



**1 SIREN IC**  
**1 種 警 報 聲 IC**

SIREN
<b>M3720</b>

**GENERAL DESCRIPTION 功能敘述**

The M3720 series is a CMOS ASIC which will generate various kinds of sounds with or without envelope.  
It contains tone, notes, envelope generator and LED driver.

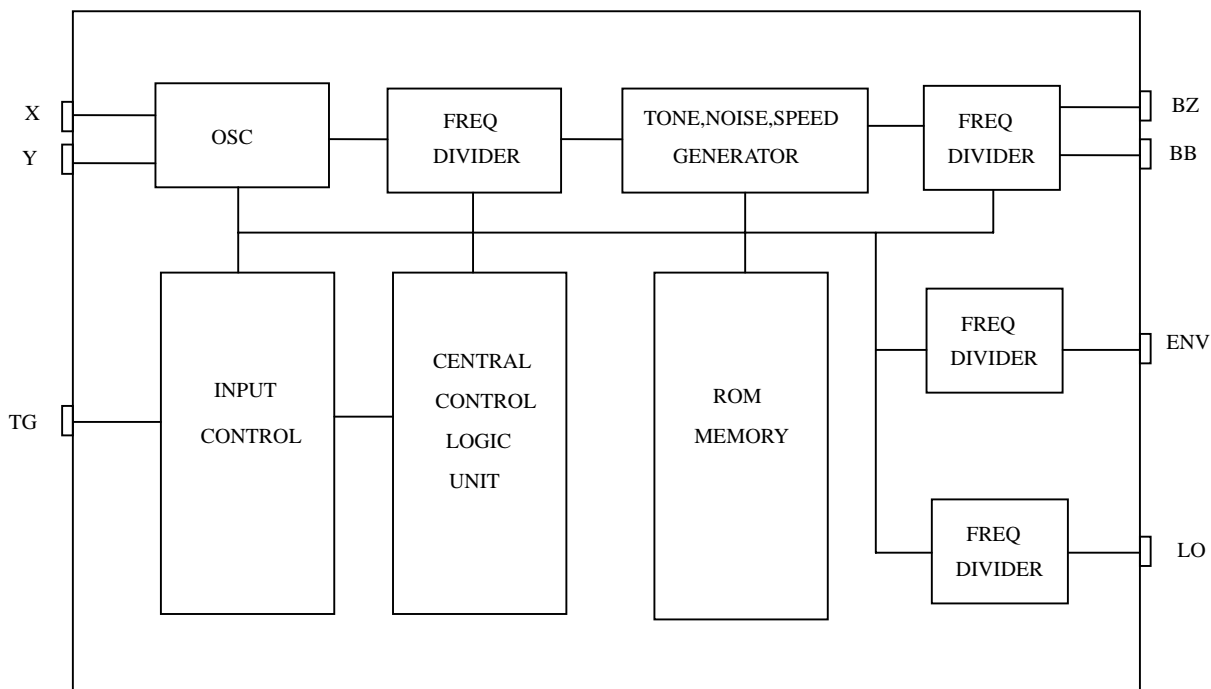
**FEATURES 產品特長**

- Built-in envelope control circuit.
- 1 Hz ~ 8 Hz programmable LED flash output.
- Speaker or buzzer driver.

**APPLICATIONS 產品應用**

- Horn, home / car alarm 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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**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	0 to 60	°C
Storage Temperature	-25 to 125	°C

**ELECTRICAL CHARACTERISTICS**

Characteristics	Sym.	Min.	Typ.	Max.	Unit	Conditions
Operating Voltage	V <sub>DD</sub>	2	3	5	V	
Quiescent Current	I <sub>SB</sub>	—	1	5	μA	
Operating Current	I <sub>OP</sub>	—	0.1	0.5	mA	No load
BZ/BB Drive Current	I <sub>O</sub>	1	—	—	mA	@V <sub>DS</sub> =1V
LO Drive Current	I <sub>OL</sub>	6	—	—	mA	@V <sub>DS</sub> =1.2V
Switch Input Current	I <sub>IL</sub>	—	—	30	μA	
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	—	128	—	KHz	±30%

