



HAT-12EOS One Shot Encoder

This chip emulates the Holtek encoding protocol. The eight bit address and four bits of data are factory pre-programmed. When transmitted, the eight bits of data are the first eight bits transmitted, and the four address bits are the last four to be transmitted. The complimentary RF_PWR pins toggle before the data is transmitted. These pins can sink/source up to 15mA each.

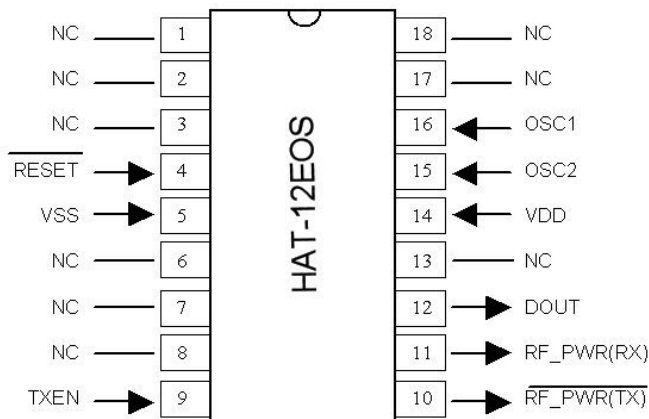
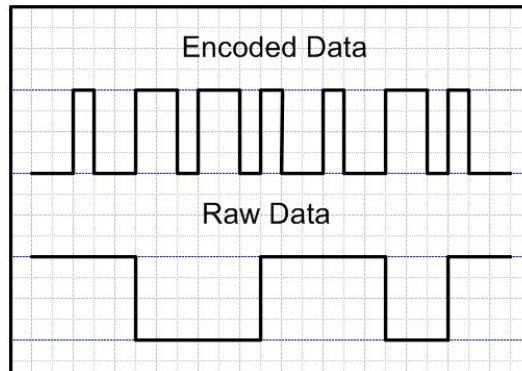
To transmit the data, the TXEN (9) line must be brought high momentarily. When TXEN is brought high, five data packets are transmitted via DOUT (12). One shot operation means that no more data will be transmitted until TXEN (9) is taken low and then high again. This encoder outputs data at the same speed as the Holtek HT-12E that is configured with a 680k resistor for the oscillator.

Features

- Operating voltage: 4.5V-5.5V
- Complementary RF_PWR pins can be used to switch a transmitter on or a receiver off
- 8 Bit address pre-programmed
- 4 Bit data which is pre-programmed
- One shot operation
- Very few external components (10MHz crystal and two 22pF capacitors)

Typical Applications

- Security systems
- Remote monitoring
- Remote control
- Smoke/Fire alarm systems



Pinouts

PIN	Function	Signal Direction
1	NC	N/A
2	NC	N/A
3	NC	N/A
4	RESET	Input
5	VSS	Input
6	NC	N/A
7	NC	N/A
8	NC	N/A
9	TXEN	Input
10	RF_PWR(TX)	Output
11	RF_PWR(RX)	Output
12	DOUT	Output
13	NC	N/A
14	VDD	Input
15	OSC2	Input
16	OSC1	Input
17	NC	N/A
18	NC	N/A

Pin Descriptions

RESET: Active low. Tie high for normal operation.

VSS: Ground reference.

TXEN: When taken high, five data packets are transmitted, each containing first eight bits of address, and the last four bits of data. Must be taken low and then high again to transmit again.

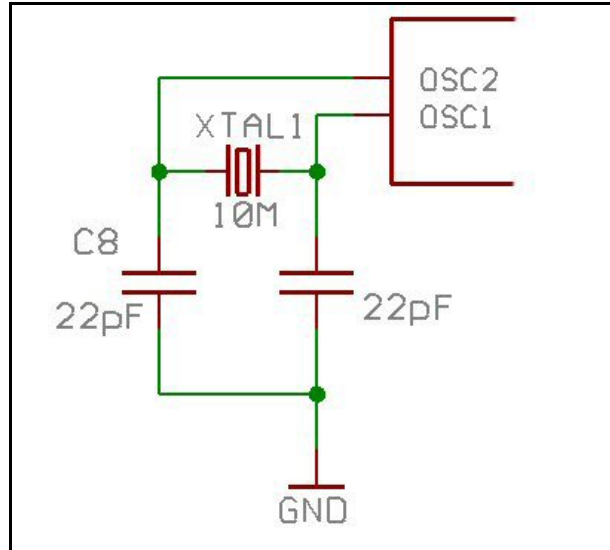
RF_PWR(TX): Normally low, until a TXEN has been pressed. At this time, the line toggles and stays high for the duration that data is being transmitted. Can be used to power a transmitter, providing the transmitter does not draw more than 15mA. If more than 15mA are required, a transistor should be used to provide the necessary current.

RF_PWR(RX): Normally high. This is the compliment to pin 10 and similarly can source up to 15mA. If more than 15mA is required, a transistor should be used to provide the necessary current.

DOUT: Encoded data output pin. Encoded data is in the same format that is used by the Holtek HT-12E encoders.

VDD: Positive voltage reference.

OSC1—OSC2: Oscillator input. Each should have a 22pF capacitor to ground and a 10MHz crystal across the pins. See the figure below.



Oscillator configuration.

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