



2 STATES DECODER

2 態解碼 IC

**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.

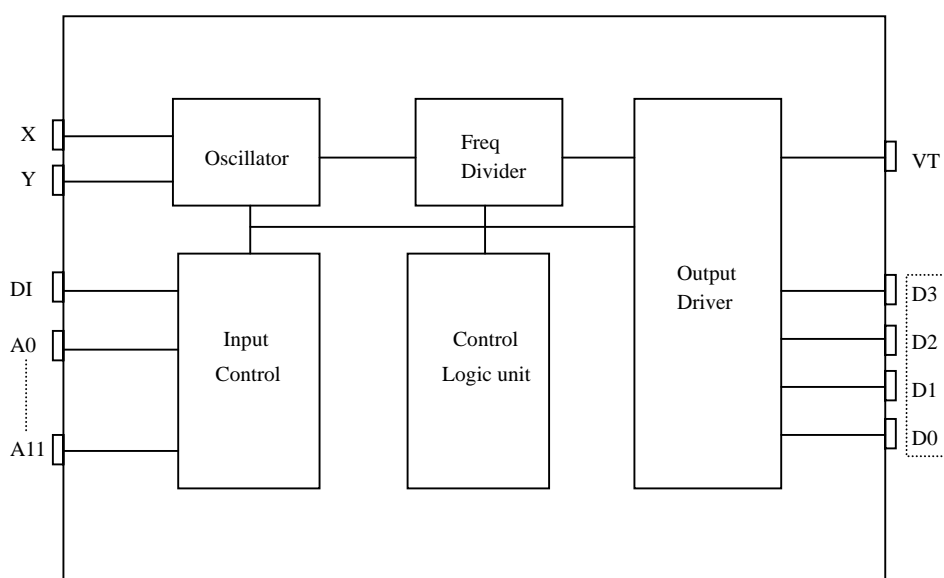
**FEATURES 產品特長**

- Same Rosc 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 )



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EN/DECODE

M1DT/FT

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

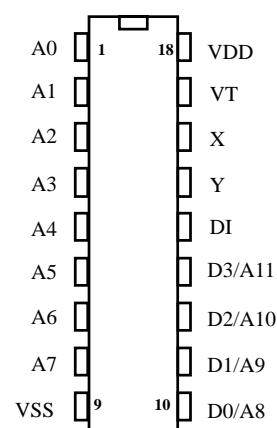
ELECTRICAL CHARACTERISTICS

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%,Rosc=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

M1DT/FT



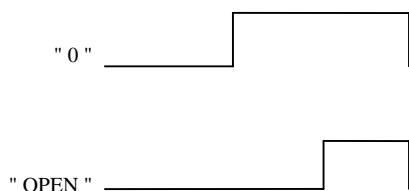


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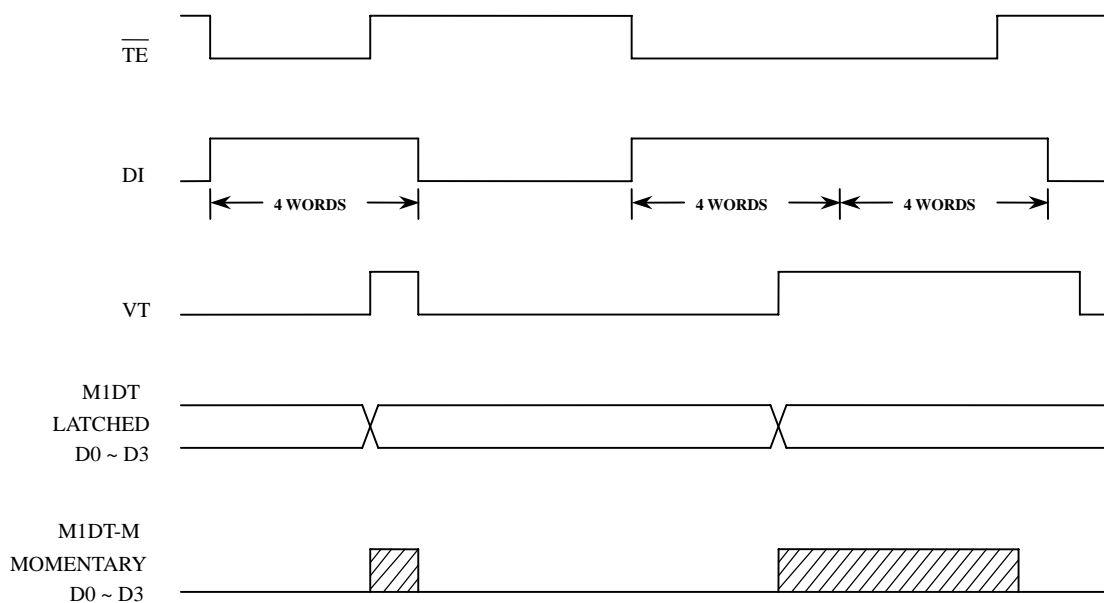
EN/DECODE
M1DT/FT

