



2 STATES ENCODER

2 態 編 碼 IC

**GENERAL DESCRIPTION 功能敘述**

The M1E is a CMOS ASIC encoder. It will en-code 12 parallel data inputs (A0~A11) and serially transmit them to the output when transmits enable ( $\overline{TE}$ ) depressed. The address inputs are 2 states i.e. LOW (0) or OPEN (1). It will transmit 4 cycles each time  $\overline{TE}$  depressed.

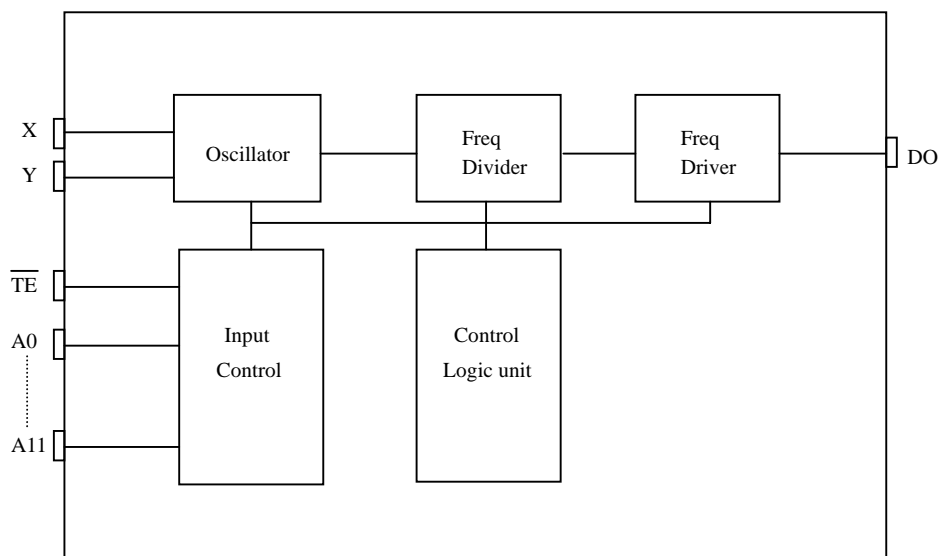
**FEATURES 產品特長**

- Same Rosc matched to the Decoder M1DA/FA.
- $2^{12} = 4,096$  binary codes.
- 4 cycles transmission each time.
- DIP 18 or SOP or SSOP available.

**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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**M1E**

**ABSOLUTE MAXIMUM RATING**

(TA=25°C)

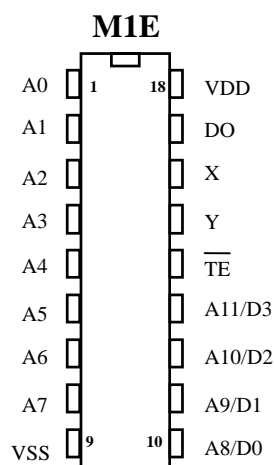
Parameter	Rating	Unit
Supply Voltage	-0.3 to 12	V
Input Voltage	-0.2~V <sub>DD</sub> +0.2	V
Operating Temperature	-20 to 70	°C
Storage Temperature	-50 to 125	°C

**ELECTRICAL CHARACTERISTICS**

Characteristics	Sym.	Min.	Typ.	Max.	Unit	Conditions
Operating Voltage	V <sub>DD</sub>	2.4	—	12	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	Fosc	—	76	—	KHz	External±30%, Rosc=200KΩ

**PIN DESCRIPTION**

No.	Name	Description
1~8	A0~A7	Address inputs
9	VSS	Negative power supply
10~13	A8~A11 / D0~D3	Address inputs / Data input
14	$\overline{TE}$	Transmit enable
15	Y	Oscillator output
16	X	Oscillator input
17	DO	Data output
18	VDD	Positive power supply