**PIN DESCRIPTION**

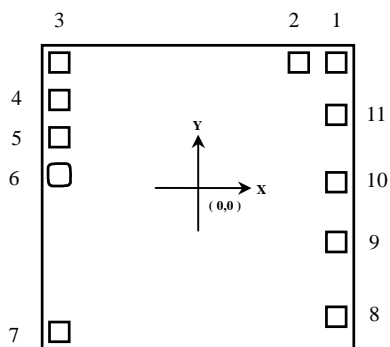
No.	Name	Description	No.	Name	Description
1	NC	No Connection	8	T1	Testing Use
2	LO	Led Output	9	VSS	Negative Power Supply
3	VDD	Positive Power Supply	10	NC	No Connection
4	TG	Trigger Key	11	NC	No Connection
5	Y	Oscillator Output	12	BB	Audio Output , Negative
6	X	Oscillator Input	13	BZ	Audio Output , Positive
7	TEST	Testing Use	14	ENV	Sound Envelope Control



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**PAD ASSIGNMENT & POSITION**

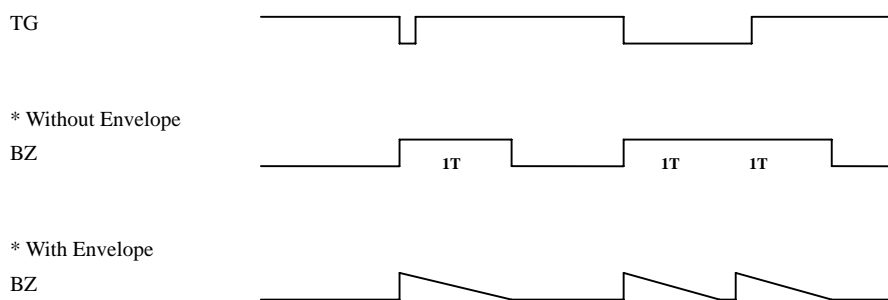


No.	NAME	X	Y
1	VDD	747	754
2	TG	537	754
3	Y	-749	754
4	X	-749	544
5	TEST	-749	334
6	T1	-749	124
7	VSS	-749	-754
8	BB	747	-653
9	BZ	747	-259
10	L2	747	80
11	L1	747	465

\* CHIP SIZE ~ 1.80 X 1.91 mm<sup>2</sup>

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

**TIMING DIAGRAM**



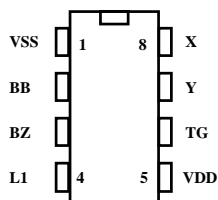


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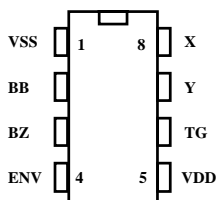
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PIN ASSIGNMENT

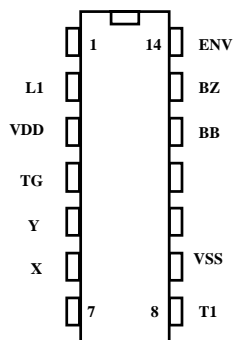
(I)



(II)



(III)



SOUND LIST

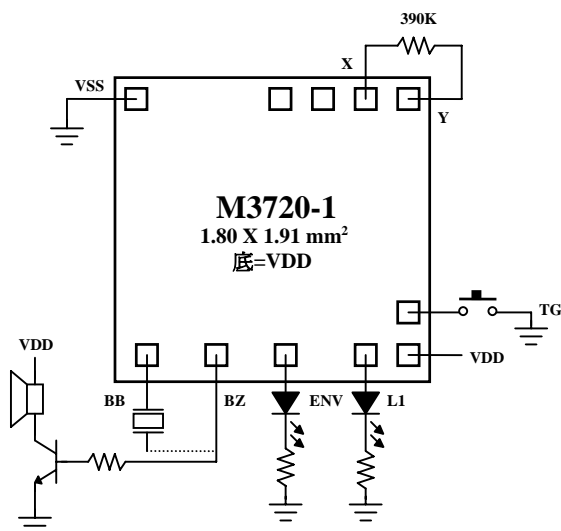
PIN	SOUND	Fosc (KHz)	Rosc (KΩ)	Remark
M3720-1	AIRPLANE 飛機聲	64	390	2812A
M3720-2	ROCKET 火箭聲	96	220	2812B
M3720-3	SIREN II 警報聲 II	64	390	2812C
M3720-4	POLICE CAR 警報聲	128	150	2812D
M3720-5	FIRE BRIGADE 救火車聲	128	150	2812E
M3720-6	SIREN I 警報聲 I	64	390	2812G
M3720-7	DIAL TONE 電話聲	64	390	2812H
M3720-8	CHICKEN 小雞聲	260	62	2812J
M3720-9	AMBULANCE 救護車聲	64	390	2812K
M3720-10	DANG 1 TIME 噹聲 1 次	64	390	



