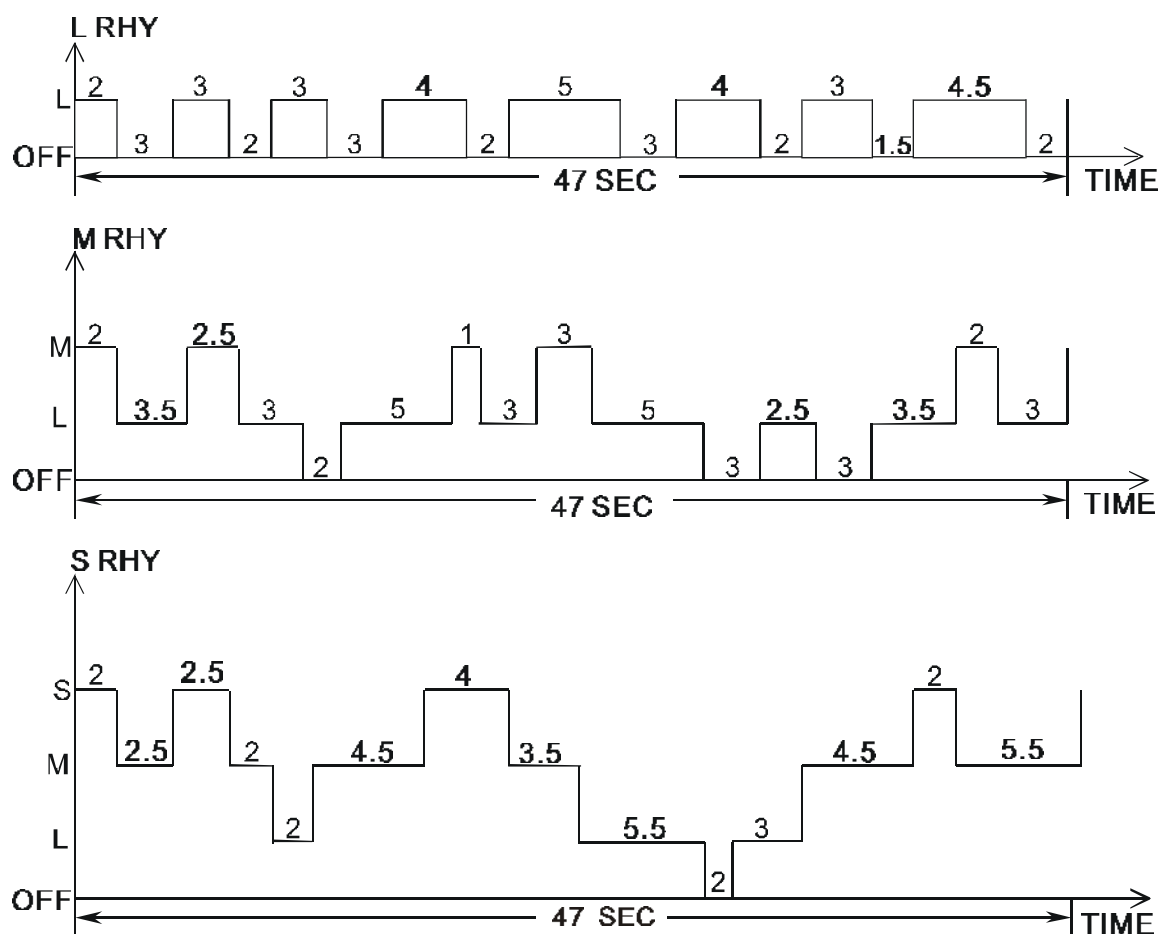
When TIME pressed, LED 1H lights on as 1hr setting. When TIME pressed again, LED 1H light off & LED 2H light on as 2hrs setting. Timer action, as same as LED display makes a cycle as OFF → 1H → 2H → 4H → OFF. Buzzer bi also sounds with each pressed key. LED displays the remaining time. For example, when 3 hrs later, timer setting at 4 hrs, LED 1H lights on & LED 2H lights off. That is only 1hr remained. Then, the last 1hr later, all LED light off & fan off.

C. BUZZER bi: 4KHz.**D. Oscillation frequency: 32.768KHZ.**

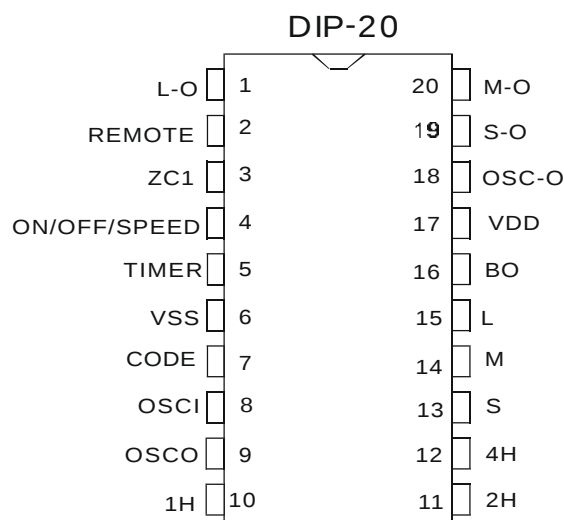
RHY Mode :

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 circle of RHY is as follows:



Package Diagram :



