

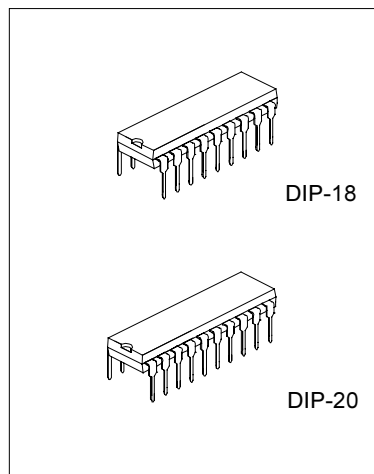
REMOTE FAN CONTROL IC

SC8206 is a high performance electronic fan controller LSI. Speed control, off-timer, nature wind, sleep mode are all built into a single chip. Light control, buzzer output, key control input, as well as remote control decoding circuitry are all provided to build a full function electronic fan with remote control capability having the highest performance with the least external components. Pin assignment and application circuit are optimized for easy PCB layout and cost saving for electronic fan application.

SC8206 adopted DIP-18 or DIP-20 package.

FEATURES

- ★ High performance CMOS Technology
- ★ Low power consumption
- ★ Three operation modes: ordinary, nature and rhythm sleep.
- ★ Three speed modes: strong, middle and low
- ★ Memory start-up mode
- ★ Middle wind start-up
- ★ Buzzer indicator function operation.
- ★ Two bits consumer code
- ★ Built-in 455kHz oscillator circuit



APPLICATION

- ★ Fan remote controller
- ★ Air cleaner
- ★ Humidifier
- ★ Heater

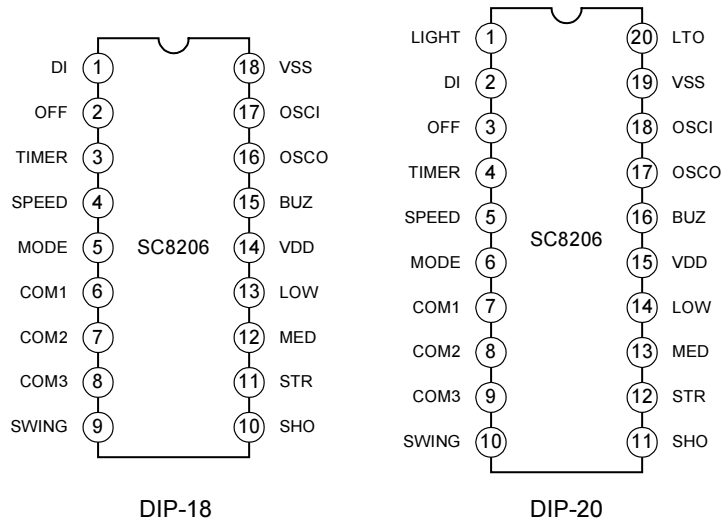
ORDERING INFORMATION

Part	Package	Accumulated	Non-accumulated	Independent ON/OFF	Light control
SC8206N3	DIP-18	--	√	--	--
SC8206A4	DIP-18	√	--	--	--
SC8206A4K	DIP-18	√	--	√	--
SC8206N3L	DIP-20	--	√	--	√
SC8206A4L	DIP-20	√	--	--	√
SC8206A4KL	DIP-20	√	--	√	√

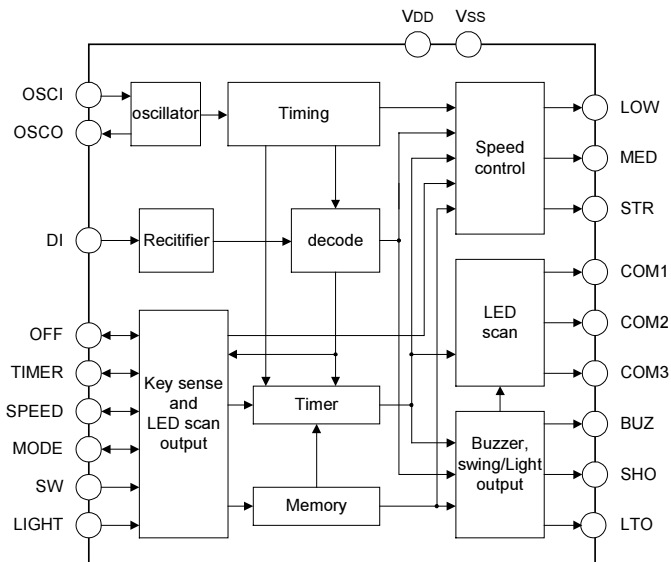
Note: "A4" indicated have four time output (0.5, 1, 2, 4 hour) accumulated timer mode.

"N3" indicated have three time output (1, 2, 4 hour) non-accumulated timer mode.

