



EN/DECODE
<b>M1DT/FT</b>

## GENERAL DESCRIPTION 功能敘述

The M1DT/FT is a CMOS ASIC decoder paired with M1EA. It will de-code serial data from data input. The VT signal will go high and data will be copied to the output if address are checked the same. Data output has latch or momentary output type.

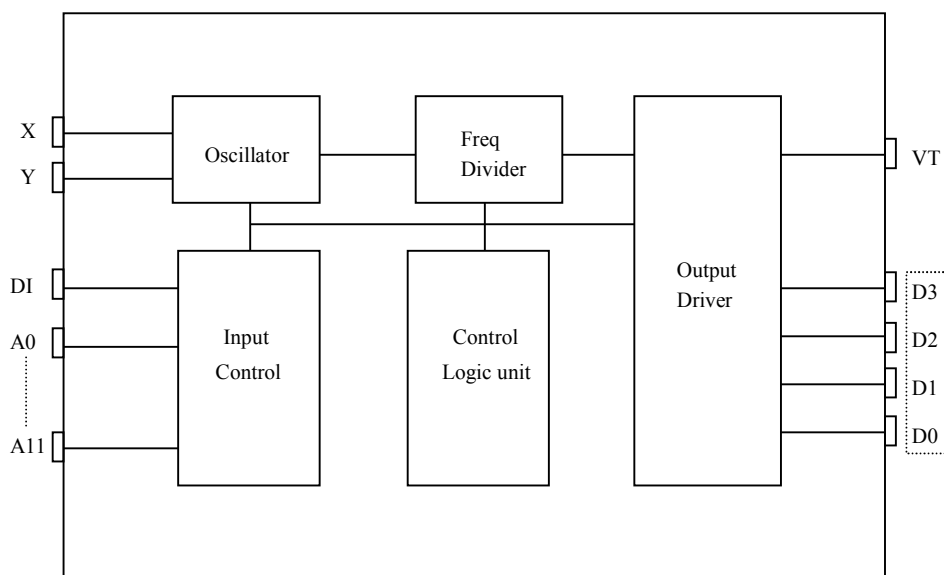
## FEATURES 產品特長

- Same Rose matched to the Encoder M1EA.
- Operating voltage: VDD=2.4 ~ 5.5V
- $2^{12} = 4,096$  codes, "0"、"1" binary.
- 3 cycles checked each time.
- Address / Data types :
  - M1DT : 4 data type ( Latched ).
  - M1DT-M : Momentary data outputs.
  - M1FT : Full address type.

## APPLICATIONS 產品應用

- Car/home alarm system, garage control etc..

## BLOCK DIAGRAM 功能方塊圖



\*All specs and applications shown above subject to change without prior notice.  
( 以上電路及規格僅供參考,本公司得逕行修正 )



EN/DECODE
<b>M1DT/FT</b>

**ABSOLUTE MAXIMUM RATING**

(TA=25°C)

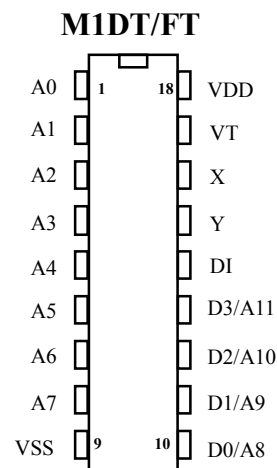
Parameter	Rating	Unit
Supply Voltage	-0.3 to 5.5	V
Input Voltage	-0.2~V <sub>DD</sub> +0.2	V
Operating Temperature	-20 to 70	°C
Storage Temperature	-50 to 125	°C

**ELECTRICAL CHARACTERISTICS**

Characteristics	Sym.	Min.	Typ.	Max.	Unit	Conditions
Operating Voltage	V <sub>DD</sub>	2.4	4.5	5.5	V	
Operating Current	I <sub>OP</sub>	—	0.1	1	mA	No load
Quiescent Current	I <sub>SB</sub>	—	0.1	0.5	μA	
Output Drive Current	I <sub>O</sub>	—	2	—	mA	@V <sub>DS</sub> =1.2V
Input Voltage	V <sub>IH</sub>	V <sub>DD</sub> -0.2	V <sub>DD</sub>	V <sub>DD</sub>	V	
	V <sub>IL</sub>	V <sub>SS</sub>	V <sub>SS</sub>	V <sub>SS</sub> +0.2		
Oscillator Frequency	F <sub>osc</sub>	—	76	—	KHz	External±30%,R <sub>osc</sub> =240KΩ

