

## 1. General Description

The MDT75C273 is an OTP Encoder using CMOS technology. It has a maximum of 20 bits addressing code providing up to one million codes. It can reduce any code collision and unauthorized code scanning possibilities.

## 2. Features

- CMOS technology.
- Low standby current : 1.0 uA.
- Wide range of Operating Voltage : Vdd = 3.0V ~ 12V.
- Up to 4 data pins.
- Total 1048576 address codes.
- Built-in RC oscillator with single external resistor.
- Available in DIP and SOP package.
- **Automatically enter sleep mode if press button over 6 ~ 10 sec**

## 3. Pin Assignment

**MDT75C273P / 75C273S**

**8 pin DIP / SOP**

OSCR	1	8	K3
Vdd	2	7	K2
Vss	3	6	K1
TXD	4	5	K0

## 4. Pin Function Description

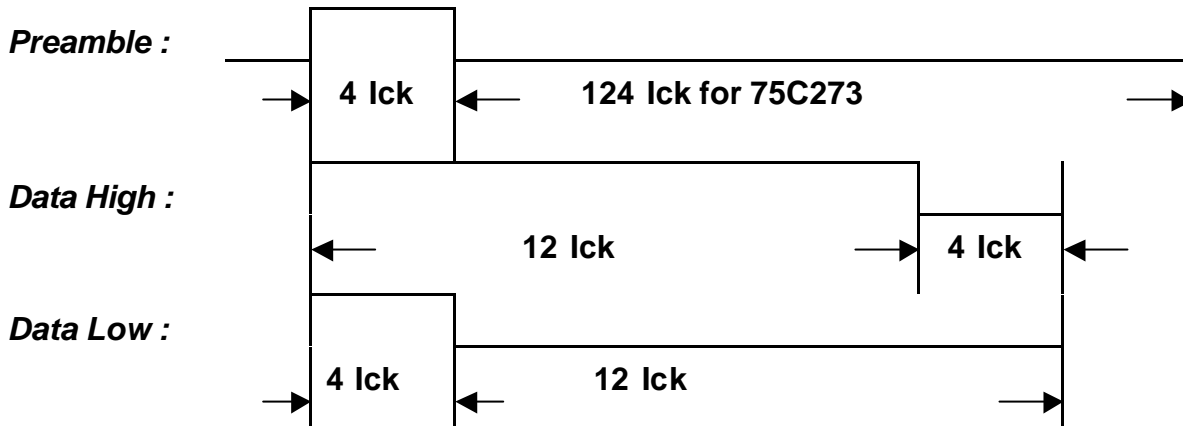
Symbol	I/O	Function Description
OSCR	I	Connect a resistor to Vdd to adjust internal RC freq.
Vdd		Positive power supply 3.0V ~ 12 V.
Vss		Ground.
TXD	O	Data output pin.
K0	I	Data input with pull low Resistor.
K1	I	Data input with pull low Resistor.
K2	I	Data input with pull low Resistor.
K3	I	Data input with pull low Resistor.

This specification is subject to be changed without notice. Please visit our web site for the most updated information.

**5. Output Data Reporting**

**Output data frame**

<b>Preamble</b>	<b>C0 ~ C19 ( 1048576 address codes )</b>	<b>D0</b>	<b>D1</b>	<b>D2</b>	<b>D3</b>
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**Note : 1 lck = 8 OSC clocks**

