SC5104C(文件编号：S&CIC0684) 红外线风扇控制 IC

GENERAL DEACRIOTION

The SC5104C is a high performance infrared remote control encoder utilizing CMOS technology. Mode A is a signal-key control and mode B is a multi-key control during data transmission, supports eight data key inputs and a LED output to indicate the status during transmission.

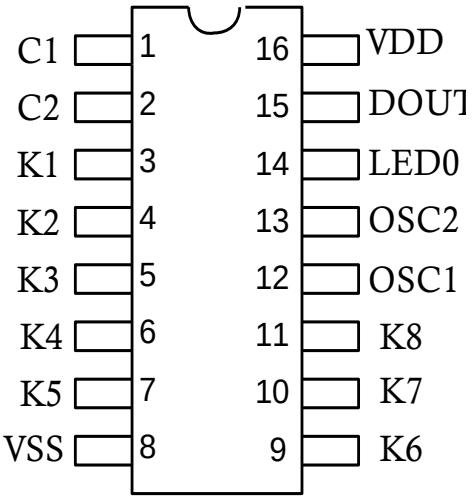
FEATURES

- Wide operation voltage range, 2.2V to 6V
- Eight data key control
- Option of signal-key or multi-key control
- Two custom codes to separate products
- Auto power off for saving power
- LED output to indicate transmission status
- Direct infrared LED 38KHz modnation output
- Low power consumption
- Paired with SC5104C decoder
- 16 pin DIP or SO package

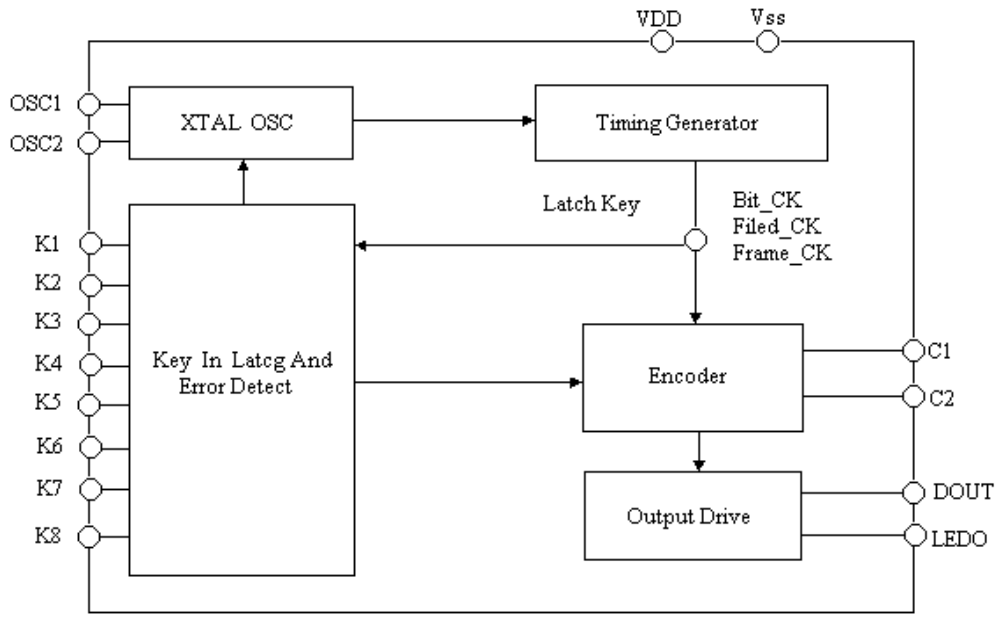
APPLICATIONS

- SC5104C Fan Remote Control
- Audio Remote Control
- Toy Remote Control
- Consumer Products Remote Control