**PIN DESCRIPTION**

No.	M1DT	M1FT	Description
1~8	A0~A7	A0~A7	2 States address inputs
9	VSS	VSS	Negative power supply
10~13	D0~D3	A8~A11	Data outputs/Address inputs
14	DI	DI	Data input
15	Y	Y	Oscillator output
16	X	X	Oscillator input
17	VT	VT	Valid transmit
18	VDD	VDD	Positive power supply

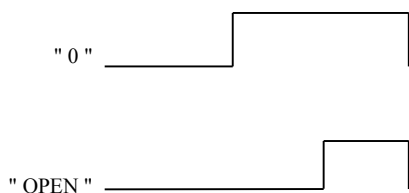




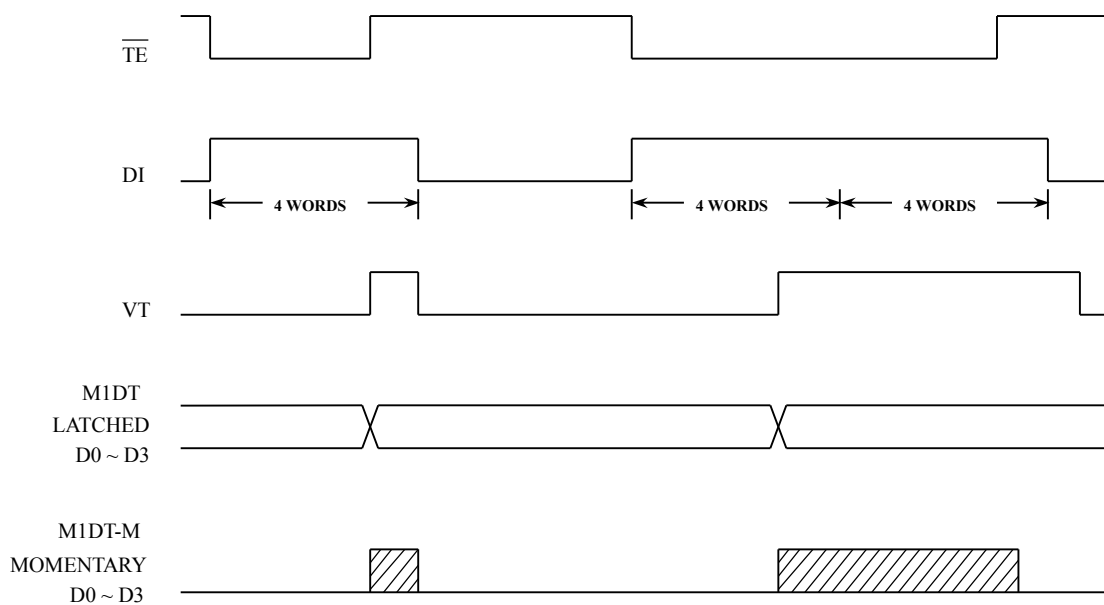
EN/DECODE
<b>M1DT/FT</b>