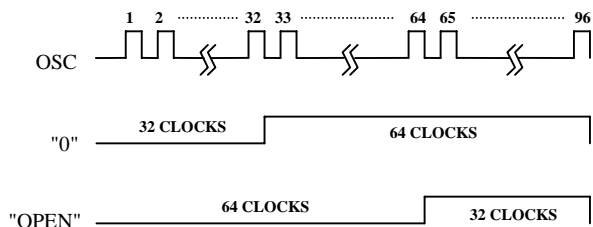


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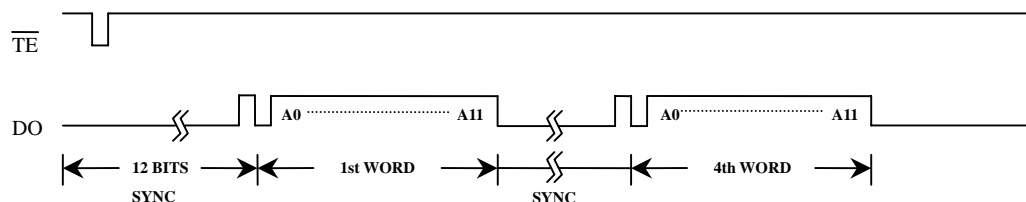
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**TIMING WAVE FORM**