PIN ASSIGNMENT



BLOCK DIAGRAM



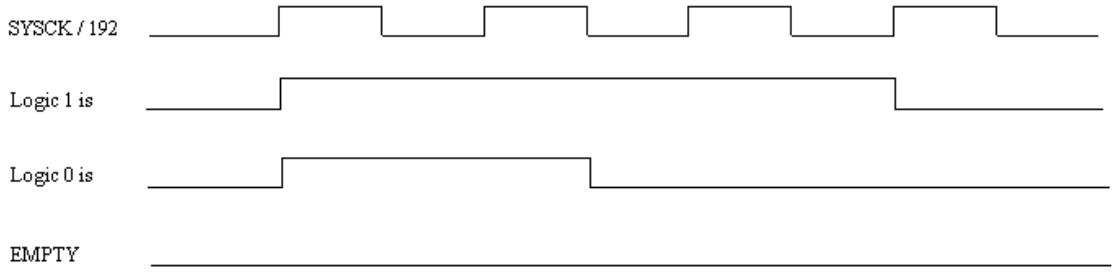
PIN DESCRIPTION

Pin Name	I/O	Function
C1,C2	I	Custom Code
K1~K8	I	Remote Control Key Inputs (Built-In Pull-Low Resistor)
Vss	POWER	Negative Power Supply (Substrate)
OSCI	I	455KHz XTAL OSC Pin
OSCO	O	455KHz XTAL OSC Pin
DOUT	O	Signal Output
LEDO	O	Transmission Indicator
VDD	POWER	Positive Power Supply

FUNCTION DESCRIPTION

A. Encoder Singal Output Format

Bit Format



Frame Format

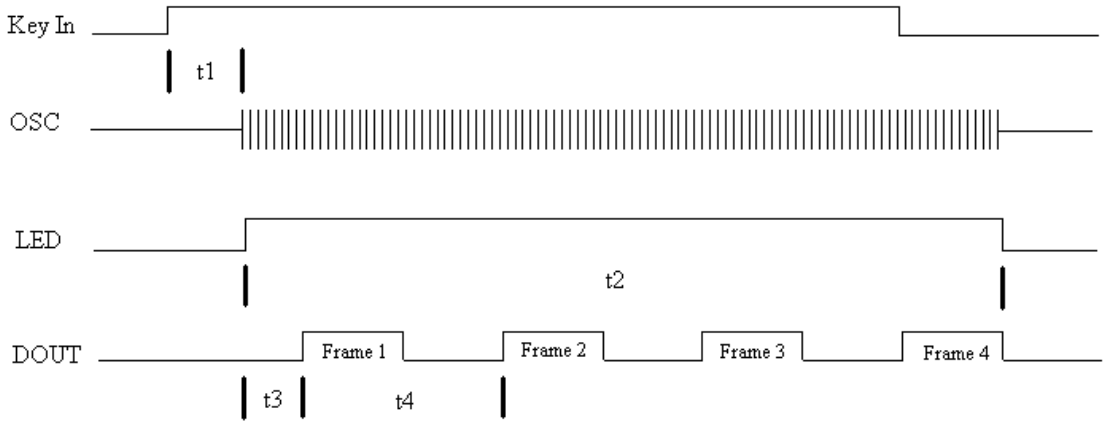
There are four frames. Encoder generates during sending. Each frame contains four field:

a) Frame head / Three-bits 1 1 0 (Metal option)
b) Custom code / Two-bits C1 C2
c) Control word / Seven-bits 0 0 0 0 0 0 1~1 0 0 0 1 1 0
d) Synch field / Four-bits of empty

B. Transmission Code Table

Start Word			Custom Code		B1	B2	B3	B4	B5	B6	B7	Transmit
1	1	0	C1	C2	0	0	0	0	0	0	1	K1
1	1	0	C1	C2	0	0	0	0	0	1	0	K2
1	1	0	C1	C2	0	0	0	0	1	0	0	K3
1	1	0	C1	C2	0	0	0	1	0	0	0	K4
1	1	0	C1	C2	0	0	1	0	0	0	0	K5
1	1	0	C1	C2	0	1	0	0	0	0	0	K6
1	1	0	C1	C2	1	0	0	0	0	1	1	K7
1	1	0	C1	C2	1	0	0	0	1	1	0	K8

