

HK526A

ENCODER/DECODER IC

DECODER WITH 4096 SET CODE

Features

- * A pair with HK526E (Encoder) for remote controller IC
- * $2^{12} = 4,096$ binary codes
- * 4 word transmission cycle each time
- * Fixed data ports output
- * Low power consumption
- * DIP 18 or SOP 20 be available

General Description

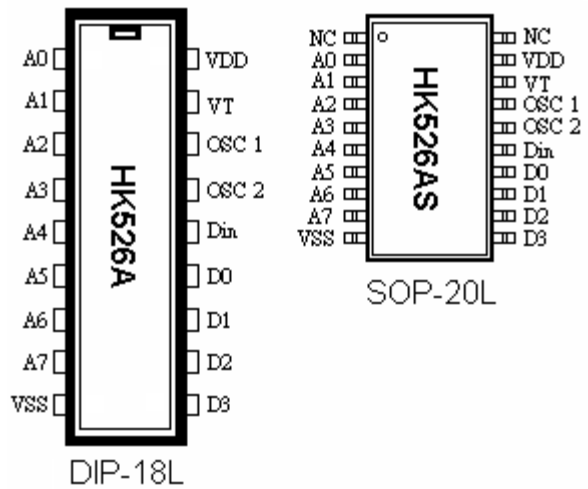
The HK526A is a RF remote control decoder paired with HK526E . It has 12 bit with 2 state address pins programming for 4096 codes , Thereby, reducing any code collision and unauthorized code scanning possibilities .

HK526A is available in several options to suit every application needs : variable number of data output pins by latch

Application

- * Car/home security
- * Garage door control
- * Ceiling fan
- * Toys
- * Home appliances

PinOut Diagram



Pin Assignment

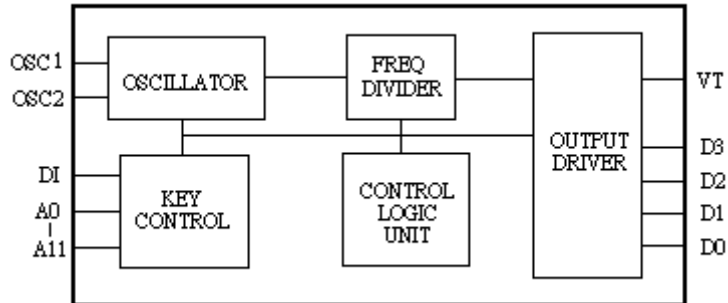
PIN NO	PIN NO(DIP form)	PIN NO (SOP form)	DESCRIPTION
A0	1	2	2 States address inputs
A1	2	3	2 States address inputs
A2	3	4	2 States address inputs
A3	4	5	2 States address inputs
A4	5	6	2 States address inputs
A5	6	7	2 States address inputs
A6/D5	7	8	2 States address inputs
A7/D4	8	9	2 States address inputs
VSS	9	10	Negative power supply
A8 / D3	10	11	Data outputs
A9 / D2	11	12	Data outputs
A10 / D1	12	13	Data outputs
A11 / D0	13	14	Data outputs
Din	14	15	Data in , receiving from RF module
OSC2	15	16	Oscillator output
OSC1	16	17	Oscillator input
VT	17	18	Valid transmit indicate signal
VDD	18	19	Positive power supply
NC	X	1	No Connecting
NC	X	20	No Connecting

