

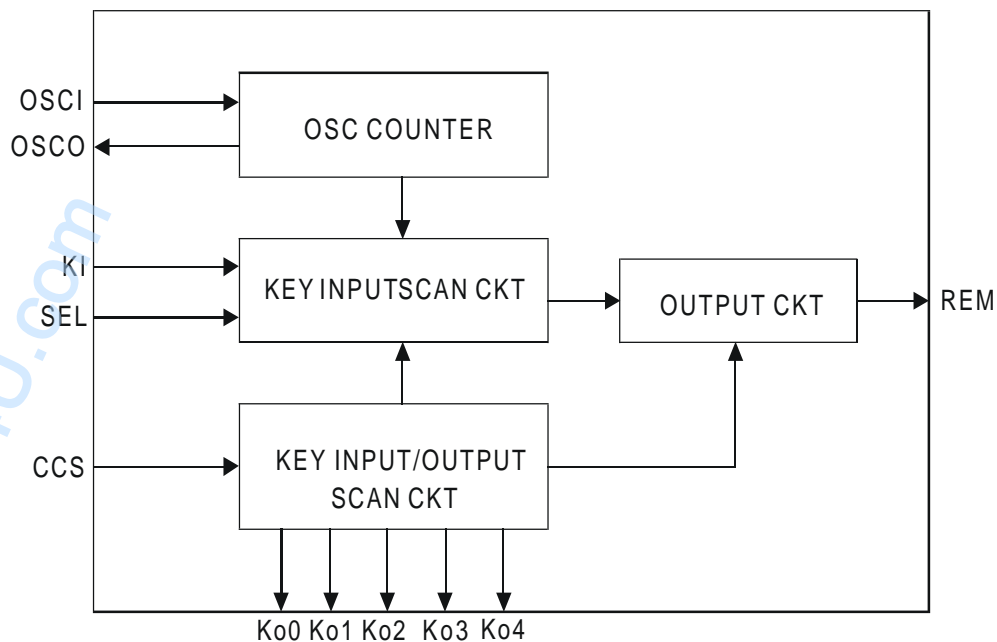
### General Description :

CP8223R IC is the control IC of remote emitter, built-in ON/OFF, SPEED, TIME, RHY/SLP, OSC 5keys.

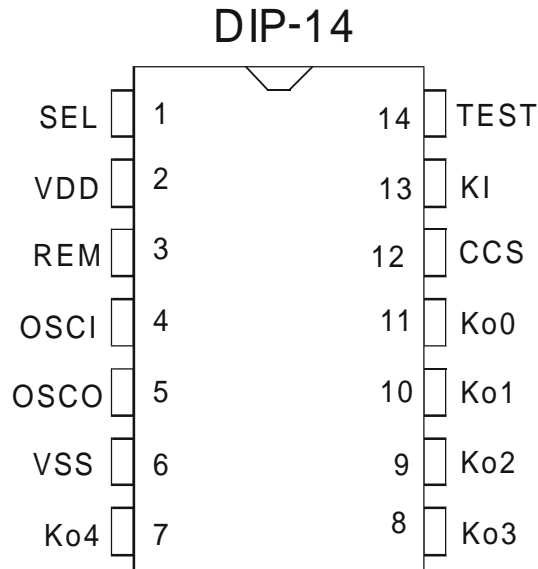
### Features :

- HIGH PERFORMANCE CMOS TECHNOLOGY
- VDD = 3V
- 64 CODE BIT available by DIODE OPTION
- CERAMIC RESONATOR 455KHZ
- Carrier wave frequency: 38KHZ

### Block Diagram :



Package Diagram :



Characteristics :

1. ABSOLUTE MAXIMUM RATING :

NO	ITEM	SYMBOL	RATING	UNIT
1	Supply voltage	VDD	2.5 ~ 5	V
2	Operating temperature	Topr	0 ~ 70	
3	Storage temperature	Tstg	-40 ~ 125	

