



## GENERAL DESCRIPTION 功能敘述

The M5D/F is a CMOS ASIC decoder. It will de-code the 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.

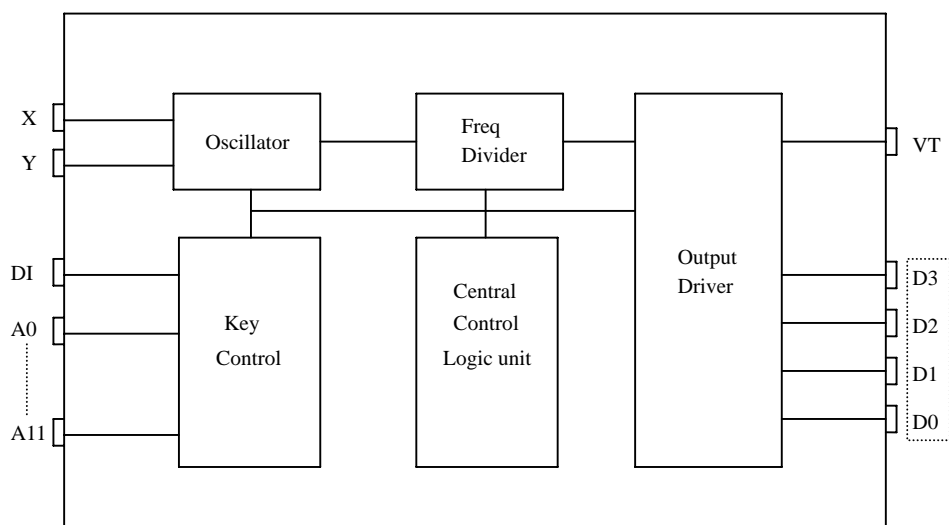
## FEATURES 產品特長

- Same Rosc matched to the ENCODER M5E
- $3^{12} = 531,411$  codes, "0"、"X"、"1" Tri-states.
- 3 cycles checked each time
- Address / Data types :
  - M5D : 4 data type. (Latched)
  - M5D-M : Momentary data outputs
  - M5F : 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 )



3 STATES DECODER  
3 態解碼 IC

EN/DECODER
<b>M5D/F</b>

**ABSOLUTE MAXIMUM RATING**

(TA=25°C)

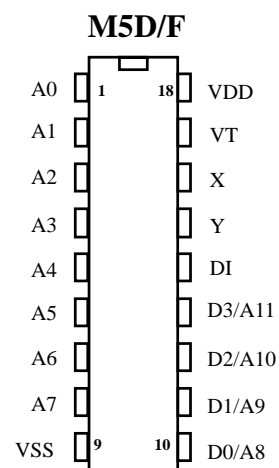
Parameter	Rating	Unit
Supply Voltage	-0.3 to 15	V
Input Voltage	-0.2~V <sub>DD</sub> +0.2	V
Operating Temperature	-20 to 70	°C
Storage Temperature	-50 to 125	°C

**ELECTRICAL CHARACTERISTICS**

Characteristics	Sym.	Min.	Typ.	Max.	Unit	Conditions
Operating Voltage	V <sub>DD</sub>	2.4	—	15	V	
Quiescent Current	I <sub>SB</sub>	—	0.1	1	μA	
Operating Current	I <sub>OP</sub>	—	0.1	0.5	mA	No load
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	Fosc	—	76	—	KHz	External±30%, Rosc=220KΩ

**PIN DESCRIPTION**

No.	M5D	M5F	Description
1~8	A0~A7	A0~A7	3 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