**TIMING WAVEFORM**

**(1) BIT FORMAT**



**(2) TIMING DIAGRAM**

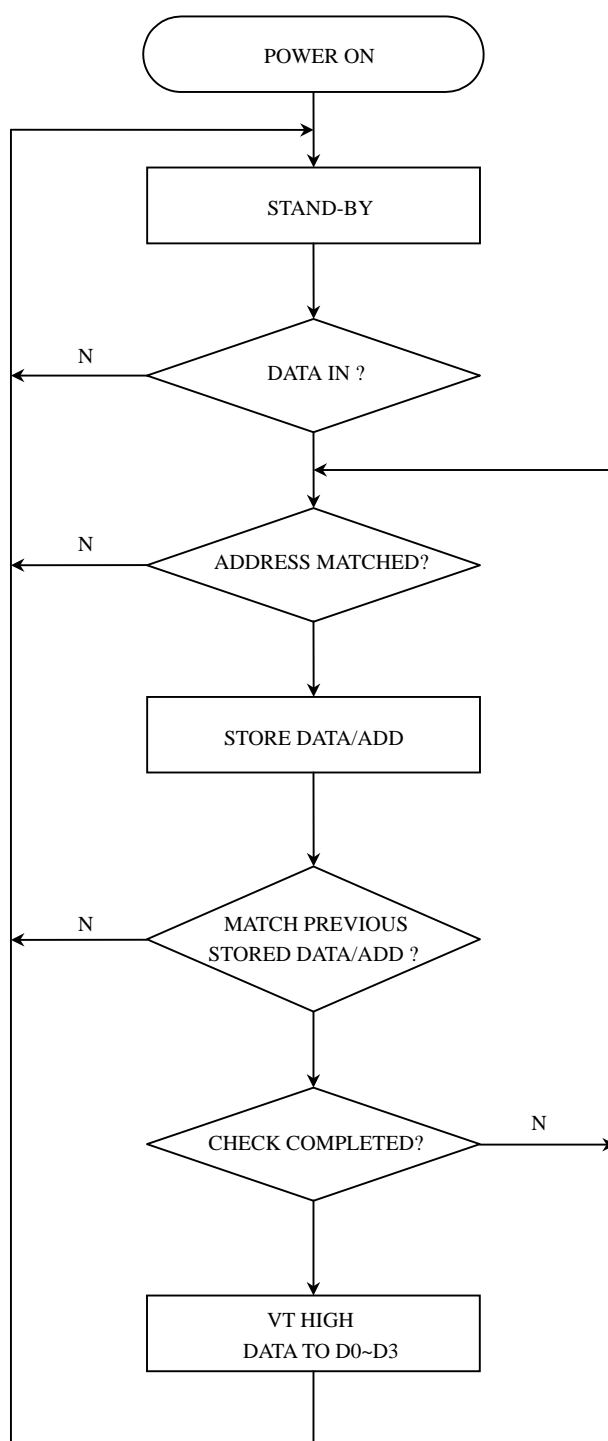




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OPERATING FLOWCHART





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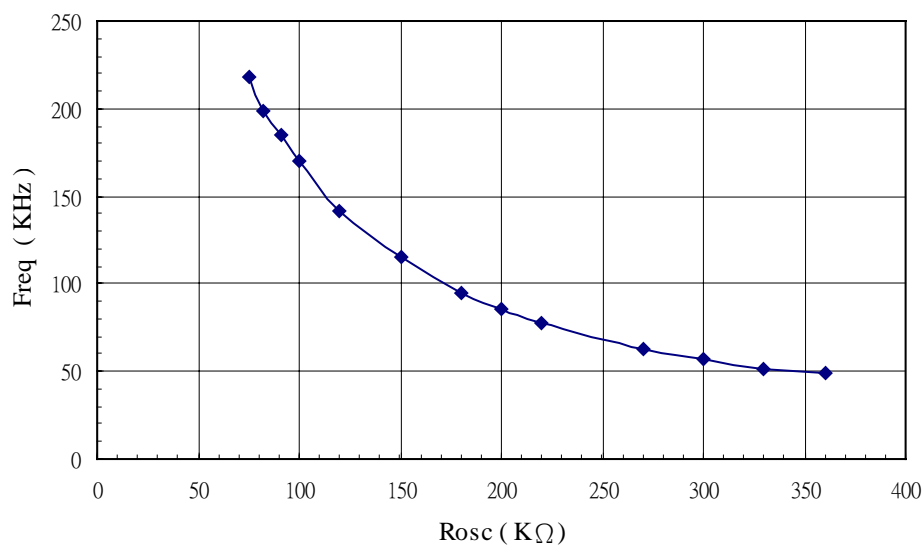
RECONNENDED OSCILLATOR PARAMETERS

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 )