C. Transmission Timing

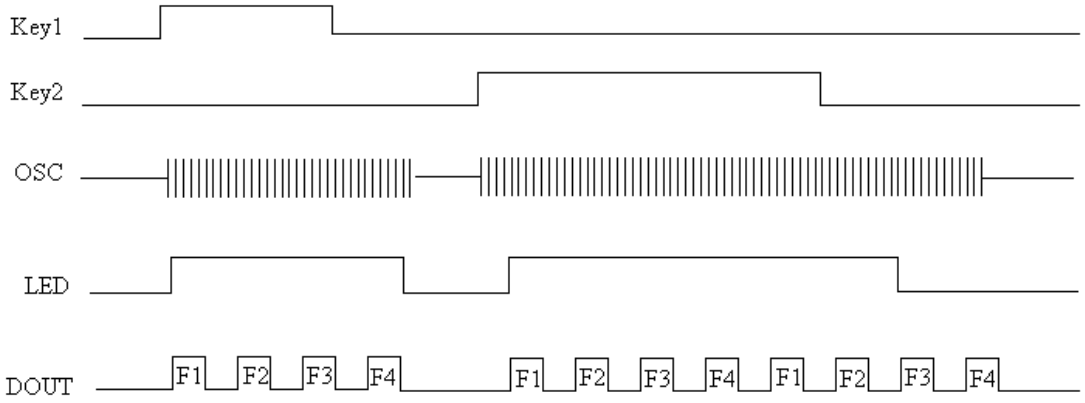


- t1: Key pressing > 32ms

- t2: Transmission time t3+180ms (Four frame)
  If t1 is over t3 + 108ms, DOUT will be transmitted again
  [(Pressing time) MOD (t3 + 108ms)+1]* 108ms + 13
- t3: Oscillator stable time. OSC * 384=0.8ms
- t4:3-Bit (Head)+2-Bits(Custom Code)+ 7-Bits (Data) +6-Bits (Empty)=18-Bits (27ms)
- OSC:455KHz resonator

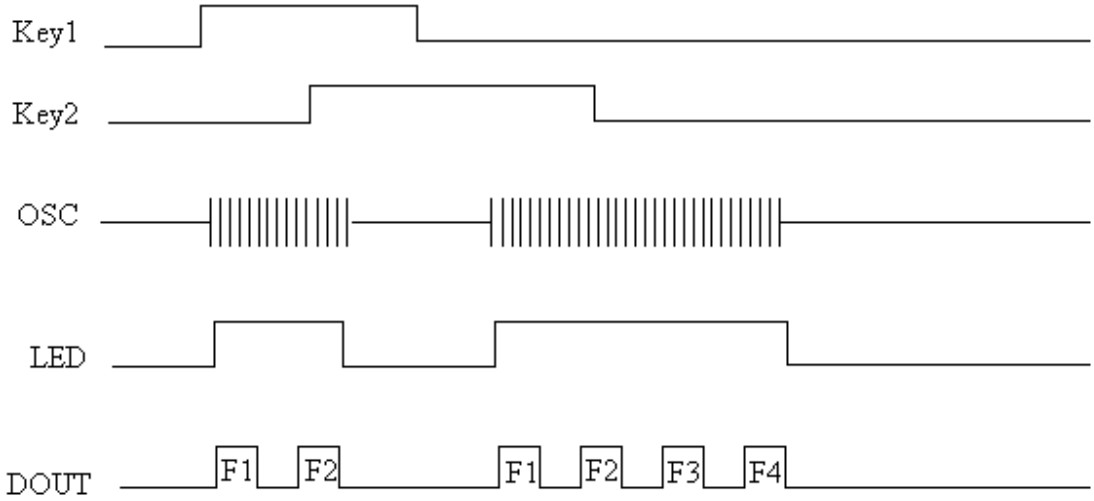
D. SC5104C Transmission Waveform

Normal Condition



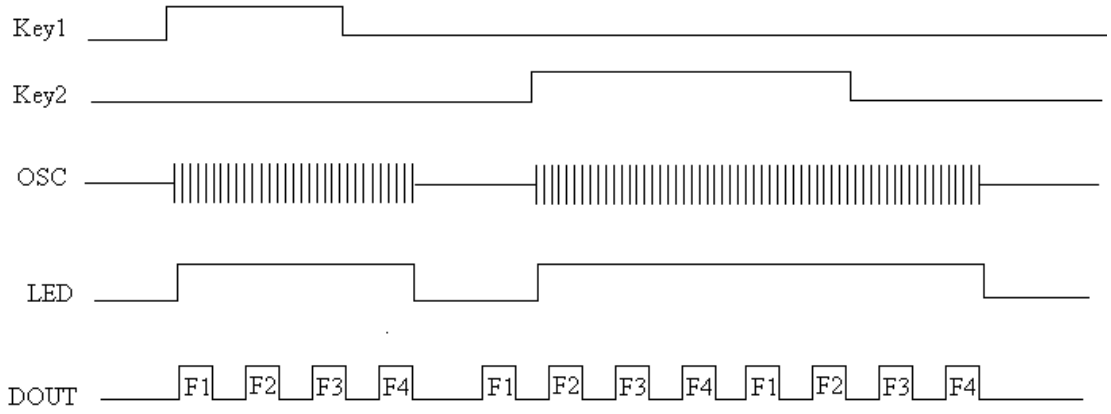
Overlap Condition

If more than one key is pressed, transmission stops.



