SIS-8C

8 Output, Universal IR Remote Control Receiver Switch
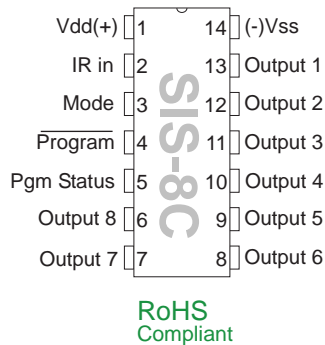
General Description:

The SIS-8C makes it simple to implement an infrared (IR) remote controllable switching solution for a wide variety of applications. When used with an inexpensive IR receiver module, a single SIS-8C will provide immediate switching for up to 8 IR remote buttons.

Simultaneously works with one or multiple brands/models of IR remotes.

Each IR code is easily programmed with only two button presses.

IR codes are stored in non-volatile, re-programmable memory.

Toggle and momentary switching modes.

Pin			Pin
Vdd(+)	1	14	(-)Vss
IR in	2	13	Output 1
Mode	3	12	Output 2
Program	4	11	Output 3
Pgm Status	5	10	Output 4
Output 8	6	9	Output 5
Output 7	7	8	Output 6

RoHS
Compliant

Vdd (with respect to Vss): 2.5-5.5V

Max current sink/source I/O pins: 25 mA

Package: 300mil wide Plastic DIP

Current consumption (Vdd=5V and outputs non-active): < 2mA

IR signal type: NRZ

Logic levels of Outputs on power up: Low

Normal Operation of the SIS-8C

After the SIS-8C has been programmed, there are two possible modes of operation:

Mode 1 (Mode pin=H) **-- "Toggle Mode"**

   Output (1-8) will toggle (change to the opposite logic level) each time its corresponding IR code is received.
   (If the Mode pin is left unconnected, the default mode is Toggle Mode.)

Mode 2 (Mode pin=L) **-- "Momentary Mode"**

   Output (1-8) will change from low to high when its corresponding IR code is received.
   (After an IR signal is recognized, the output pin will stay high (Vdd) for as long as IR signal is being received.)

IR receiver selection

For the SIS-8C to work with the widest range of IR remotes, it is necessary to use an IR receiver with a bandwidth of approximately 36-57KHz. The TSOP-2140 is highly recommended for this. It has a center frequency of 40KHz, but is also sensitive to a broader range of frequencies at useful distances.

If the frequency of the remote that will be used to program the SIS-8C is known and will not vary, for example 38KHz, then use a 38KHz receiver.

If the frequency of the remote that will be used to program the SIS-8C is not known or may change then use a wider band receiver like the TSOP-2140.

Programming the SIS-8C

Outputs 1-8 are controlled by the 1st-8th IR remote button used during the programming process.

So that the IR codes are properly captured by the SIS-8C during the programming process, each IR remote button will be pressed two (2) times.

For visual feedback during the programming process, it's assumed that the Pgm Status pin is series connected to an LED and resistor to ground -- 220 ohm or higher.

To program the SIS-8C:

1. Select the buttons from your IR remote(s) that you want the SIS-8C to recognize.

2. Momentarily ground the Program pin until the Pgm Status LED lights, indicating that programming mode is active.

3. At a distance no closer than 15cm, aim the remote at the IR receiver and press and hold down the IR remote button. When the Pgm Status LED switches off and stays off, release the IR remote button. The Pgm Status LED will then re-light.

4. Once again, aim the remote at the IR receiver and press and hold down the IR remote button. When the Pgm Status LED switches off and stays off, release the IR remote button. The Pgm Status LED will blink, indicating that programming for this button is complete.

Repeat steps 3 and 4 for up to a total of eight (8) IR buttons.

If fewer than eight IR remote buttons are programmed, then momentarily ground the Program pin to end programming.

If all eight IR remote buttons are programmed, the Pgm Status LED will automatically switch off and stay off, indicating that programming has ended.

The SIS-8C is now ready for normal use.

Troubleshooting

If at the end of programming the Pgm Status LED blinks rapidly for more than one second, then there was a problem during programming. Attempt to reprogram using the steps above. If the problem persists, redo the programming steps listed above, however, in step 3, instead of holding the IR remote button until the Pgm Status LED switches off, simply press and immediately release the IR remote button.