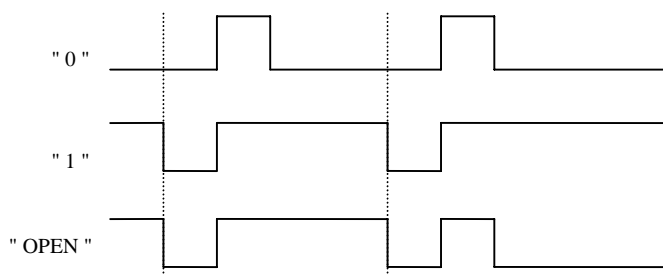


3 STATES DECODER  
3 態 解 碼 IC

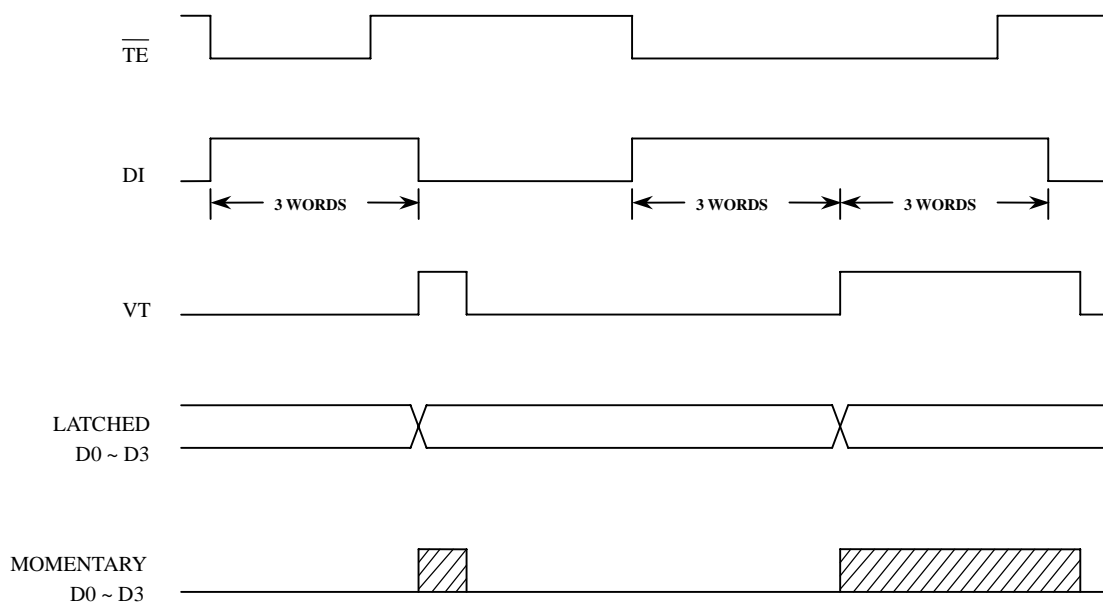
EN/DECODER
<b>M5D/F</b>

**TIMING WAVEFORM**

**(1) BIT FORMAT**

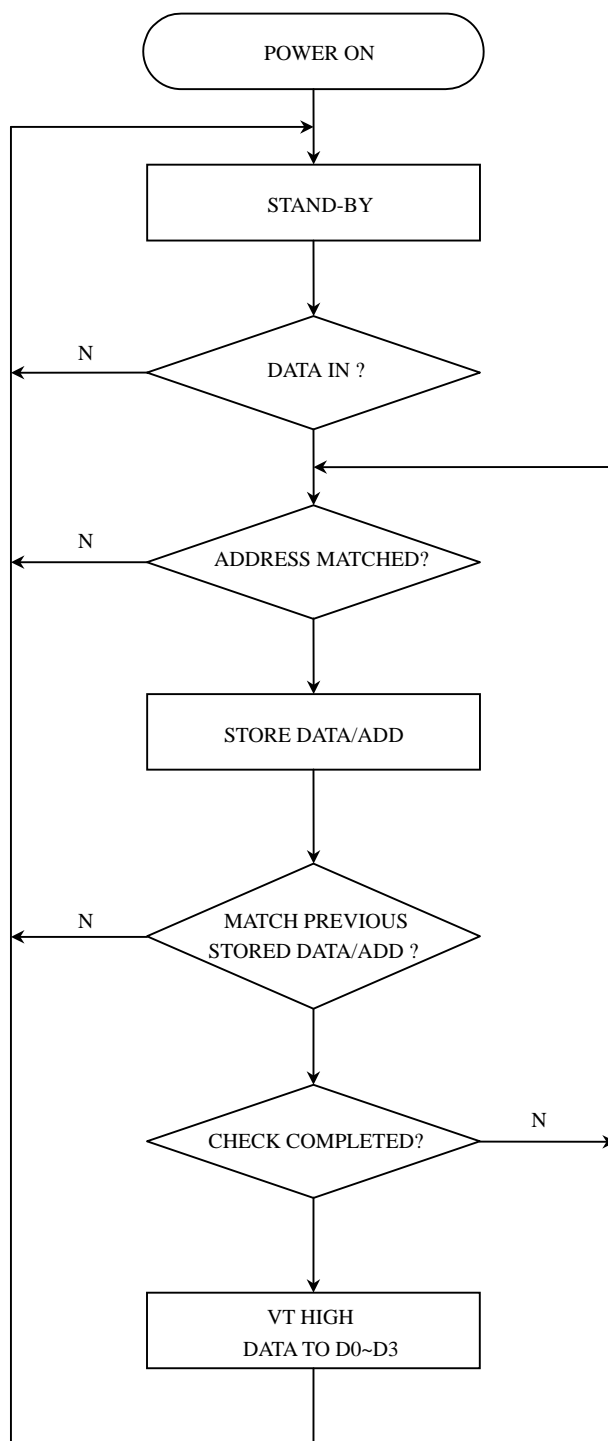


**(2) TIMING DIAGRAM**





OPERATING FLOWCHART





3 STATES DECODER  
3 態 解 碼 IC

EN/DECODER

**M5D/F**

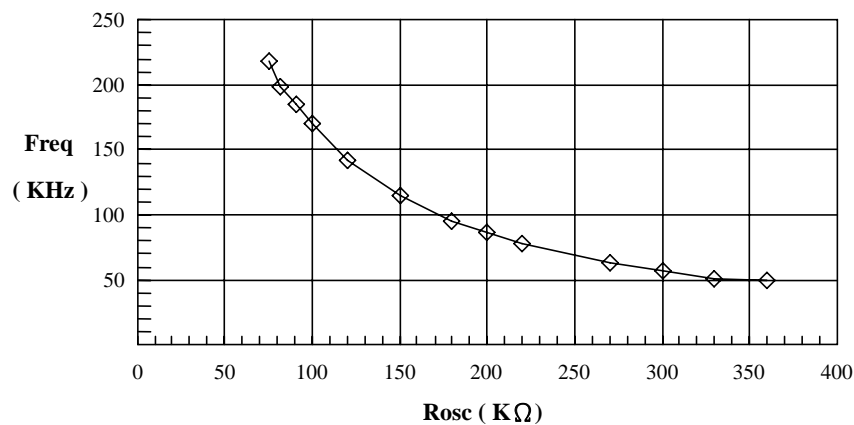
