



WIRELESS DOOR CHIME  
遙控門鈴 IC

**GENERAL DESCRIPTION 功能敘述**

The M1D-BL is a CMOS ASIC for wireless door bell receiver use. It will receive the RF signal from M1E (ENCODER) and give a DING-DONG output if address are checked the same..

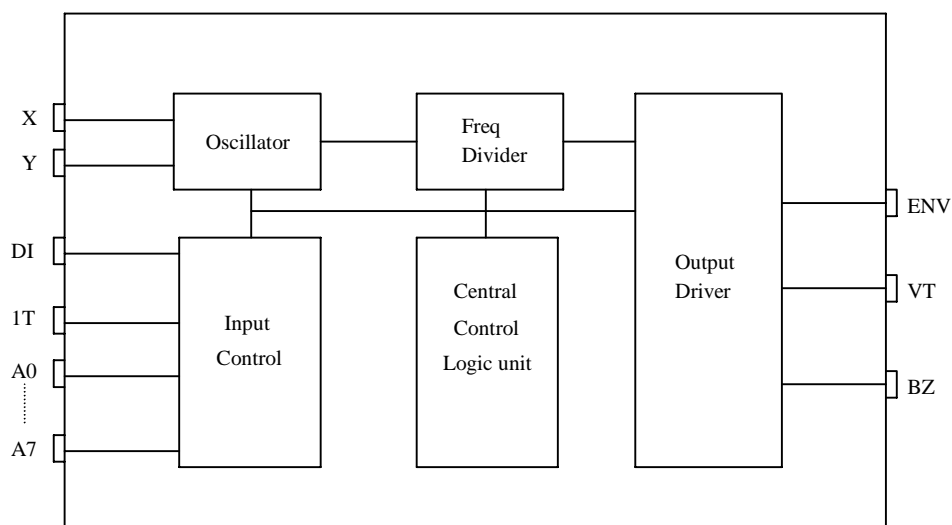
**FEATURES 產品特長**

- Same Rosc matched to the ENCODER M1E
- $2^8 = 256$  codes, "0", "1" binary
- 3 cycles checked each time
- BZ : DING-DONG / DING-DING sound
- 1T : 1 time option (default 2 times)
- RC envelop

**APPLICATIONS 產品應用**

- Wireless door bell, visitor chime 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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**M1D-BL**

**ABSOLUTE MAXIMUM RATING**

(TA=25°C)

Parameter	Rating	Unit
Supply Voltage	-0.3 to 5.0	V
Input Voltage	-0.2~V <sub>DD</sub> +0.2	V
Operating Temperature	-20 to 75	°C
Storage Temperature	-50 to 125	°C

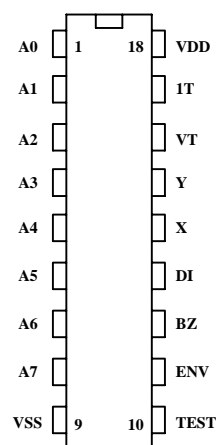
**ELECTRICAL CHARACTERISTICS**

Characteristics	Sym.	Min.	Typ.	Max.	Unit	Conditions
Operating Voltage	V <sub>DD</sub>	2.4	3	4.5	V	
Operating Current	I <sub>OP</sub>	—	0.3	1	μA	
Quiescent Current	I <sub>SB</sub>	—	1	10	mA	No load
Output Drive Current	I <sub>O</sub>	1	—	—	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	—	80	—	KHz	External± 30%

**PIN DESCRIPTION**

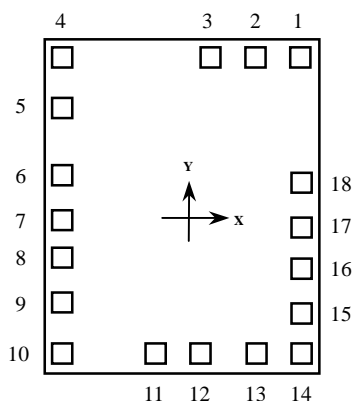
No.	Name	Description
1~8	A0~A7	3 states address inputs
9	VSS	Negative power supply
10	TEST	Testing use
11	ENV	RC envelop
12	BZ	Audio output
13	DI	Data input
14	X	Oscillator input
15	Y	Oscillator output
16	VT	Valid transmit
17	1T	OPEN : 2 times VDD : 1 time
18	VDD	Positive power supply