## TIMING WAVEFORM

### (1) BIT FORMAT



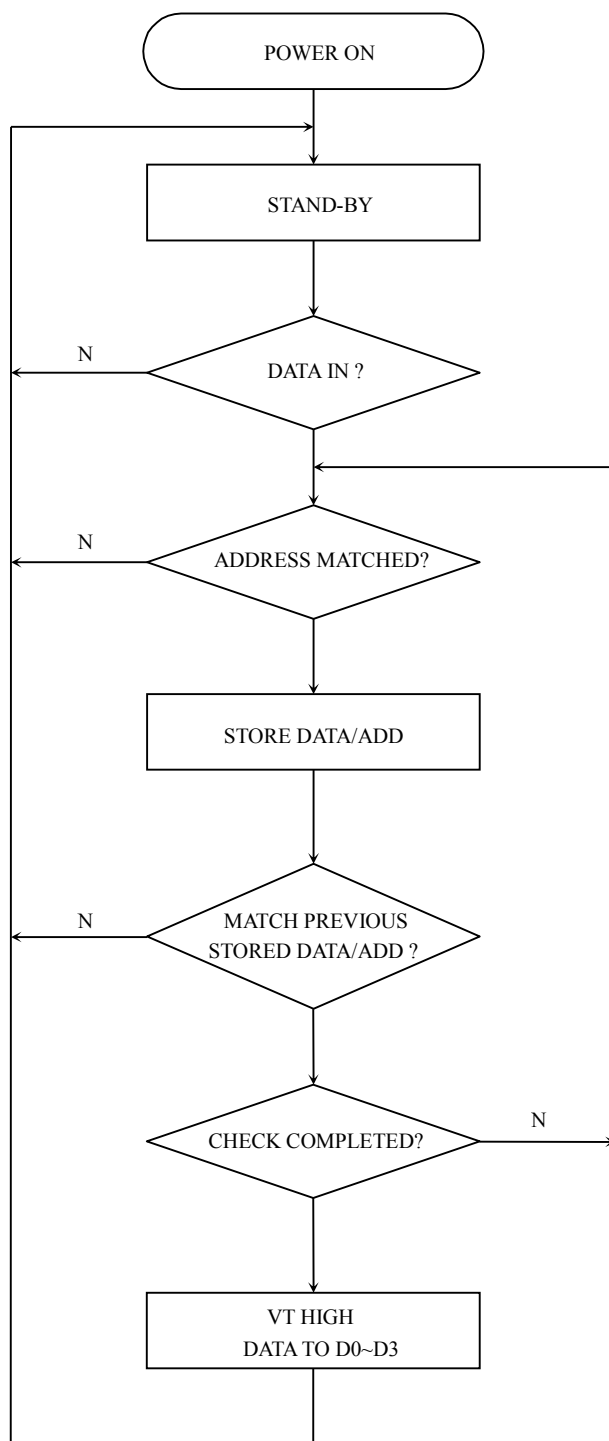
### (2) TIMING DIAGRAM





EN/DECODE
<b>M1DT/FT</b>

OPERATING FLOWCHART





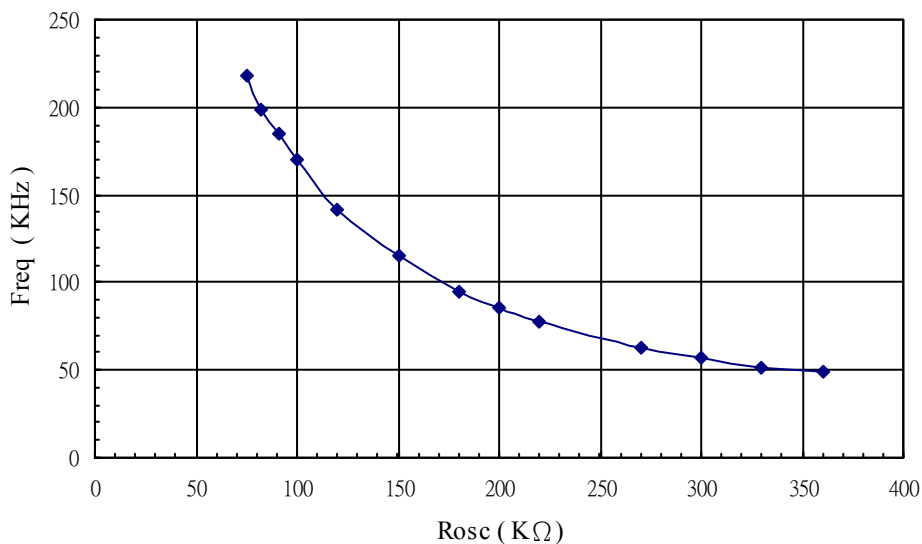
**RECONNENDED OSCILLATOR PARAMETERS**

Rosc (KΩ)	M1DT/FT (KHz)
75	218
82	199
91	185
100	170
120	142
150	115
180	95
200	86
220	78
270	63
300	57
330	51
360	49

**DATA OUTPUT**

M1EA (D0~D3)	M1DT/FT (D0~D3)
0 (VSS)	1 (VDD)
1 (OPEN)	0 (VSS)