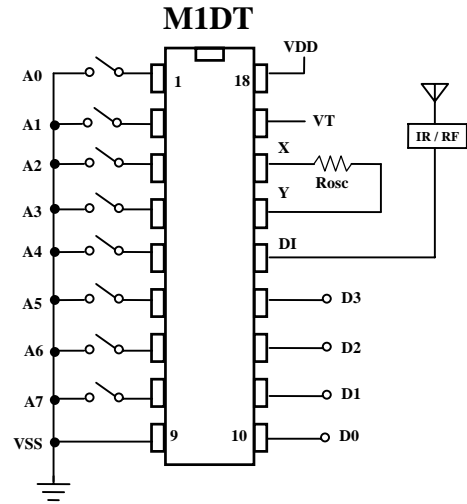
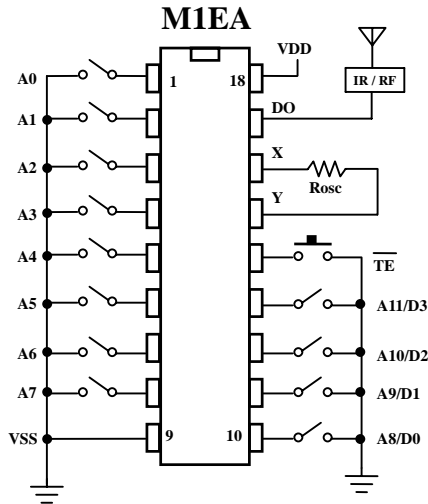


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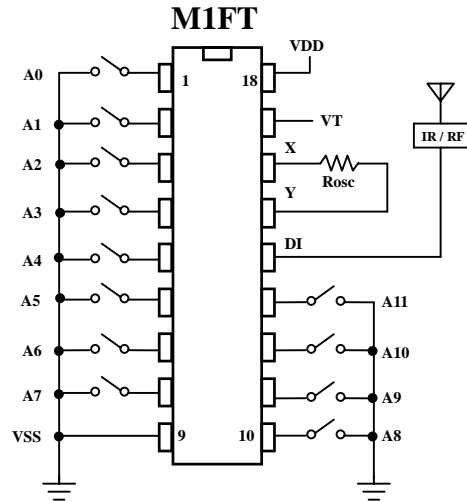
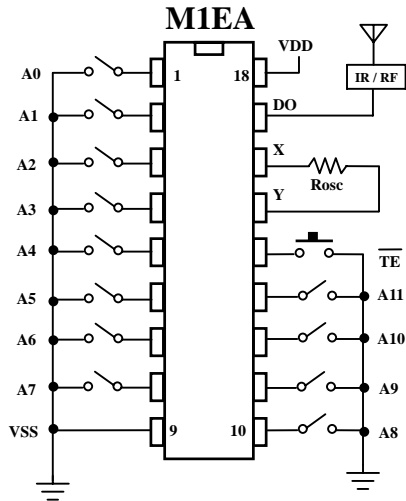
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APPLICATION DIAGRAM 參考電路圖

(1) DATA TYPE



(2) FULL ADDRESS TYPE



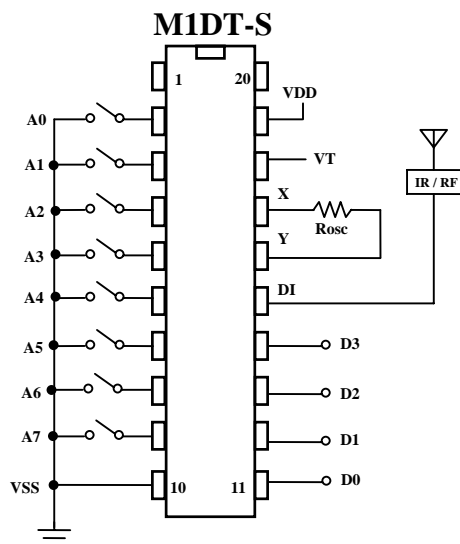
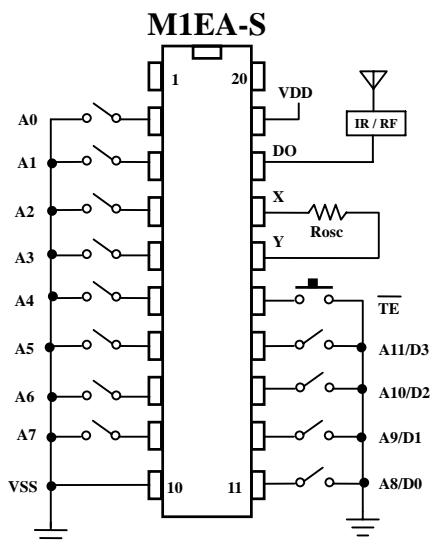


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APPLICATION DIAGRAM 參考電路圖 (SOP PACKAGE)

(1) DATA TYPE



(2) FULL ADDRESS TYPE

