



LX2240B User's Guide

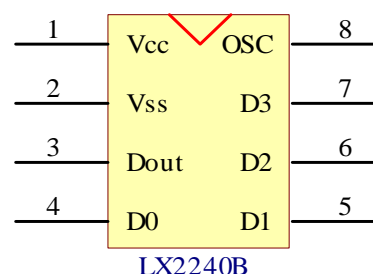
Description

LX2240B is designed by CMOS technology, can store ISN and study code beforehand, it is decoded by software; ISN has 20 bits, can store 1048576 for combination, this can reduce any code collision.

Main Features

1. low power consumption quiescent current $< 1\mu\text{A}$;
2. operating voltage $V_{cc}=2.4 - 13.0\text{V}$;
3. input four key-press through combination, that can assemble 15 key-press mostly;
4. single oscillator circuit, need one external resistor only.
5. small volume 8 package by SSOP, it is perfect upgrade product of LX2260;
6. it is compatible with PT2240B absolutely.

Pin configuration



Pin Description

Pin Name	Description	Pin No.	I / O
Vcc	Positive Power supply	1	
Vss	Negative Power supply	2	
TXD	Data output pin	3	O
D0	Key-press input pin, contain pull-down resistor	4	I
D1	Key-press input pin, contain pull-down resistor	5	I
D2	Key-press input pin, contain pull-down resistor	6	I
D3	Key-press input pin, contain pull-down resistor	7	I
OSC	Oscillator circuitry input pin, connect resistor to power supply	8	I



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Limit Parameter

Sign	Parameter	Condition	Scope	Unit
Vcc	Supply voltage		-0.3~15	V
VI	Input voltage		-0.3~Vcc+ 0.3	V
VO	Output voltage		-0.3~Vcc+ 0.3	V
Tst	Storage temperature		-40 ~125	°C
Top	Operating temperature		-20 ~70	°C
Pdis	Most power consumption	Vcc = 12V (Empty)	24	mW

Electric Characteristic

Parameter	Condition	Sign	Least	Type	Most	Unit
Operating voltage		Vcc	2.4	12	15	V
Quiescent current	Vcc = 12V, OSC stop , OutPut Unloaded	Isb			1.0	uA
Operating current	Vcc = 12V , one key-press input (one contact Vcc)	Iop		0.5	1.0	mA
Driven pull current	Vcc = 12V, Voh = 6V	Ioh	5			mA
Driven sink current	Vcc = 12V, Vol = 6V	Iol	3			mA
Operating frequency		Fop		80K		Hz

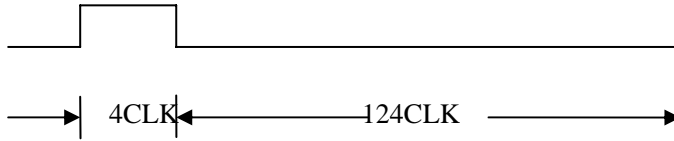
Output Code format

ISN C0~C19 (1million group)	D0	D1	D2	D3	Synchronization Code
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Complete format of 1 frame code



synchronization code:



Definition: 1 CLK=8 OSC CLOCK

Oscillator resistor and 1 bit data width(TD) corresponding table

	13V	12V	11V	10V	9V	8V	7V	6V	5V	4V
1M	605us	620us	640us	655us	675us	704us	736us	780us	844us	944us
1.2M	792us	814us	834us	854us	876us	914us	956us	1.015ms	1.09ms	1.225ms
1.5M	960us	980us	1.01ms	1.03ms	1.06ms	1.1ms	1.145ms	1.23ms	1.32ms	1.47ms
2M	1.22ms	1.25ms	1.28ms	1.31ms	1.35ms	1.39ms	1.46ms	1.54ms	1.65ms	1.85ms
2.2M	1.31ms	1.34ms	1.37ms	1.41ms	1.45ms	1.5ms	1.57ms	1.66ms	1.79ms	1.99ms
2.4M	1.43ms	1.48ms	1.51ms	1.55ms	1.59ms	1.64ms	1.71ms	1.81ms	1.94ms	2.19ms
2.7M	1.68ms	1.71ms	1.75ms	1.79ms	1.84ms	1.91ms	1.99ms	2.11ms	2.27ms	2.53ms
3M	1.79ms	1.82ms	1.86ms	1.91ms	1.96ms	2.03ms	2.11ms	2.24ms	2.401ms	2.69ms
3.3M	1.995ms	2.035ms	2.085ms	2.135ms	2.195ms	2.265ms	2.365ms	2.505ms	2.705ms	3.01ms



The oscillator resistor replace relation of LX2240B and PT2240B(for reference only):

PT2240B	LX2240B
3.3M	2.4M
3.0M	2.2M
2.7M	2.2M
2.0M	1.5M
1.5M	1.2M

K0~K3 key-press combination and output relation table

K3	K2	K1	K0	D3	D2	D1	D0
0	0	0	1	0	0	0	1
0	0	1	0	0	0	1	0
0	0	1	1	0	0	1	1
0	1	0	0	0	1	0	0
0	1	0	1	0	1	0	1
0	1	1	0	0	1	1	0
0	1	1	1	0	1	1	1
1	0	0	0	1	0	0	0
1	0	0	1	1	0	0	1
1	0	1	0	1	0	1	0
1	0	1	1	1	0	1	1
1	1	0	0	1	1	0	0
1	1	0	1	1	1	0	1
1	1	1	0	1	1	1	0
1	1	1	1	1	1	1	1



Application circuitry diagram