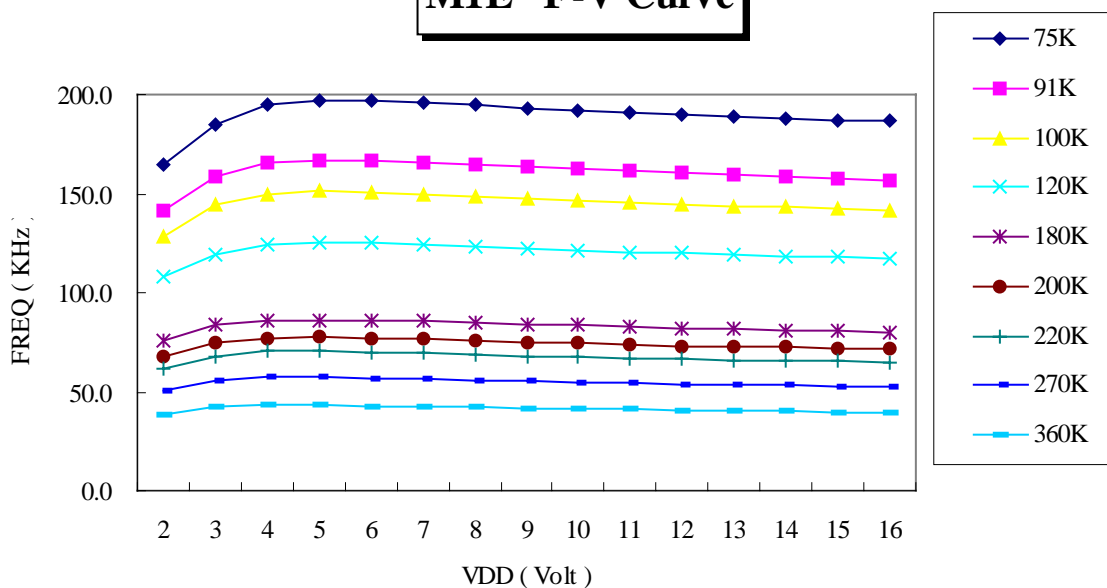
**(1) BIT FORMAT**



**(2) TIMING DIAGRAM**



**M1E F-V Curve**

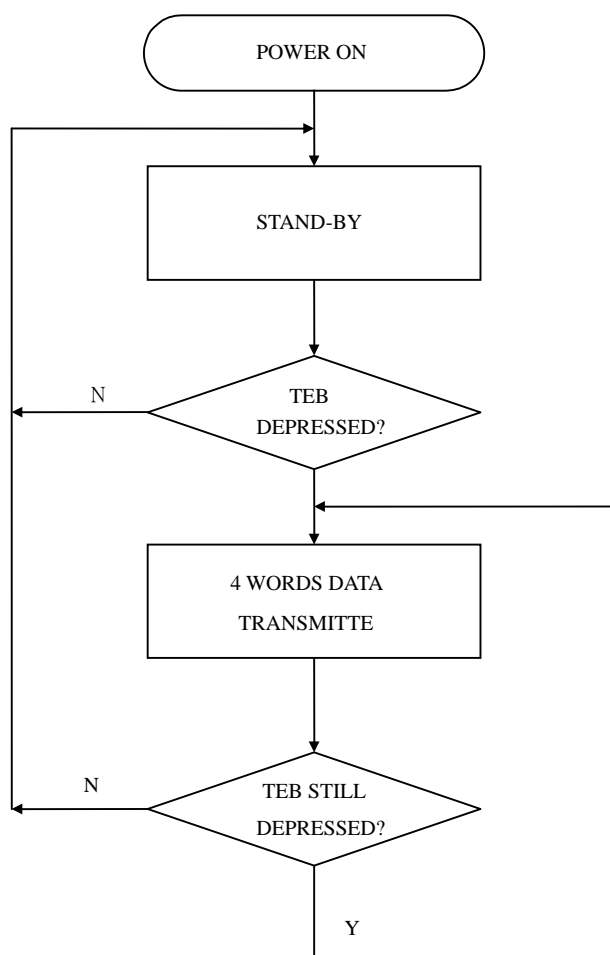




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OPERATING FLOWCHART





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2 態 編 碼 IC

**M1E**

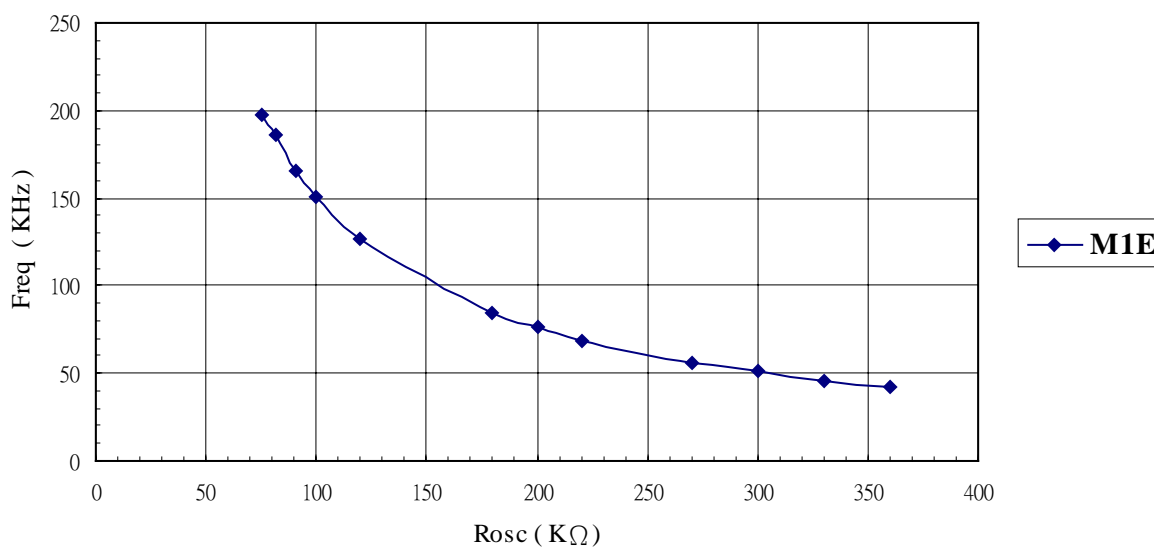
**RECONNENDED OSCILLATOR PARAMETERS**

Rosc (KΩ)	M1E (KHz)
75	198
82	186
91	165
100	151
120	127
180	85
200	77
220	69
270	56
300	51
330	46
360	42.5

**DATA OUTPUT**

M1E (D0~D3)	M1DA/FA (D0~D3)
0 (VSS)	1 (VDD)
1 (OPEN)	0 (VSS)