2. OPERATING PARAMERER :

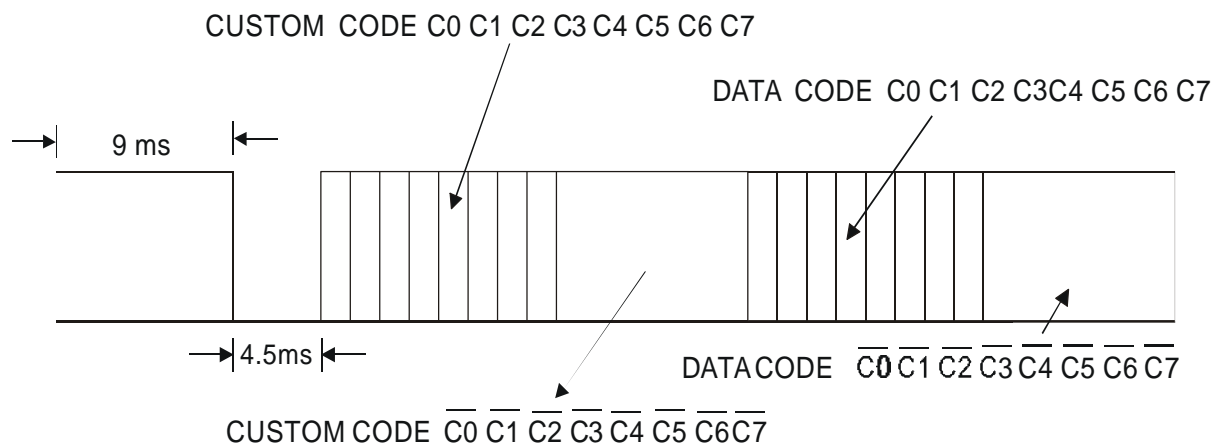
Input voltage <u>V<sub>IL</sub></u>	VSS + 0.2V
Input voltage <u>V<sub>IH</sub></u>	VDD - 0.2V
Output voltage <u>V<sub>OH</sub></u>	VSS + 0.2V
Output voltage <u>V<sub>OL</sub></u>	VSS - 0.2V

## 3. DC CHARACTERISTICS :

ITEM	SYMAOL CONDTION		LIMITS			UNIT
			MIN.	TYP.	MAX.	
SUPPLY VOLTAGE	VDD		2.5	3.0	3.5	V
STAND-BY CURRENT	IQ	VDD = 3.0V OSC OFF			0.1	uA
OSC FREQUENCY	FOSC		400	455	500	KHZ
KI PIN PULL LOW RESISTANCE	RLO		75	95	115	K OHM
KI HIGH LEVEL INPUT CURRENT	IIH1	VIN=3.0V	25	-----	40	uA
KI LOW LEVEL INPUT CURRENT	IIL1	VIN=0V	-----	-----	-0.2	uA
KI HIGH LEVEL INPUT VOLTAGE	VIH1	-----	VDD	-----	VDD	V
KI LOW LEVEL INPUT VOLTAGE	VIO1	-----	0	-----	0.6	V
KO HIGH LEVEL INPUT CURRENT	IOH1	VO=1.5V	3	-----	6	mA
KO LOW LEVEL INPUT CURRENT	IOL1	VO=1.5V	0.5	-----	1	mA
REM HIGH LEVEL OUTPUT CURRENT	IOH2	VO=1.5V	4	6	8	mA
REM LOW LEVEL OUTPUT CURRENT	IOL2	VO=1.5V	15	30	45	uA
CSS HIGH LEVEL INPUT CURRENT	IIH2	VIN=3.0V PULL UP	-----	30	-----	uA
CSS LOW LEVEL INPUT CURRENT	IIL2	VIN=0V PULL LO	-----	100	-----	uA
CSS HIGH LEVEL INPUT VOLTAGE	VIH2	-----	1.5	-----	-----	V

## Encode Description :

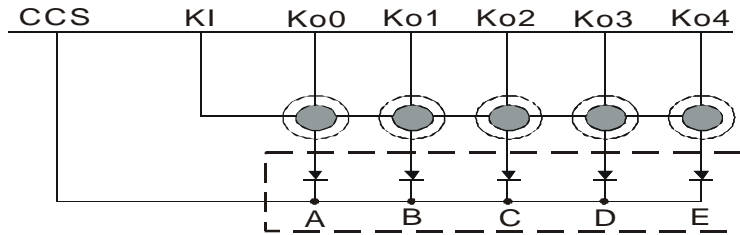
### 1. CODE FUNCTION :



### 2. DATA CODE :

KI	KO	DO	D1	D2	D3	D4	D5	D6	D7	
KI	Ko0	1	1	0	0	0	0	0	0/1	ON/OFF
KI	Ko1	1	1	1	0	0	0	0	0/1	SPEED
KI	Ko2	1	1	0	1	0	0	0	0/1	TIMER
KI	Ko3	1	1	1	1	0	0	0	0/1	RHY
KI	Ko4	1	1	0	0	1	0	0	0/1	OSCILLATING