**RECONNENDED OSCILLATOR PARAMETERS**

Rosc (KΩ)	M5D/F (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**

M5E (D0~D3)	M5D/F (D0~D3)
0 (VSS)	0 (VSS)
X (OPEN)	0 (VSS)
1 (VDD)	1 (VDD)
POWER ON	0 (VSS)

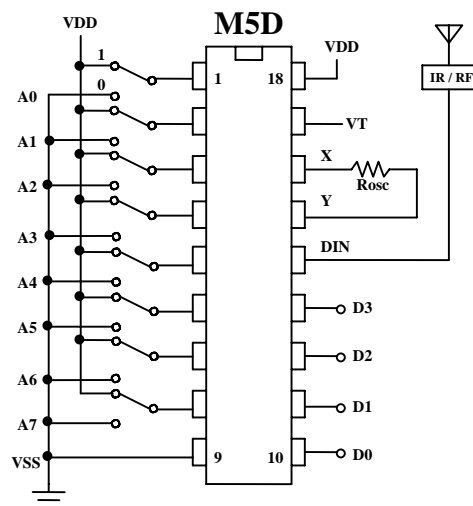
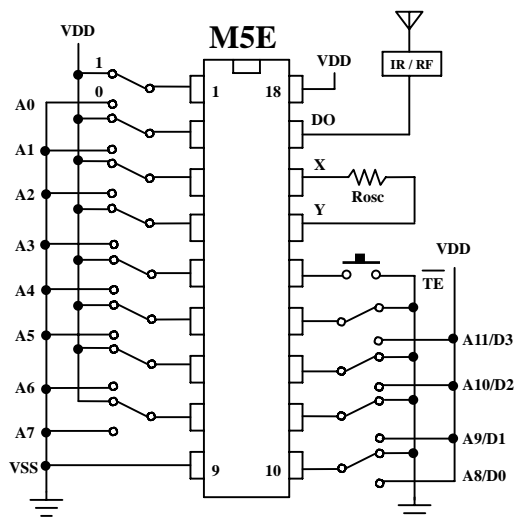
**Freq-Rosc Chart**  
( @VDD=12V )



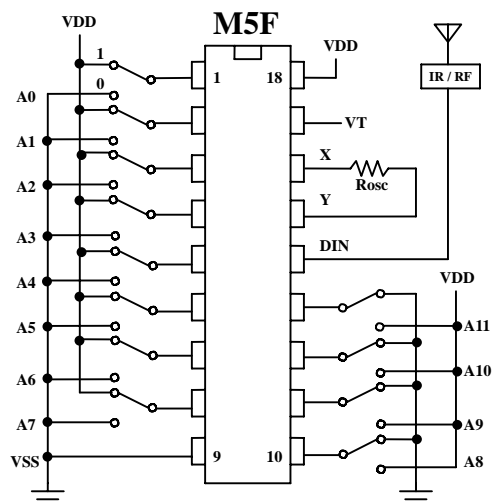
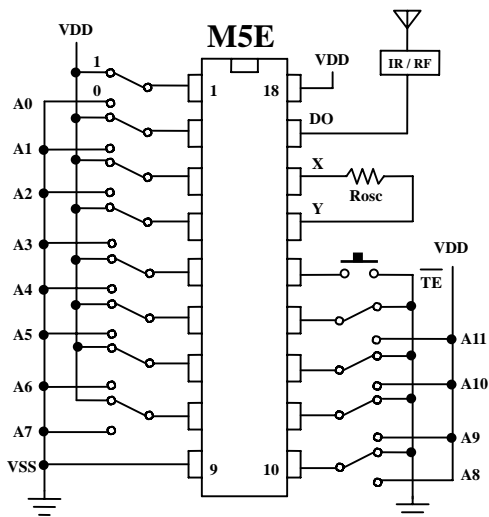