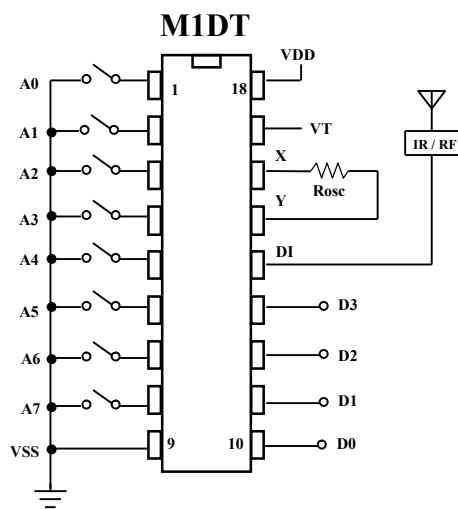
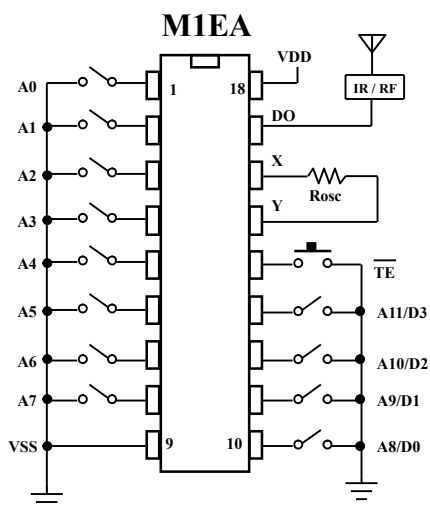
**Freq-Rosc Chart**  
( VDD@4.5V )



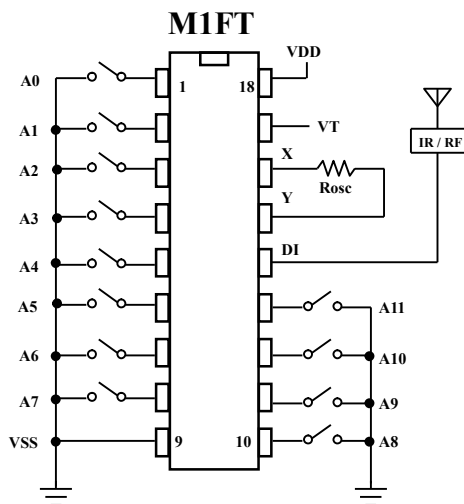
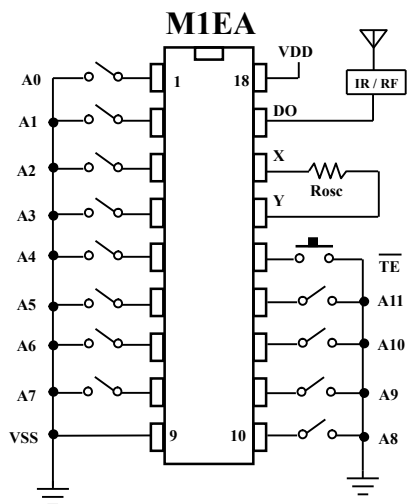


APPLICATION DIAGRAM 參考電路圖

(1) DATA TYPE



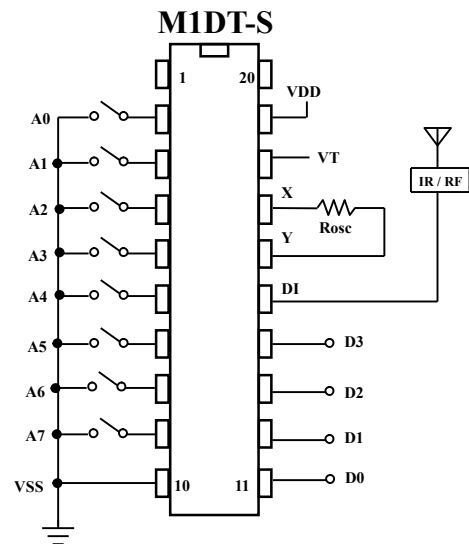
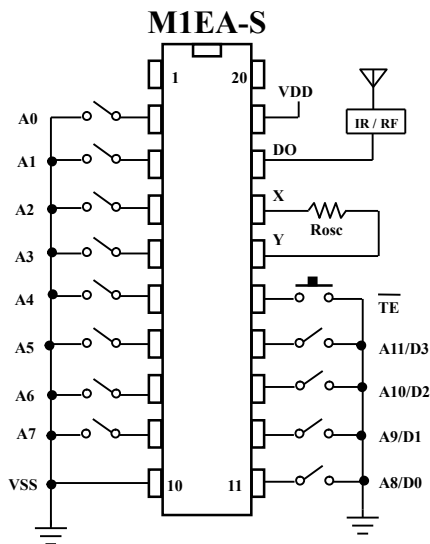
(2) FULL ADDRESS TYPE





APPLICATION DIAGRAM 參考電路圖 (SOP PACKAGE)

(1) DATA TYPE



(2) FULL ADDRESS TYPE