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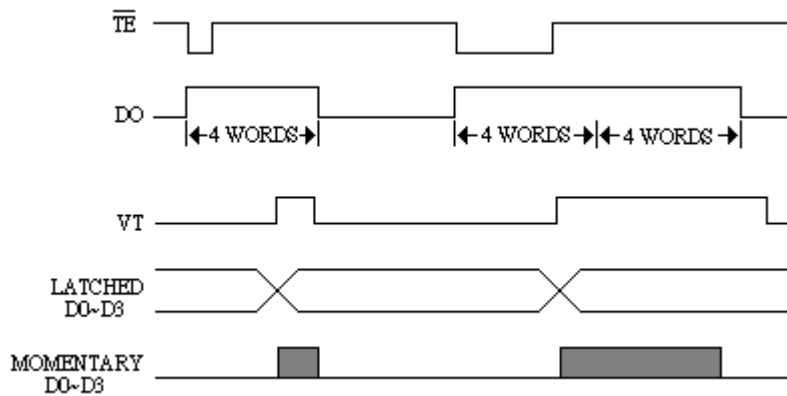
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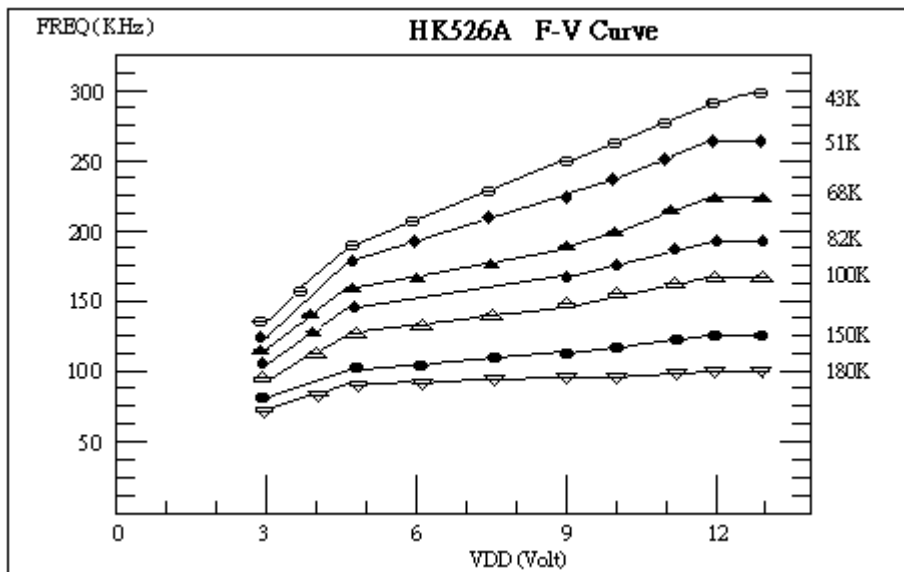
Block Diagram