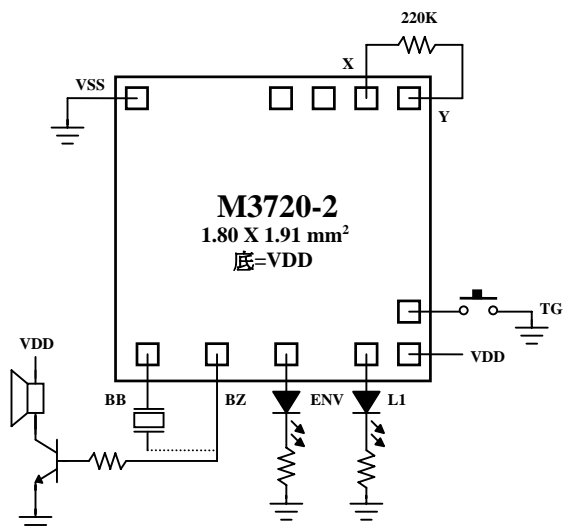
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APPLICATION DIAGRAM 參考電路圖

(1) M3720-1 AIRPLANE 飛機聲 64KHz



(2) M3720-2 ROCKET 火箭聲 96KHz

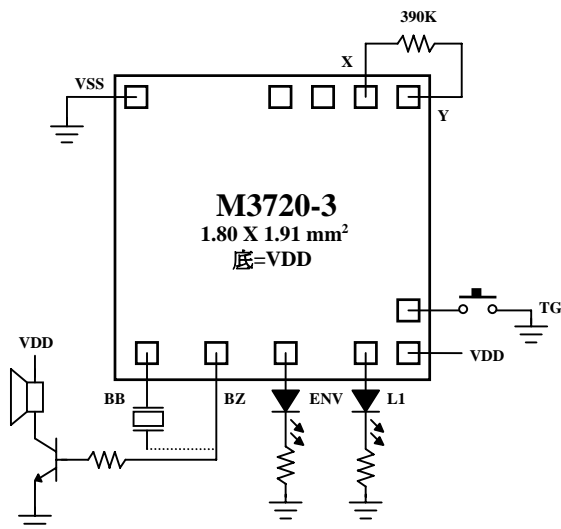




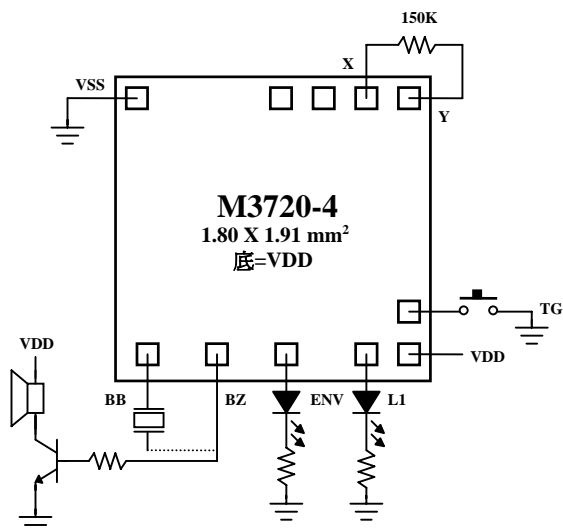
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APPLICATION DIAGRAM 參考電路圖 (CONTINUED)