**M1D-BL**





## PAD ASSIGNMENT & POSITION



UNIT : um

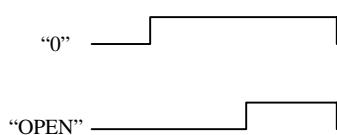
No.	NAME	X	Y
1	BZ	635	812
2	DI	425	812
3	X	192	812
4	Y	-639	812
5	VT	-639	534
6	1T	-639	178
7	VDD	-639	-55
8	A0	-639	-265
9	A1	-639	-505
10	A2	-639	-810
11	A3	-126	-810
12	A4	107	-810
13	A5	402	-810
14	A6	635	-810
15	A7	635	-600
16	VSS	635	-367
17	TEST	635	-157
18	ENV	635	76

\* CHIP SIZE ~ 1.58 x 2.03 mm<sup>2</sup>

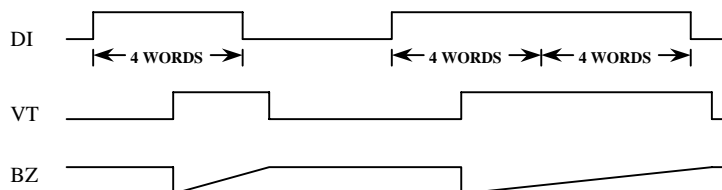
\* IC substrate should be connected to VDD in PCB (PCB 上 IC 底座必須接 VDD)