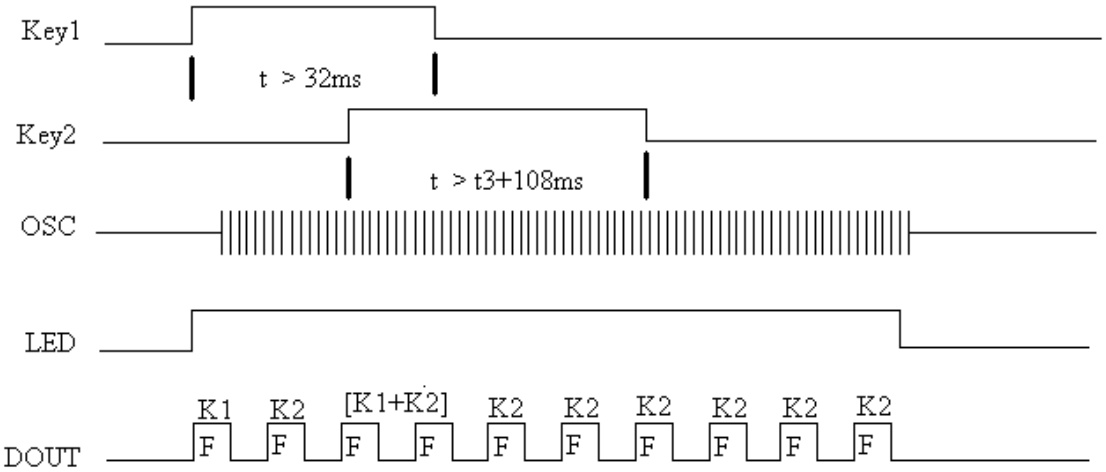
E. SC5104C(1) Transmission Waveform

Normal Condition



Overlap Condition

If more than one key is pressed, multi-key data transmission.



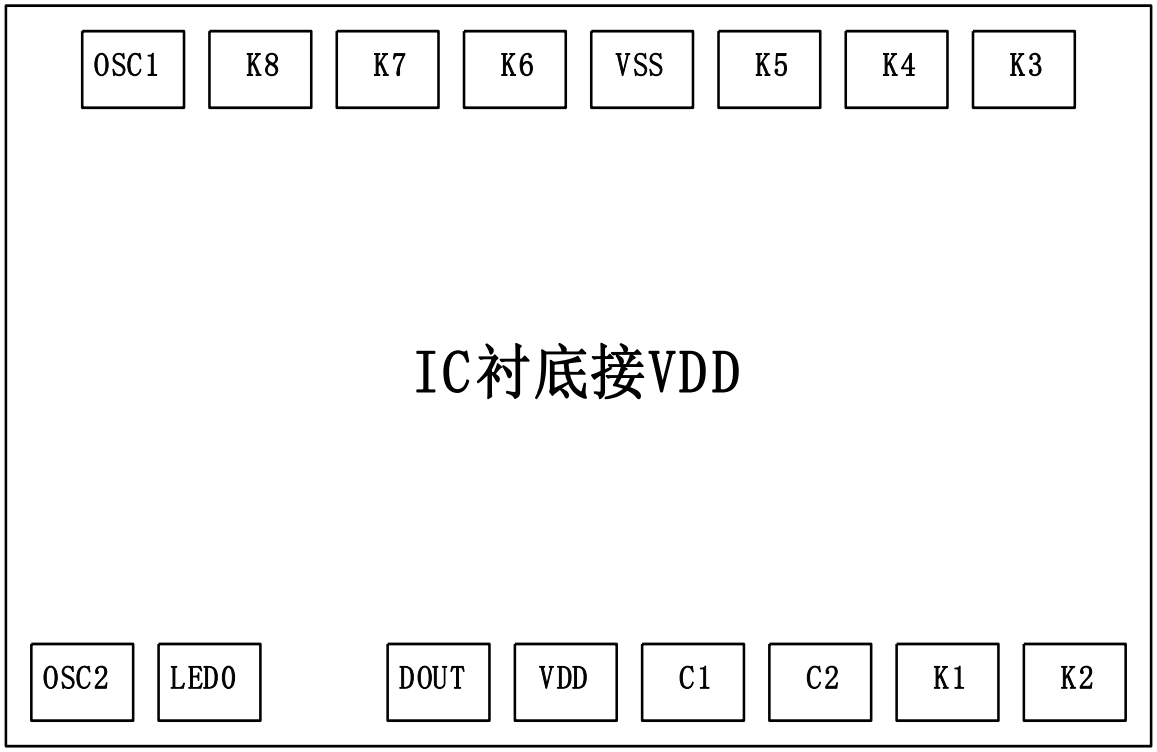
ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Test Conditions	Ratings	Unit
Supply Voltage	VDD-VSS	-	-0.3~6	V
Input Viltage	VI	-	Vss-0.3~VDD+0.3	V
Output Volltage	Vo	-	Vss-0.3~VDD+0.3	V
Maximum Power Consumption	Pa	VDD-VSS=5V	500	mW
Operating Temperature	Topr	-	-10~70	℃
Storage Temperature	Tstg	-	-40~125	℃