3. CUSTOM CODE :

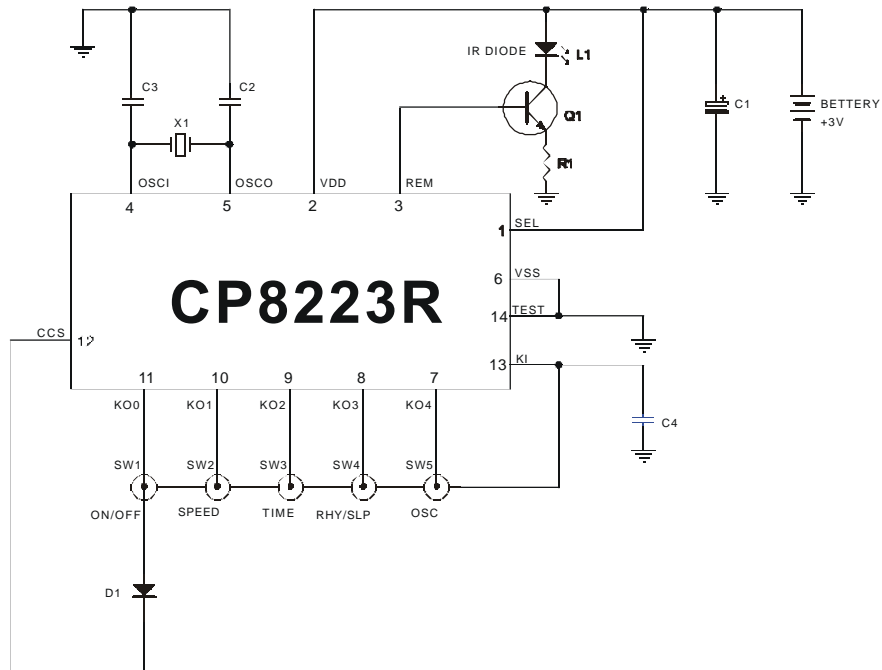


A	B	C	D	E	C0	C1	C2	C3	C4	C5	C6	C7	C0	C1	C2	C3	C4	C5	C6	C7
					0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
V					1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
	V				0	1	0	0	0	0	0	0	1	0	1	1	1	1	1	1
V	V				1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
		V			0	0	1	0	0	0	0	0	1	1	0	1	1	1	1	1
V		V			1	0	1	0	0	0	0	0	0	1	0	1	1	1	1	1
	V	V			0	1	1	0	0	0	0	0	1	0	0	1	1	1	1	1
V	V	V			1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1
			V		0	0	0	1	0	0	0	0	1	1	1	0	1	1	1	1
V			V		1	0	0	1	0	0	0	0	0	1	1	1	0	1	1	1
	V	V			0	1	0	1	0	0	0	0	1	0	1	1	0	1	1	1
V	V	V			1	1	1	0	0	0	0	0	0	0	1	1	0	1	1	1
			V	V	0	0	1	1	0	0	0	0	1	1	0	0	1	1	1	1
V			V	V	1	0	0	1	1	0	0	0	0	1	1	0	0	1	1	1
	V	V			0	1	0	1	1	0	0	0	0	0	1	0	0	1	1	1
V	V		V	V	1	1	0	1	1	0	0	0	0	0	1	0	0	1	1	1
		V	V	V	0	0	1	1	1	0	0	0	1	1	0	0	0	1	1	1
V		V	V	V	1	0	1	1	1	0	0	0	0	1	0	0	0	1	1	1
	V	V	V	V	0	1	1	1	1	0	0	0	1	0	0	0	0	1	1	1
V	V	V	V	V	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1

## Pin Description :

PIN NAME	PIN NUMBER	I/O	FUNCTION
SEL	1	I	SEL DATA CODE D7
VDD	2	P	POWER PIN (-)
REM	3	O	REMOTE OUTPUT
OSCI	4	I	455KHZ
OSCO	5	O	455KHZ
VSS	6	P	POWER PIN (-)
Ko4	7	O	OSCILLATING INPUT KEY WITH KI PIN
Ko3	8	O	RHY INPUT KEY WITH KI PIN
Ko2	9	O	TIMER INPUT KEY WITH KI PIN
Ko1	10	O	SPEED INPUT KEY WITH KI PIN
Ko0	11	O	ON/OFF INPUT KEY WITH KI PIN
CCS	12	I	CUSTOM CODE INPUT PIN
KI	13	I	KEY INPUT
TEST	14	I	TEST IC

Typical application Circuit (for reference only) :



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Application Circuit BOM (for reference only) :

POWER : DC 3V		
SPARE PARTS	SPEC PARTS	LOCATION
CAPACITOR	300pF	C2~C4
ELECTROLYTIC CAPACITOR	47 $\mu$ F / 10V	C1
RESISTOR	1 / 0.125W	R1
DIODE	1N4148	D1 ( default )
EMITTER DIODE	38KHZ	L1
TRANSISTOR	2SC2001	Q1
CRYSTAL OSCILLATOR	455 KHZ	X1
TACT SWITCH	as requirement	SW1~SW5
IC	CP8223R	U1