PIN CONFIGURATION



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Characteristics	Symbol	Value	Unit
Supply Voltage	VDD	-0.3~6	V
Input/output Voltage	VIN	VSS -0.3V~VDD+0.3V	V
Power Consumption	PD	500	mW
Operating Temperature	Topr	-10 ~ +70	°C
Storage Temperature	Tstg	-40~+125	°C

DC ELECTRICAL CHARACTERISTICS (unless special , Tamb=25°C, VDD=5.0V)

Characteristics	Symbol	Test condition	Min.	Typ.	Max.	Unit
Supply Voltage	VDD	--	3.0	5.0	6.0	V
Static Consumption Current	ISB	VDD=5V, OSC stop, no load	--	1	--	μA
Input High Level Voltage	VIH	--	0.7VDD	--	VDD	V
Input Low Level Voltage	VIL	--	0	--	0.3VDD	V
OFF, MODE, SPEED, TIMER Scan Output Current	IOH	VDD=5.0V, Vo=3.5V	--	10	--	mA
COM1~COM3 Scan Output Sink Current	IOL	VDD=5.0V, Vo=0.7V	--	-40	--	mA
Drive Output Current	IOL	VDD=5.0V, Vo=0.7V	--	-10	--	mA
Buzzer Output Current	IOH	VDD=5.0V, Vo=3.5V	--	5	--	mA
Oscillated Frequency	FOSC		--	455	--	kHz

PIN DESCRIPTION

DIP-18 Pin NO.	DIP-20 Pin NO.	Symbol	I/O	Description
--	1	LIGHT	I	Light control key input
1	2	DI	I	Remote control sensor input
2	3	OFF	I/O	OFF control key input, shared with LED scan output
3	4	TIMER	I/O	TIMER control key input and LED scan output
4	5	SPEED	I/O	SPEED key control input and LED scan output
5	6	MODE	I/O	MODE key control input and LED scan output
6	7	COM1	O	Consumer code C2 and LED scan common port

(To be continued)

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(Continued)

DIP-18 Pin NO.	DIP-20 Pin NO.	Symbol	I/O	Description
7	8	COM2	O	Consumer code C1 and LED scan common port
8	9	COM3	O	LED scan common port
9	10	SWING	I	SWING key control input and consumer code select diode connect port
10	11	SHO	O	Swing drive output, level swing
11	12	STRONG	O	Strong wind drive output
12	13	MEDIUM	O	Middle wind drive output
13	14	LOW	O	Low wind drive output
14	15	VDD	--	Positive power
15	16	BUZ	O	Buzzer drive output
16	17	OSCO	O	455kHz oscillator input/output port
17	18	OSCI	I	
18	19	VSS	--	Negative power
--	20	LTO		Light drive output

FUNCTION DERSCRIPTION

SC8206 is an electronic fan control IC, it use electronic touch switch and timer replace the traditional switch and timer. SC8206 improved nature wind and sleep wind mode expect hold the traditional fan functions, and improved a swing control and light control function. SC8206 cooperate with the SC5104 encode IC, implement the remote control of the fan.

“OFF” key:

It used to shut down the power of motor, fan stop operating, and the control circuit resume static state, and stored the operate mode of power on. When started next time, it is activated into the operation mode stored in the operation memory. (Timer and sleep wind mode will not be stored)

“ON/SPEED” key:

It start fan if pressed when fan is off. It turn on the fan with middle wind for increase start moment. After three second, it resume low wind mode, or the operation mode stored in the operating memory.

This key set the operate mode when fan is on, if successive pressing of ON/SPEED key, it will operate as low wind, middle wind, strong wind, low wind, middle wind ……go along with cycle.

Separating “ON/OFF” key (extension K)

It start fan if pressed when fan is off. It turn on the fan with middle wind for increase start moment. After three second, it resume low wind mode, or the operation mode stored in the operating memory.

It turn off the power when fan is on, fan stopped, control circuit resume static state, and stored the operate mode into memory. When the fan turn on next time, it start in the operate mode in the memory (timer and sleep mode will not be stored).

Separating “SPEED” key (extension K)

SPEED key is used to turn on the fan change speed of the fan. When successive pressing of SPEED key, fan will operate as follows: low wind, middle wind, strong wind, low wind……go along with cycle.

“MODE” key:

It used to select the operating mode. If pressed successively when fan is on, it will operate as follows: normally wind, nature wind, sleep wind, normally, nature wind ……go along with cycle.

- A) Ordinary wind: the he wind speed is set by SPEED key and does not change as time passes.
- B) Nature wind: it is set in program, and operate with “SPEED” key, can produce strong nature wind, middle nature wind, low nature wind, simulate the really nature wind.
- C) Sleep wind: In sleep wind mode, the wind speed steps down automatically one level every interval, until it reaches low wind level.

Where is the rule of down:

- 1) If fan set in strong wind mode at first, it operate in strong nature wind for half an hour, then switch into middle nature wind, after half an hour switch into low nature wind, until the preset time end or turn off fan.
- 2) If fan set in middle wind mode at first, it operates in middle nature wind for half an hour, then switch into low nature wind, until the preset time end or turn off fan.
- 3) If fan set in low nature wind at first, it operates in low nature wind, until the preset time end or turn off.

“TIMER” key:

This key used to set the preset off time.

Type mark with “A4” mean have four section time output (0.5, 1, 2, 4hour) accumulated.

Type mark with “N3” means have three section time output (1, 2, 4 hour) non-accumulated.