## TIMING WAVEFORM

### (1) BIT FORMAT



### (2) TIMING DIAGRAM

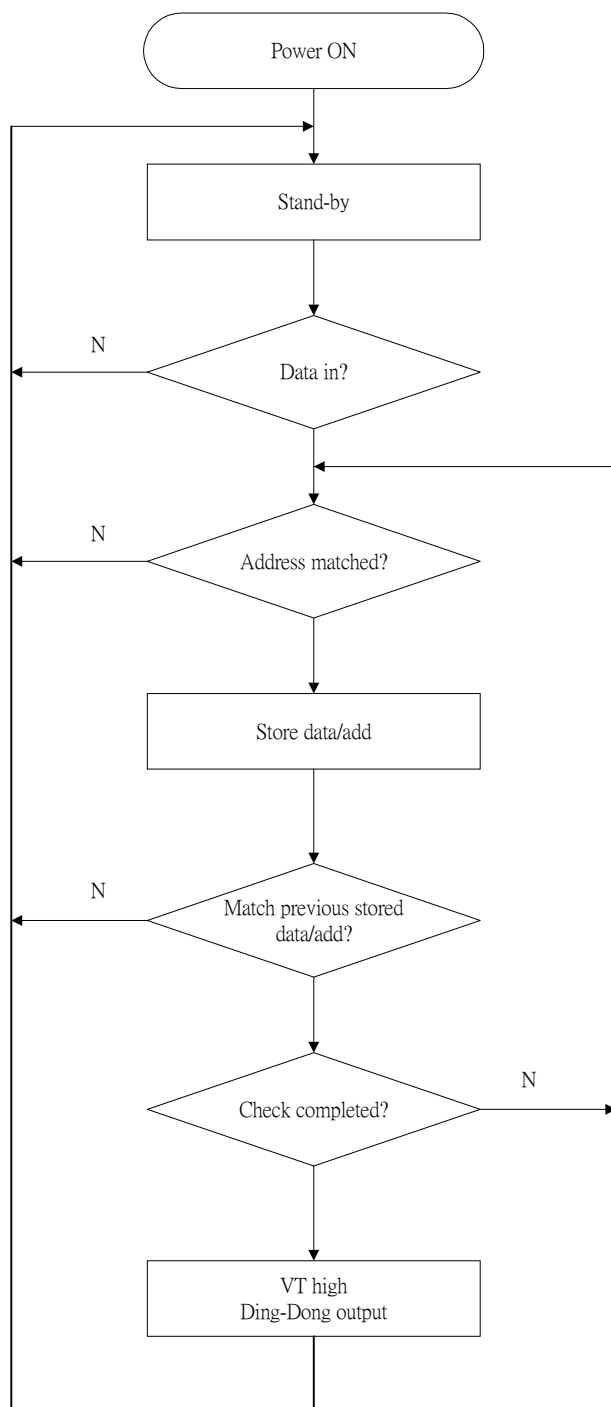




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OPERATION FLOWCHART

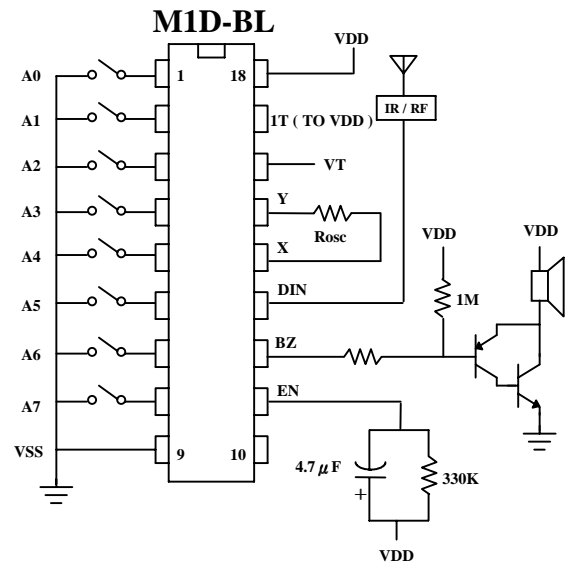
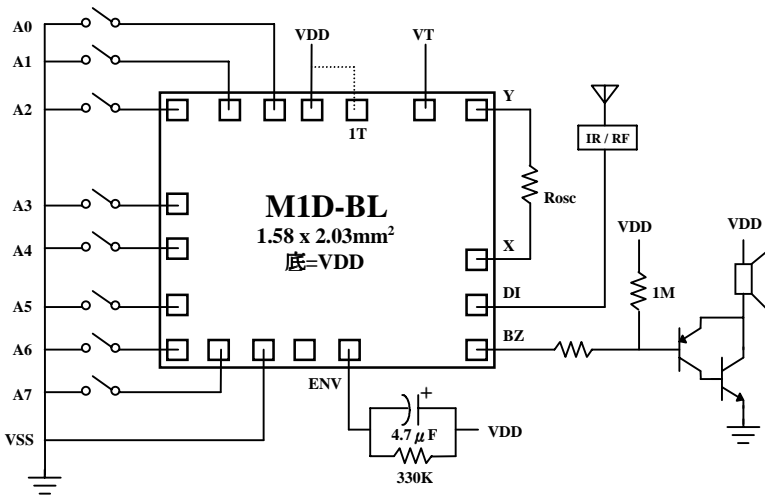
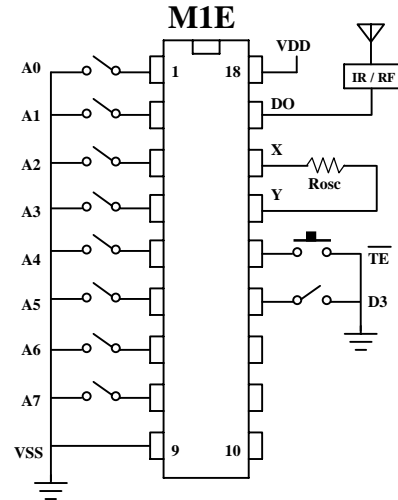
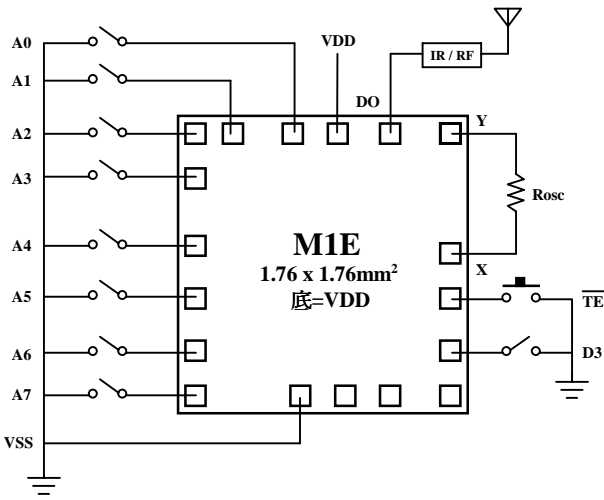




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APPLICATION DIAGRAM 參考電路圖



D3	SOUND
OPEN	DING DONG
VSS	DING DING