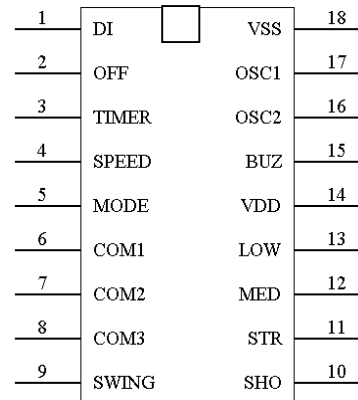




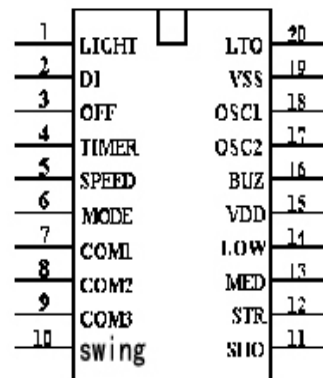
Remote Electric Fan Controller IC (HS8206)

CHARACTERISTICS:

- 8 types : HS8206BA4K/L、HS8206BA4/L
HS8206BN3K/L、HS8206BN3/L
- 3 modes: normal, natural, sleep wind
- 3 speeds: strong, medium & low
- 2 timing modes:
 - 1) ' A4 ': 0.5, 1, 2, 4 hours progressive time
 - 2) ' N3 ': 1, 2, 4 hours non-progressive time
- one group of independent color-light control function: ' L '
- one group of dependent swing control function
- buzzer sound: “on” ---Bi-Bi
“off”--- Bi -
other operations---Bi
- oscillating circuit input of a 455KHz oscillator
- medium wind start function
- independent “on/off” button : HS8206BA4K/L
HS8206BN3K/L
“speed” button : HS8206BA4/L ,
HS8206BN3/L
- memory function, without re-setting operating mode for every start
- associated with HS5104 encoder for full functional remote control
- 2-bit user code setting.
- “Bi-Bi-Bi-Bi” warning sound occurs if a button is pressed over six seconds.



HS8206BA4K
HS8206BA4
HS8206BN3K
HS8206BN3



HS8206BA4KL
HS8206BA4L
HS8206BN3KL
HS8206BN3L

ABSOLUTE MAXIMUM RATING :

- Supply Voltage : -0.3 ~ 6V
- Input/Output Voltage : Vss - 0.3 ~ VDD + 0.3V
- Power Consumption : 500mW
- Operating Temperature : - 10 ~ 70
- Storage Temperature : - 40 ~ 125



D.C. CHARACTERISTICS :

Parameter	Symbol	Condition	Min.	Normal	Max.	Unit
Operating Voltage	V _{DD}		3	5	6	V
Static Current	I _{SB}	V _{DD} - V _{SS} = 5V, OSC stops output non-load			500	μA
Input Strong Level	V _{IH}		3.5			V
Input Low Level	V _{IL}				1.5	V
Output Current	I _{OL}	V _{OL} = 0.7V		10		mA
		OFF , MODE , SPEED , TIMER				
		Manipulable silicon , V _{OL} = 0.7V		10		mA
		COM1 - COM3		40		mA
		BUZZER , V _{OH} = 4.3V		5		mA

FUNCTION OVERVIEW:

HS8206 Fan Controller uses an electronic trigger switch & timer in place of a traditional mechanical switch & timer. Besides keeping original normal wind mode and timing function, it designs natural & sleep wind mode and provides one group of swing function & one group of color-light function. ('L'). Fan's function is strengthened. If associated with a special encoder, it can implement multi-channel remote control, and increase its add-value.

“OFF” Shut off the motor's power supply, Fan stops, and the control circuit comes back to rest, recording the running mode before stop. For the next start, Fan runs as the recorded mode (Timing & Sleep Wind can't be recorded.).

“ON/SPEED” When Fan is rest, press the button to start it with the normal wind mode. After 3 seconds, it sets at low speed (during first power-on), or runs as memory wind status. During the operating, the button is used for cycle options of wind speed: low, medium, strong, low, medium...

“ON/OFF” ('K') When Fan is rest, press the button to start it with the normal wind mode. After 3 seconds, it sets at low speed (during first power-on), or runs as memory wind status; When Fan works, press the button to shut off the motor's power supply, then Fan stops and the control circuit will come back to rest, recording the running mode before stop. Next time pressing the button to start Fan, Fan will run as the recorded mode (Timing & Sleep Wind can't be recorded.).

“SPEED” ('K') The button is used for cycle options of wind speed: low, medium, strong, low, medium...