**6. Key 0 ~ 3 combination table**

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

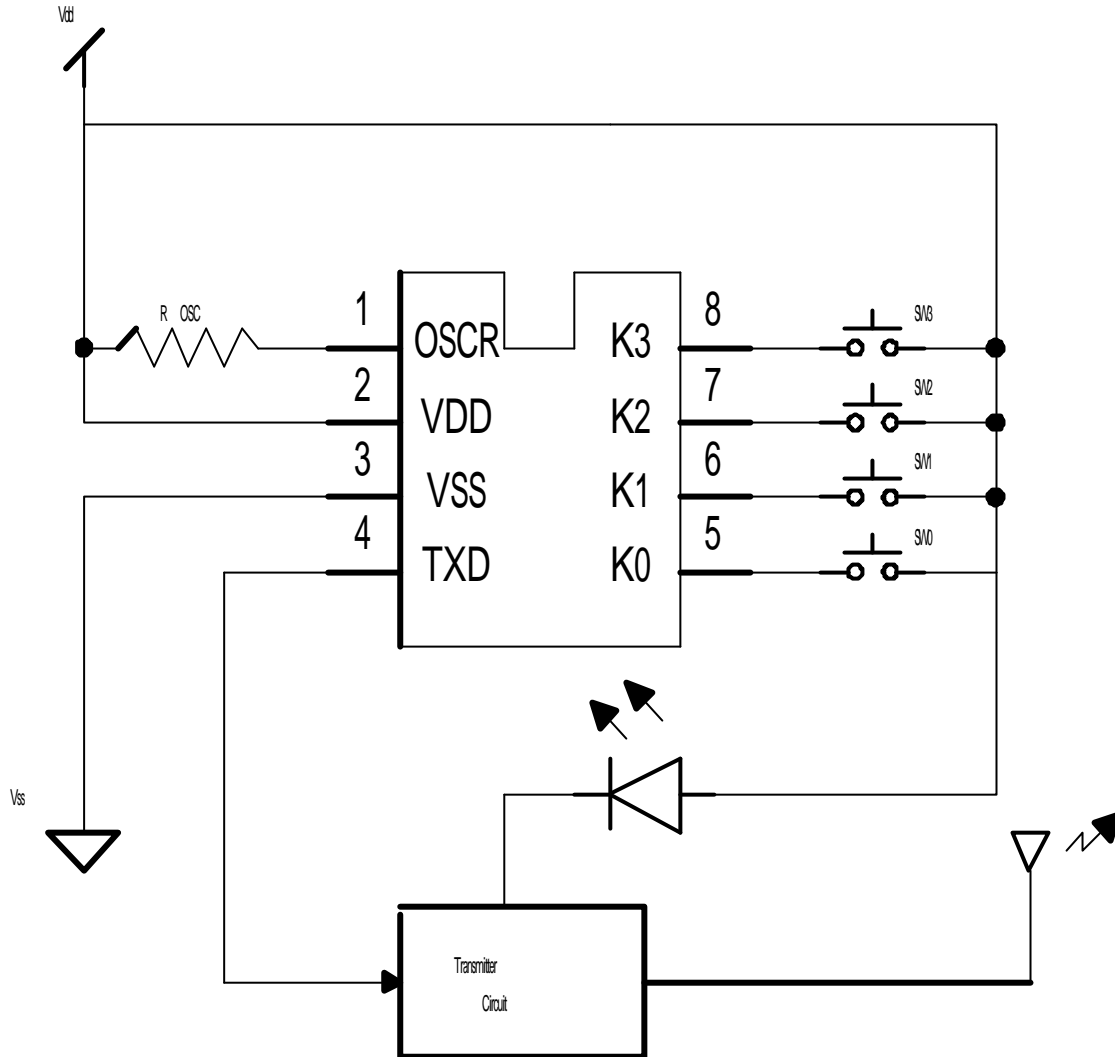
**7. Absolute Maximum Rating**

Symbol	Parameter	Conditions	Rating	Unit
Vdd	Supply Voltage		-0.3 ~ 13	V
Vi	Input Voltage		-0.3 ~ Vdd+0.3	V
Vo	Output Voltage		-0.3 ~ Vdd+0.3	V
Tst	Storage Temp.		-40 ~ 125	
Top	Operating Temp.		-20 ~ 70	
Pdis	Max. Power dissipation	Vdd = 12V	300	mW

**8. DC Electrical Characteristics ( $T_A=0$  to 70 )**

Symbol	Parameters	Conditions	Min.	Typ.	Max.	Unit
Vdd	Operating Voltage		3.0	5	12	V
I <sub>sb</sub>	Stand by current	Vdd = 12V, OSC stop K0 ~ K3 = Low Output Unloaded		1.0	3.0	uA
I <sub>op</sub>	Operating current	Vdd =12V		0.5	1.0	mA
I <sub>oh</sub>	Source current	Vdd =12V, Voh = 6V	4.5			mA
I <sub>ol</sub>	Sink Current	Vdd =12V, Vol = 6V	4.5			mA
F <sub>op</sub>	Operating Freq	Vdd=11V, Rosc=360K ~ 470K ohm		80K		HZ

**9. Application circuit**



**10. External oscillator resistor selection table (Vdd=11V)**

Rosc (ohm)	Freq. (Hz)	Operating Current
<b>510 K</b>	<b>70.0 K</b>	443 $\mu$ A
<b>470 K</b>	<b>74.0 K</b>	444 $\mu$ A
<b>430 K</b>	<b>78.7 K</b>	445 $\mu$ A
<b>390 K</b>	<b>84.6 K</b>	447 $\mu$ A
<b>360 K</b>	<b>88.9 K</b>	449 $\mu$ A
<b>330 K</b>	<b>97.4 K</b>	451 $\mu$ A

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