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





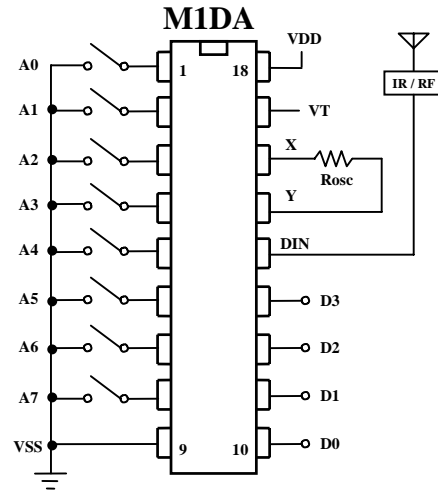
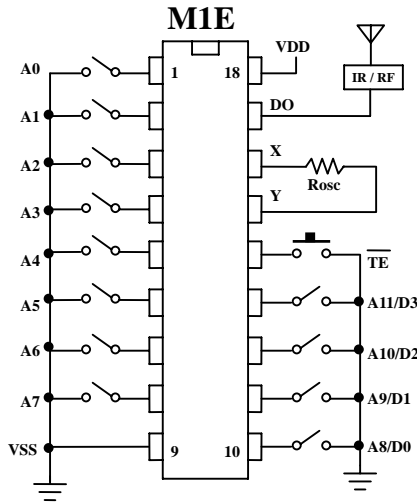
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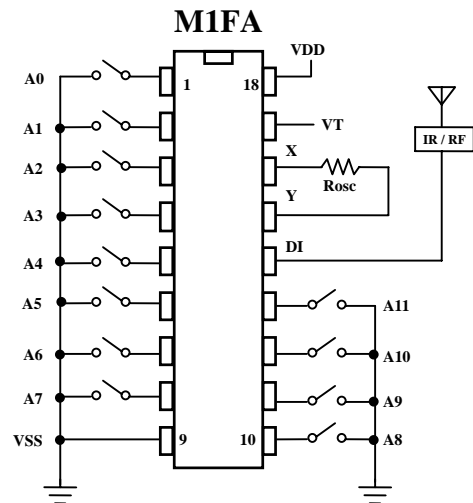
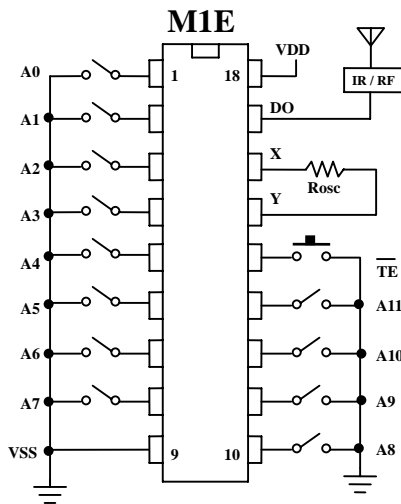
M1E

APPLICATION DIAGRAM 參考電路圖

(1) DATA TYPE



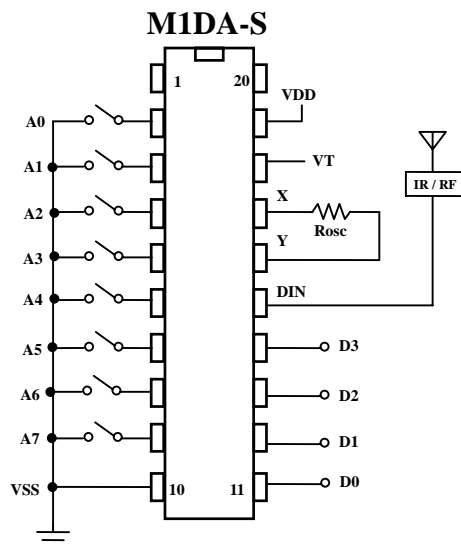
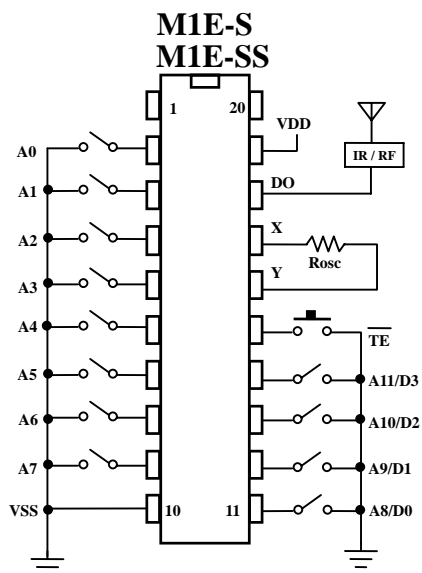
(2) FULL ADDRESS TYPE





APPLICATION DIAGRAM 參考電路圖 (SOP PACKAGE)

(1) DATA TYPE



(2) FULL ADDRESS TYPE