“MODE” Cycle Option: normal, natural, sleep, normal, natural...
Normal Wind: run constantly at high, or normal, or low level
Natural Wind: the motor runs irregularly as pre-designed program.
With speed set, it is divided as high natural wind, medium natural wind & low natural wind. Simulating real wind in nature for soft & comfortable feeling.



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Sleep Wind: the motor runs under the control of natural-wind program.

Since the temperature of human body falls slowly after asleep, Fan's speed also decreases slowly, in case catch cold after asleep. The detail as follows:

- 1) If the original set is high speed, after 0.5 hour, Fan turns to medium natural wind, and after another 0.5 hour, Fan turns to low natural wind until reaches the preset time or is turned off.
- 2) If the original set is medium speed, after 0.5 hour, Fan turns to low natural wind until reaches the preset time or is turned off.
- 3) If the original set is low speed, Fan runs as low natural wind until reaches the preset time or is turned off.

“TIME”

Preset time:

1)HS8206BA4 : 0.5, 1, 2, 4 hours 4-phase progressive time

2)HS8206BN3 : 1, 2, 4 hours 3-phase non-progressive time

When Fan runs under Timing status, LED displays the rest preset time momentarily, showing the time to stop clearly.

“SWING”

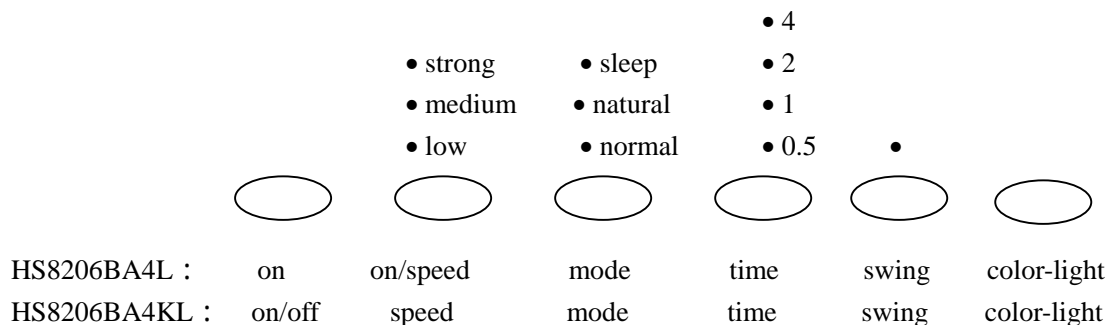
As Fan runs, press the button to control the operation of electronic swinger. When Fan stops, the button is inactive.

“COLOR-LIGHT”

Press the button to control color-light switch, and the button-pressing is always effective whether Fan runs or not.

Used with the encoder HS5104, a remote emitter with full function of above buttons can be designed. And a buzzer sound goes with every button-pressing representing the signal is received successfully.

控制面板：





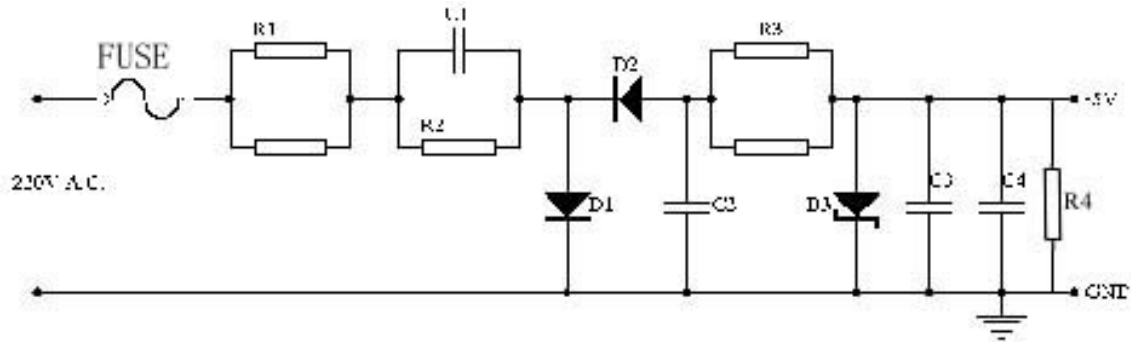
PAD DETAILS:

No.		Name	I/O	Description
Not 'L' version	'L' version			
	1	LIGHT	I	Color-light control input
1	2	D1	I	Remote control signal input
2	3	OFF	I/O	Off key-switch input & LED scan output port
3	4	TIMER	I/O	Time key-switch input & LED scan output port
4	5	SPEED	I/O	Speed key-switch input & LED scan output port
5	6	MODE	I/O	Mode key-switch input & LED scan output port
6	7	COM1	O	User code C1 chosen & LED scan public port
7	8	COM2	O	User code C2 chosen & LED scan public port
8	9	COM3	O	LED scan public port
9	10	SWING	I	Swing key-switch input
10	11	SHO	O	Swing drive, horizontal swing
11	12	STRONG	O	Strong drive
12	13	MEDIUM	O	Medium drive
13	14	LOW	O	Low drive
14	15	VDD	-	Positive power supply
15	16	BUZ	O	Buzzer drive
16	17	OSC2	O	455KHz oscillator connecting port
17	18	OSC1	I	
18	19	VSS	-	Negative power supply
19	20	LTO	O	Color-light drive



APPLICATION CIRCUIT

POWER-SUPPLY PORTION

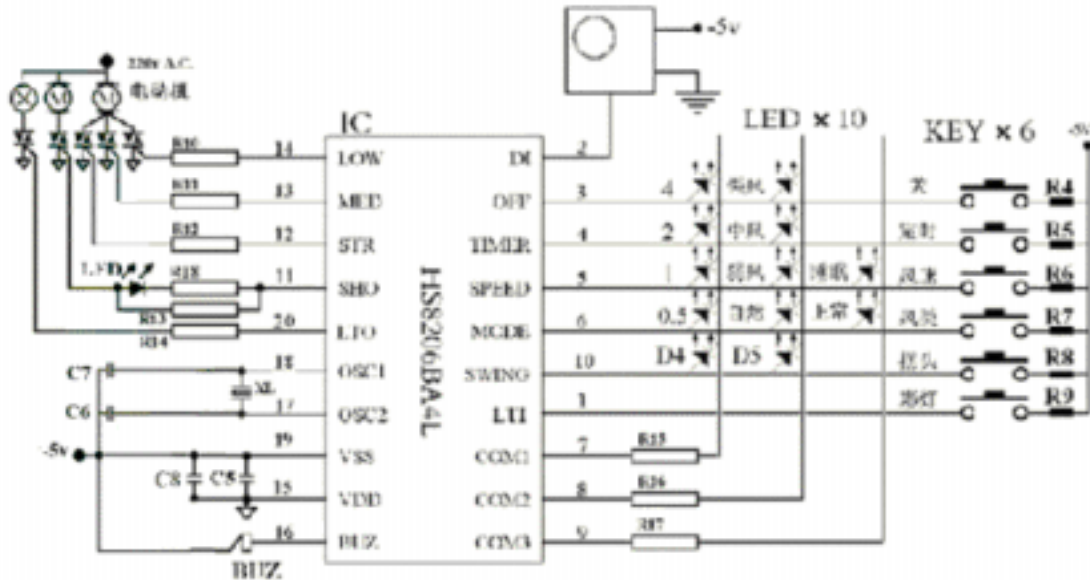


COMPONENTS LIST

Symbol	Component	Parameter
FUSE	Fuse	1A , 250V
R1	Carbonic Mask Resistor	2×180Ω/2W
R2	Carbonic Mask Resistor	200K/0.5W
R3	Carbonic Mask Resistor	2×47Ω/0.25W
R4	Carbonic Mask Resistor	1K/0.5W
C1	Polypropylene Capacitor	1.2μF,400VAC
C2	Electrolytic Capacitor	470μF,16V
C3	Electrolytic Capacitor	470μF,10V
C4	Ceramic Capacitor	0.1μF
D1 , D2	Diode	1N4007
D3	Stabilivolt Tube	5.1V,1W



CONTROL PORTION



D4, D5: USER CODE C1, C2, CORRESPONDING TO HS5104 C1, C2

0: CONNECTS TO IN4148

1: CONNECTS TO NOTHINGNESS

COMPONENTS LIST

Symbol	Component	Parameter
R4-R9	Carbonic Mask Resistor	10K Ω ,0.25W
R10-R14	Carbonic Mask Resistor	680 Ω ,0.25W
R15-R17	Carbonic Mask Resistor	100 Ω ,0.25W
R18	Carbonic Mask Resistor	560 Ω ,0.25W
C5	Electrolytic Capacitor	220 μ , 10V
C8	Ceramic Capacitor	0.1 μ F
C6, C7	Ceramic Capacitor	100pF
XL	Oscillator	455KHz
BUZ	Buzzer	\varnothing 27
LED	Light-emitting Diode	\varnothing 3 \times 12
D4 , D5	Diode	1N4148
KEY	Trigger Switch	6mm \times 7
IRM	IR Receiver	5302
IC	Controller	HS8206 series
T1-T5	Manipulable Silicon	MAC97A6