APPLICATION DIAGRAM 參考電路圖

(1) DATA TYPE



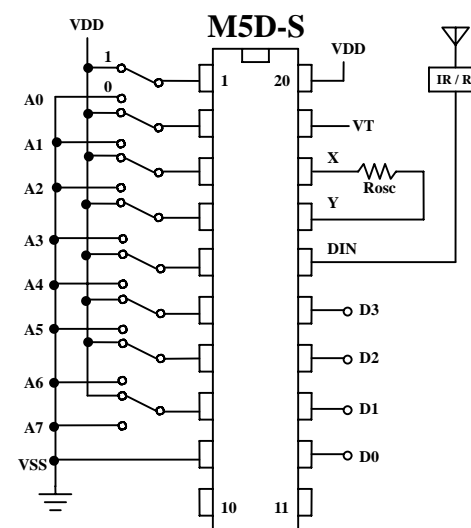
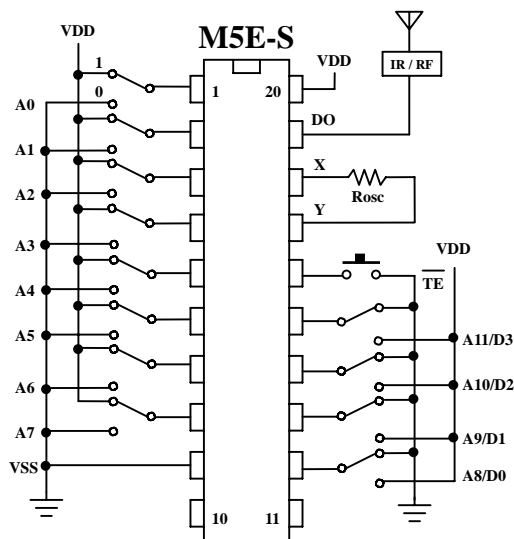
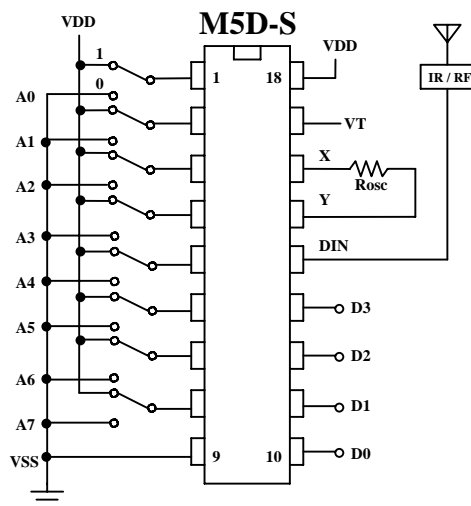
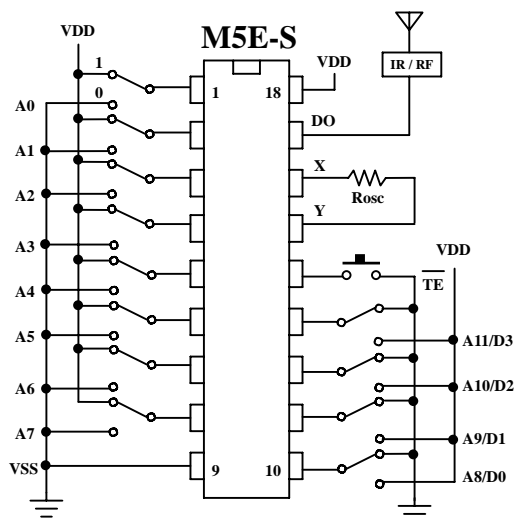
(2) FULL ADDRESS TYPE





APPLICATION DIAGRAM 參考電路圖 (SOP PACKAGE)

(3) DATA TYPE





APPLICATION DIAGRAM 參考電路圖 (SOP PACKAGE)

(4) FULL ADDRESS TYPE