When fan is in the time mode, LED will indicate the remain time, means the fan will stop after the display time.

“SWING” key:

If pressed when fan is in the operate mode, it can control the fan swing, it is invalid when fan stooped.

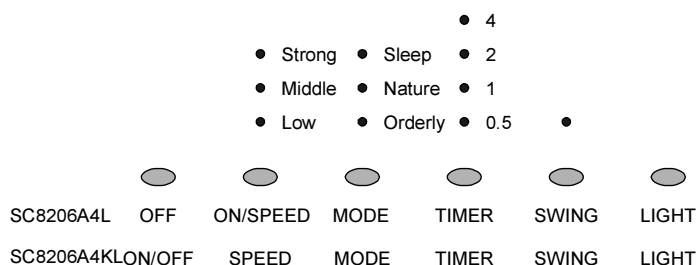
“LIGHT” key:

It is used to control light, is independent of the operate mode.

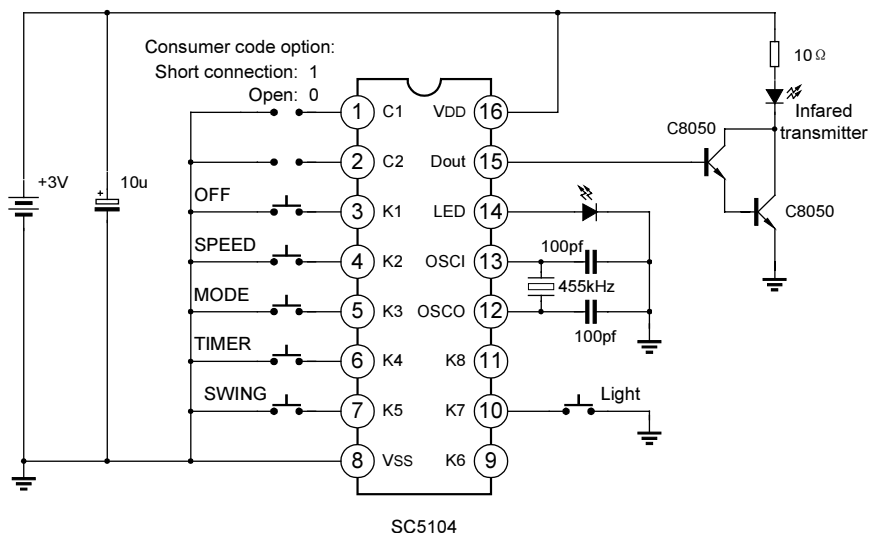
Buzzer output:

- a) Turn on send out “Bi-Bi”
- b) Turn off send out “Bi-”
- c) Other available operate (include key press and remote controller receive) send out “Bi”

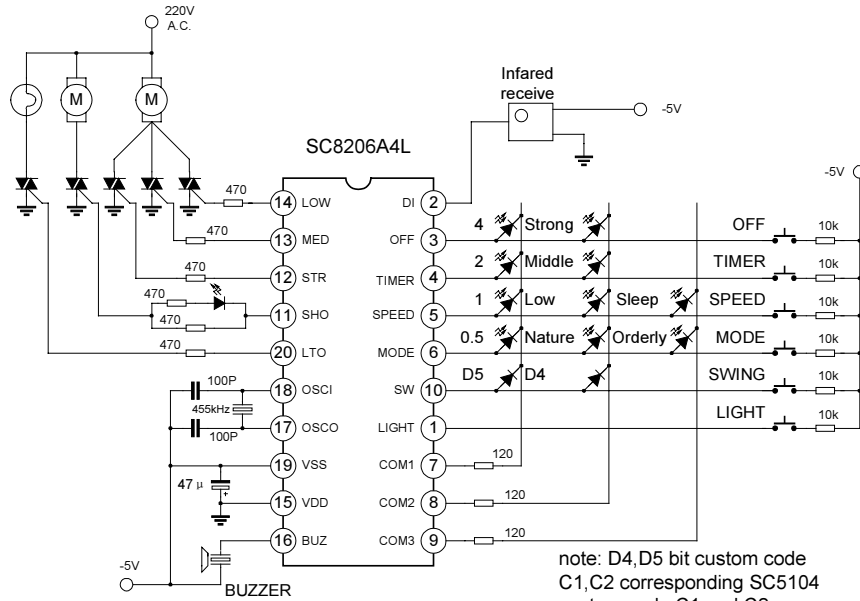
CONTROL PANEL



APPLICATION CIRCUIT (Transmitter controller unit)

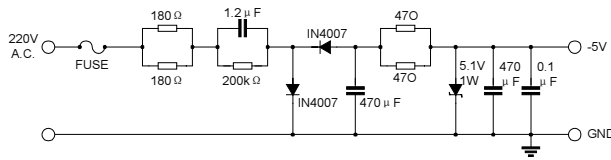


TYPICAL APPLICATION CIRCUIT (receive control unit)



note: D4,D5 bit custom code C1,C2 corresponding SC5104 custom code C1 and C2.
connect diode: 1
disconnect diode:0

Power circuit



PACKAGE OUTLINE