DC ELECTRICAL CHARACTERISTICS

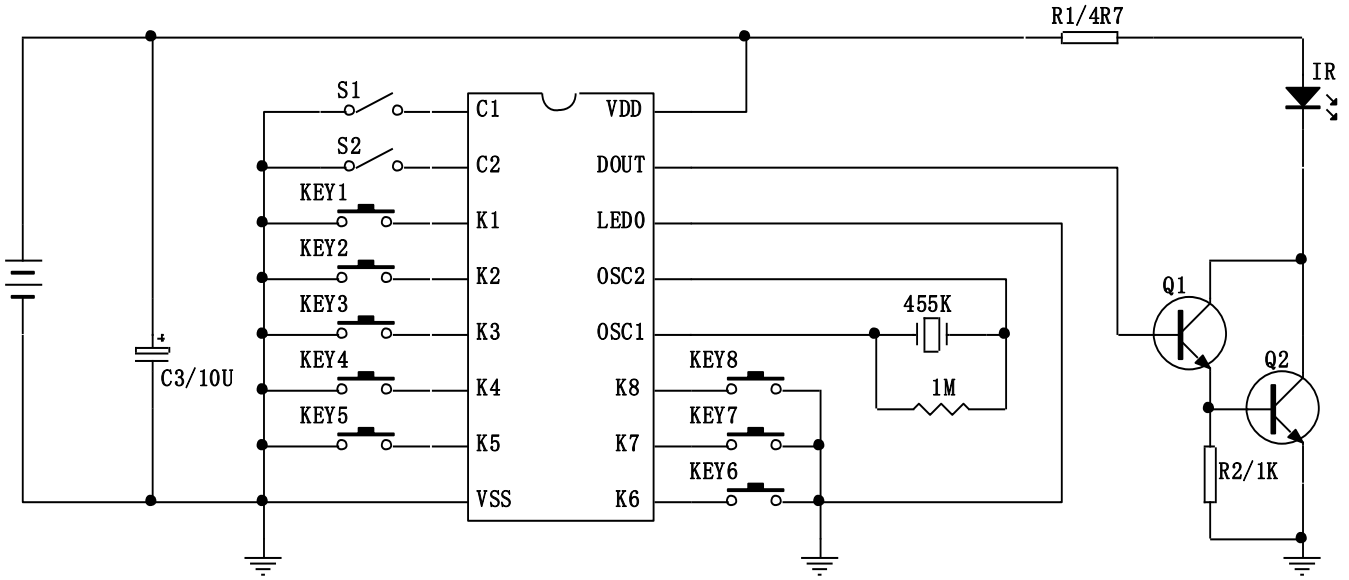
Parameter	Symbol	Conditions	Limit			Unit
			Min.	Typ.	Max.	
Supply Voltage	VDD	-	2.2	3	5.0	V
Stand-by Current	ISB	VDD-VSS=3V OSC stop All output pins open	-	1	-	uA
Input High Level	VIH	-	1.5	-	3.5	V
Input Low Level	VIL	-	0	-	1.5	V
DOUT Source Current	IOH	VOH=+2.4V	-	-	5	mA
LEDO Source Current	IOH	VOH=+2.4V	-	-	7.5	mA
DOUT Sink Current	IOL	VOL=+0.4V	-	-	5	mA

PAD 图



APPLICATION CIRCUIT

SC5104C[ENCODER]APPLICATION CIRCUIT



SC5104C 发射器线路图