- Timing Waveform
- Bit Format
- Timing Diagram



Recommended Oscillator Parameters

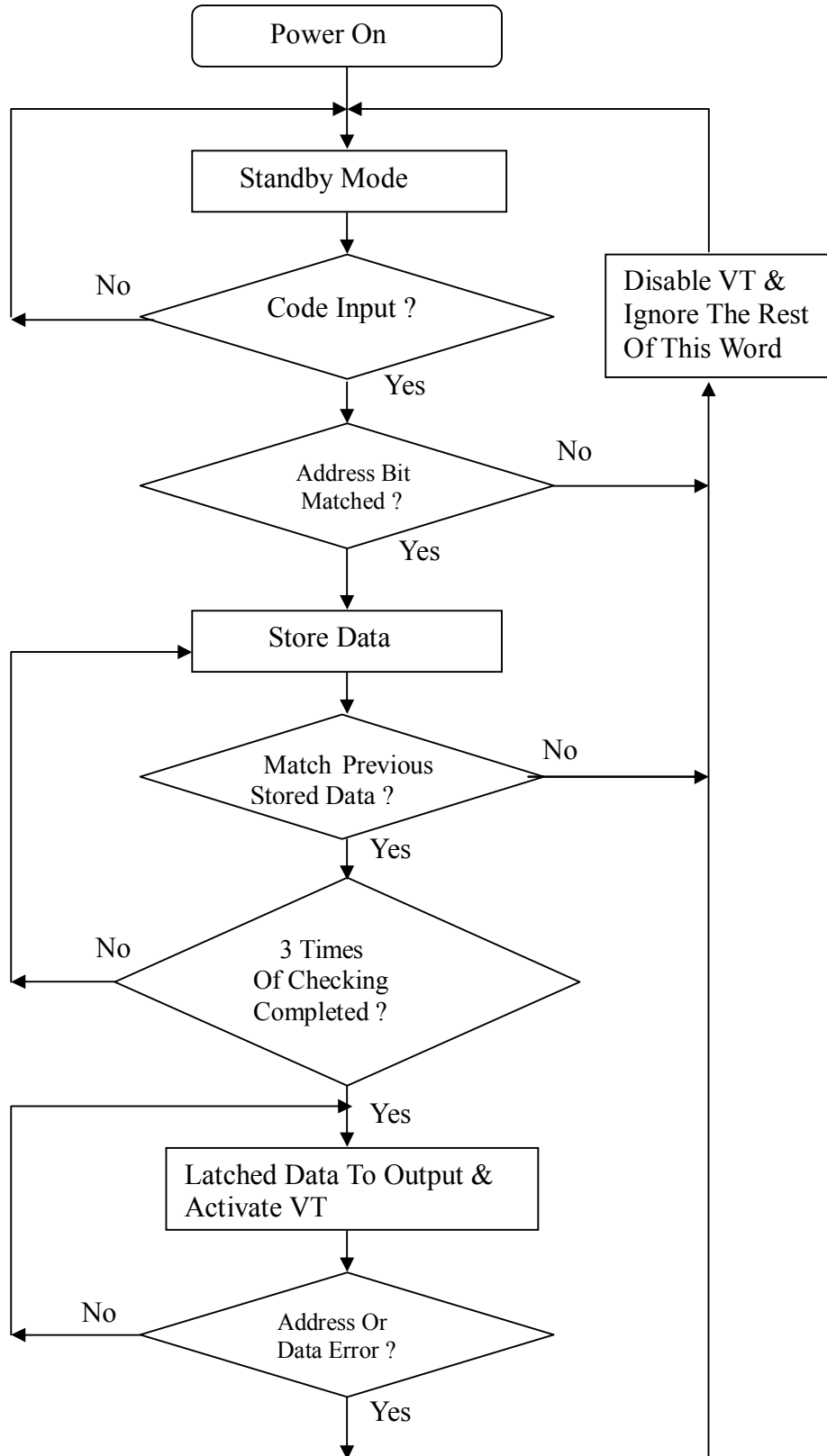


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Operating Flowchart



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The recommended oscillator frequency about F_{oscD} (HK526A) $\doteq 10 \times F_{oscE}$ (HK526E)

Recommended oscillator resistor (R_{osc}) for HK526E and HK526A

HK526E (R_{osc})	HK526A (R_{osc})
820K Ω	47K Ω
1.1M Ω	68K Ω
1.5M Ω	100K Ω
2M Ω	150K Ω
3M Ω	180K Ω

VDD = 9 V ~ 12 V

After Power On HK526A is set in Address search mode , If HK526A finds 3 consecutive Address that matches Address setting of HK526A will enter Data compare mode . It will compare previously 3 received data, if they mach then HK526A will set VT high and send data out put .

Maximum Rating ($T_A = 25^\circ\text{C}$)

Parameter	Rating	Unit
Supply Voltage	-0.3 ~ 13	V
Operation Voltage	VSS - 0.2 ~VDD + 0.2	V
Operating Temperature	-20 ~ 75	$^\circ\text{C}$
Storage Temperature	-50 ~ 125	$^\circ\text{C}$

Electrical DC Characteristics

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Operating Voltage	VDD		3	5	13.6	V
Standby Currently	ISB	VDD=5V OSC stop	-	0.1	1	μA
		VDD=12V OSC stop	-	2	4	μA
Operating Current	IDD	VDD=5V No load Fosc=150KHz	-	200	400	μA
Data Output Source Current (D0 ~ D3)	IO	VDD= 5V VOH= 4.5V	-1	-1.6	-	mA
Data Output Sink Current (D0 ~ D3)	IO	VDD= 5V VOH= 0.5V	1	1.6	-	mA
VT Output Source Current VT Output Sink Current	IVT	VDD=5V VOH=4.5V	-1	-1.6		mA
		VDD=5V VOH=0.5V	1	1.6		mA
“ Hi ” Input Voltage	VIH	- (VDD=5V)	3.5	-	5	V
“ Low ” Input Voltage	VIL	- (VDD=5V)	0	-	1	V
Oscillator Frequency	FOCS	VDD = 5V ROSC=51K Ω		150		KHZ

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Application Circuit