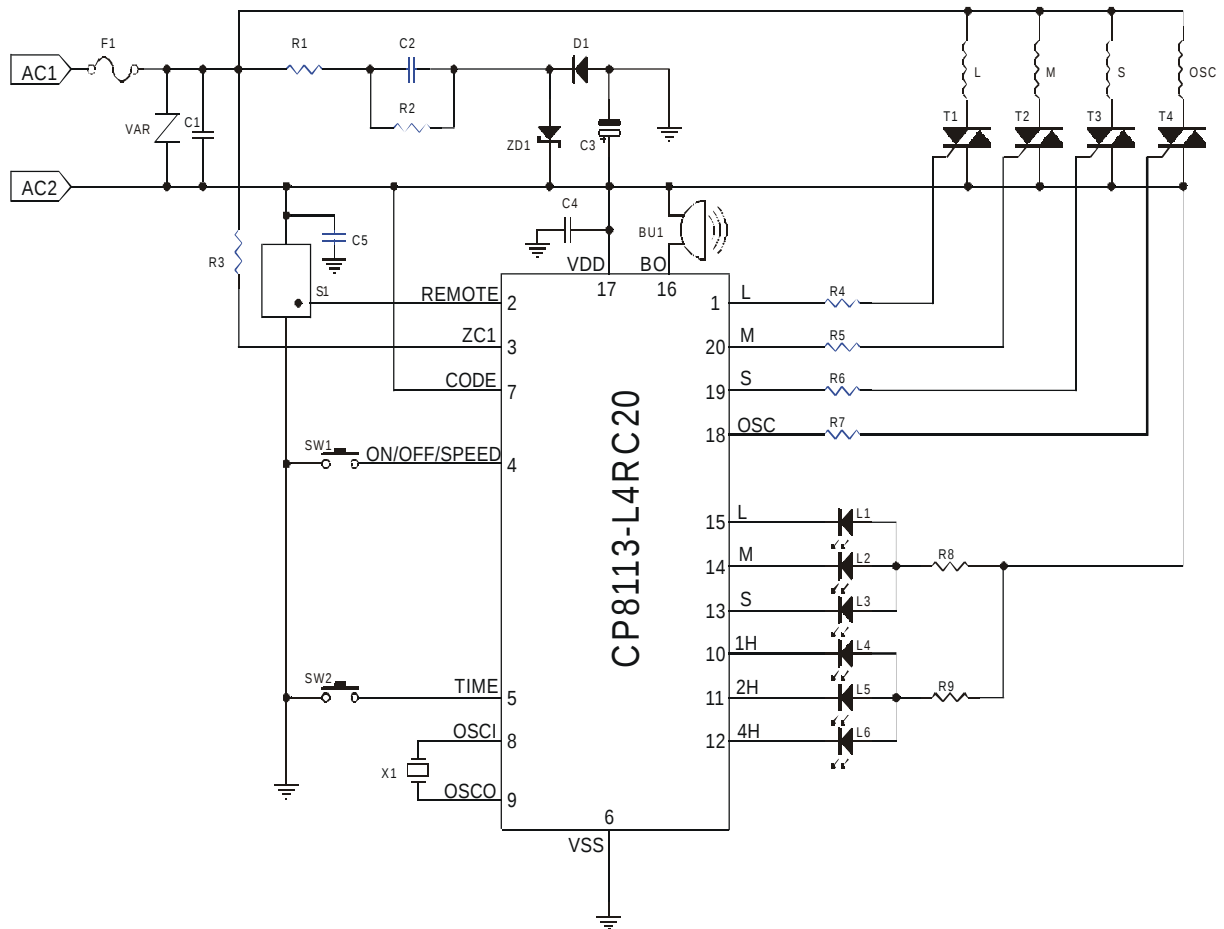
DC Characteristics :

PARAMETER	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
VDD	-----	4.5	5	5.5	VOLT
OPERATING CURREND (IDD)	NO LOAD	-----	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
L-O	1	O	LOW OUTPUT
REMOTE	2	I	REMOTE INPUT PIN
ZC1	3	I	ZERO CROSSING INPUT PIN
ON/OFF/SPEED	4	I	ON/OFF/SPEED INPUT KEY
TIMER	5	I	TIMER INPUT KEY
VSS	6	P	POWER PIN (-)
CODE	7	I	PIN OPTION
OSCI	8	I	CRYSTAL 32.768KHz
OSCO	9	O	CRYSTAL 32.768KHz
LED 1H	10	O	TIMER(1H) LED OUTPUT
LED 2H	11	O	TIMER(2H) LED OUTPUT
LED 4H	12	O	TIMER(4H) LED OUTPUT
LED S	13	O	S SPEED LED OUTPUT
LED M	14	O	M SPEED LED OUTPUT
LED L	15	O	L SPEED LED OUTPUT
BO	16	O	BUZZER OUTPUT 4KHz
VDD	17	P	POWER PIN (+)
OSC-O	18	O	OSCILLATING OUTPUT
S-O	19	O	STRONG OUTPUT
M-O	20	O	MID OUTPUT

Typical application Circuit (for reference only) :



Application Circuit BOM (for reference only) :

POWER : 110V		
SPARE PARTS	SPEC PARTS	LOCATION
VARISTOR	07D221K	VAR
CAPACITOR	0.1 μ f	C4,C5
CAPACITOR	2.2 μ F / 250V	C2
CAPACITOR	0.1 μ F / 250V	C1
ELECTROLYTIC CAPACITOR	470 μ F / 10V	C3
RESISTOR	47 Ω / 2W	R1
RESISTOR	100K Ω / 0.25W	R2
RESISTOR	1M Ω / 0.25W	R3
RESISTOR	470 Ω / 0.25W	R4~R9
DIODE	1N4004	D1
ZENER DIODE	5.6V / 0.5W	ZD1
LED	as requirement	L1~L6
FUSE	1A / 125V	F1
CRYSTAL OSCILLATOR	32.768 KHZ	X1
BUZZER	4 KHZ	BU1
IR RECEIVER	38 KHZ	S1
TACT SWITCH	as requirement	SW1~SW2
TRIAC	IGT = 3~5 mA	T1~T4
IC	CP8113	U1