

深圳市普恩科技有限公司

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C716

Key Finder

Features :

- 1、Low operating voltage : 2.2V minimum.
- 2、Low stand-by current : 15uA.
- 3、On chip RC oscillator.
- 4、5mVpp sensitivity of detecting voltage.
- 5、Automatic power down.
- 6、On chip amplifier circuit.
- 7、Complement piezo output.
- 8、Pad selectable for output sound of one or three times.

General Description :

The DT716 is a CMOS integrated circuit designed for detecting whistle and generating sound. It generates a string of 'Bi-Bi' sound effect when detecting a continuous whistle which follow the whistling rules as described in page 7. The circuit contains a MOS amplifier, comparator, oscillator and all other necessary timing logic. Only one piezo are required for normal application.

Electrical Characteristics :

(VDD=3V, GND=0V, Ta=25°C, unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Condition
Operating Voltage	Vdd	---	3V	---	
Standby Current	Istb	---	15uA	---	Vdd=3V, I/O open
Oscillator Frequency	Fosc	60Hz	75Hz	90Hz	Vdd=3V, I/O open
Detect Freq. of whistle	Fwhi	1.0KHz	---	2.0KHz	Fosc = 64KHz
Bi-Bi tone frequency	Ftone	---	3.2KHz	---	Fosc = 64KHz
Whistle duration	Twdur	32ms	---	---	Fosc = 64KHz
Delay time	Tdy	---	5ms	---	Fosc = 64KHz
/EN delay from Bi-Bi out	Tde	---	80ms	---	Fosc = 64KHz
Bi-Bi tone duration for one time	Tdur1	---	1.92sec.	---	Bond1 pad connect to Vdd
Bi-Bi tone duration for three time	Tdur3	---	6.8sec.	---	Bond2 pad connect to Vss
Inter tone interval	T _{III}	---	640ms	---	Fosc = 64KHz
Short tone in output sound	T _{SH}	---	80ms	---	Fosc = 64KHz
Long tone in output sound	T _{LO}	---	160ms	---	Fosc = 64KHz
Detect whistle period No.	N _{WH}	---	32cycle	---	
Whistle period deviation	ΔT _{WH}	---	---	250us	ΔT _{WH} = T _{WHN} -T _{WHN-1}

Note : ALL AC parameters refer to 64KHz oscillator freq.

Whistle Rule : 1. The frequency range of whistle is within 1KHz to 2KHz.

2. The duration of whistle must be 32ms at least.

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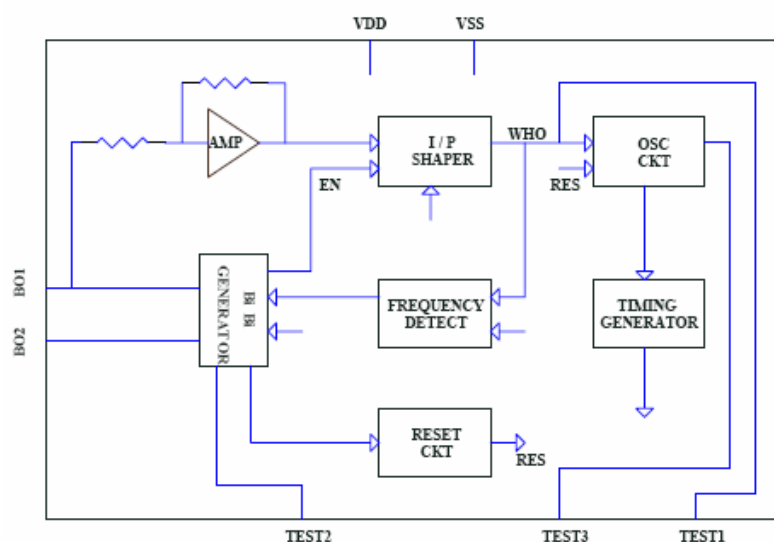
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Piezo parameters : 1. $\psi = 27\text{mm}$

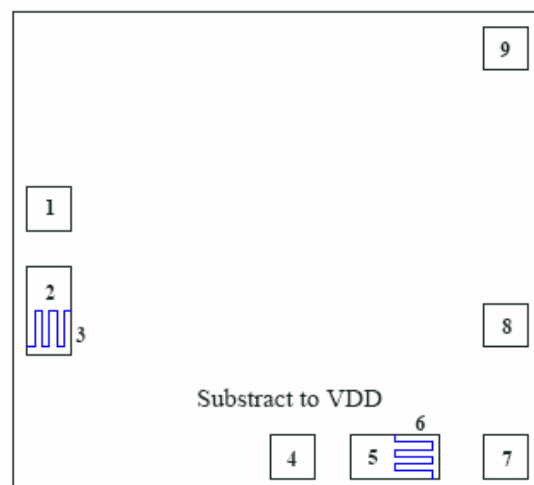
2. C 16nF

3. R 20 M Ω (when $V_{in} = 5\text{V}$)

Block Diagram :



PAD Diagram :



Pin Description :

PAD	SYMBOL	FUNCTION INTRODUCTION
1	TEST1	TEST pin
2	VDD	Positive power supply
3	BOND1	Bonding pad option for output sound one time
4	BO1	“Bi – Bi” signal output port 1
5	VSS	Negative power supply
6	BOND2	Bonding pad option for output sound three times
7	BO2	“Bi – Bi” signal output port 2
8	TEST2	TEST pin
9	TEST3	TEST pin

Absolute Maximum Ratings :

RATING	VALUE
DC Supply Voltage	< 6V
Input/output Voltage	GND-0.3V to VDD+0.3V
Operating Temperature	-10°C to 60 °C
Storage Temperature	-25°C to 125°C

Notice: Stress greater than those listed under Absolute Maximum Ratings may cause permanent damage to the device, This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied, Exposure to absolute maximum rating conditions for extended period may affect reliability.