(3) M3720-3 SIREN II 警報聲 II 64KHz



(4) M3720-4 POLICE CAR 警車聲 128KHz

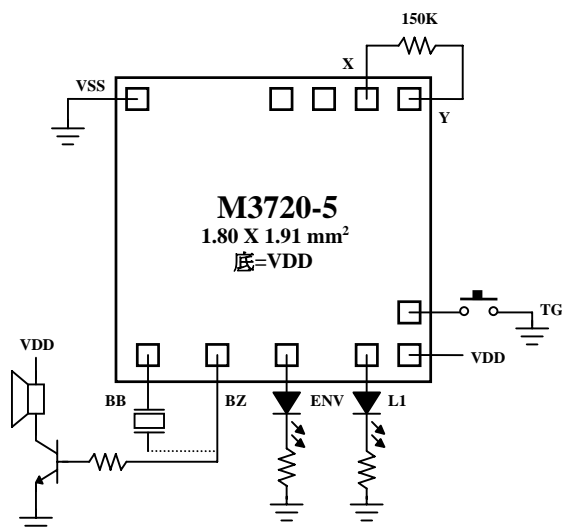




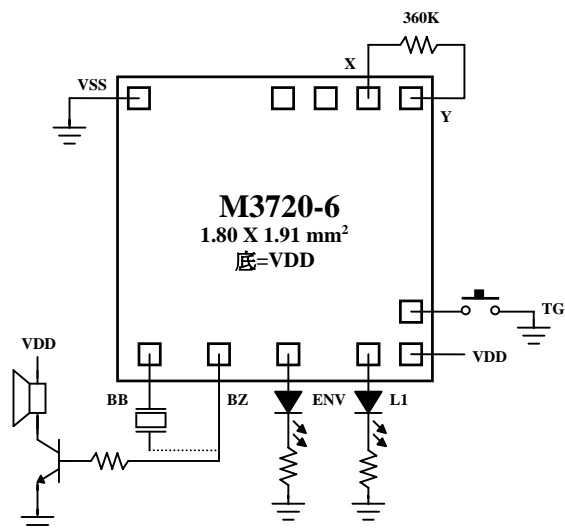
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APPLICATION DIAGRAM 參考電路圖 (CONTINUED)

(5) M3720-5 FIRE BRIGADE 救火車聲 128KHz



(6) M3720-6 SIREN I 警報聲 I 64KHz

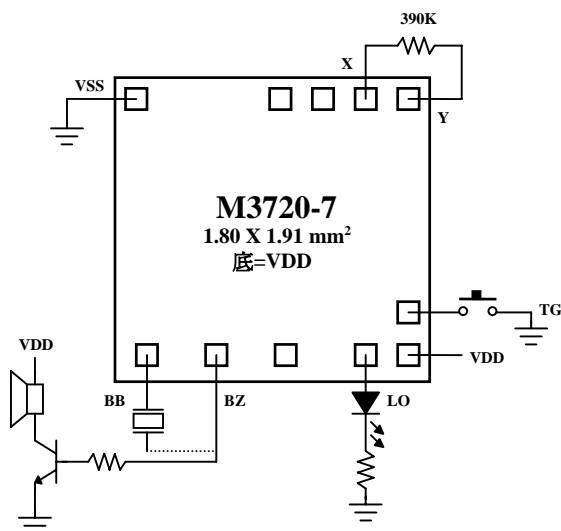




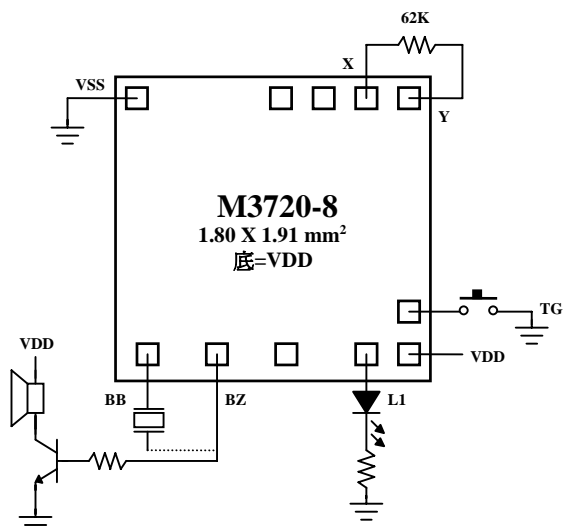
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APPLICATION DIAGRAM 參考電路圖 (CONTINUED)

(7) M3720-7 DIAL TONE 電話聲 64KHz



(8) M3720-8 CHICKEN SOUND 小雞聲 260KHz



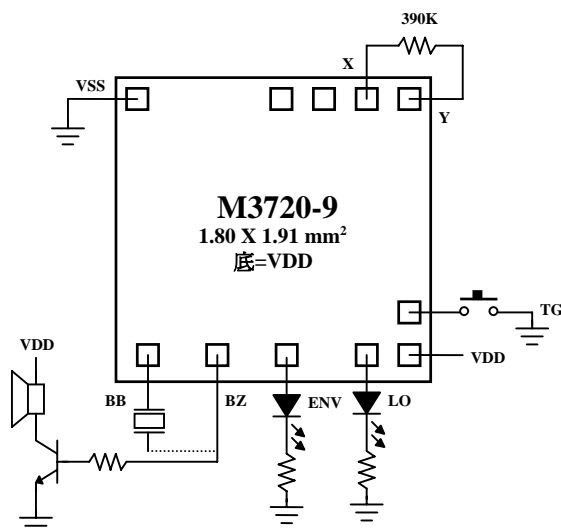


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APPLICATION DIAGRAM 參考電路圖 (CONTINUED)

(9) M3720-9 AMBULANCE SOUND 救護車聲 64KHz



(10) M3720-10 DANG 1 TIME 噹聲 1 次 64KHz

