

M3561

UM3561 Three Siren Sound Generator

Features

- Four sounds can be selected
- Typical 3V operating voltage
- 8-pin DIP package form
- Power on reset.
- A magnetic speaker can be driven by connecting an NPN transistor

General Description

The M3561 is a low-cost, low-power CMOS LSI designed for use in alarm and toy applications. Since the integrated circuit includes oscillator and selector circuits, a compact sound module can be constructed with only a few additional components. The M3561 contains a programmed mask ROM to simulate siren sound.

Absolute Maximum Ratings

DC Supply Voltage -0.3V to +5.0V
 Input Voltage Range V_{ss}-0.3V to V_{dd}+0.3V
 Operating Ambient Temperature -10°C to +60°C
 Storage Temperature -55°C to +125°C

Electrical Characteristics

(V_{dd}=3V, V_{ss}=0V, T_a=25°C, F_{osc}=106496Hz unless otherwise specified.)

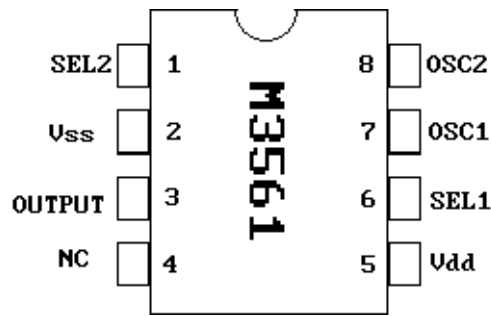
Parameter	Symbol	Min.	Typ.	Max.	Conditions
Operating voltage	V _{dd}	2.4V	3V	3.6V	
Operating Current	I _{dd}	-	-	150μA	
“H” Input Voltage	V _{ih}	V _{dd} -0.2	-	V _{dd}	
“L” Input Voltage	V _{il}	V _{ss}	-	V _{ss} +0.2	
Frequency Stability	ΔF/F	-	-	20%	$\frac{F_{osc(3.3V)} - F_{osc(2.7V)}}{F_{osc(2.7V)}}$
Output Current	I _{o/p}	3mA	-	-	
Frequency Deviation	ΔF/F	-10%	-	+10%	

Playing modes

SEL1	SEL2	Sound Effect
NC	NC	Police Siren
V _{dd}	NC	Fire Engine Siren
V _{ss}	NC	Ambulance Siren
X	V _{dd}	Machine Gun

NC : No Connection
 X : Don't Care

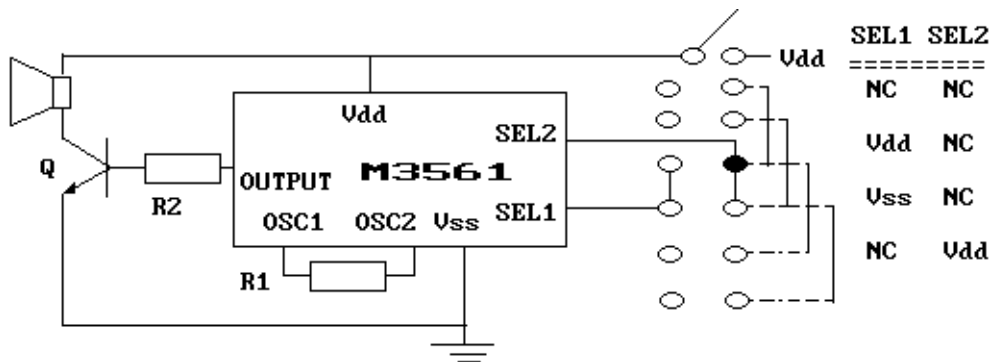
Pin Configuration



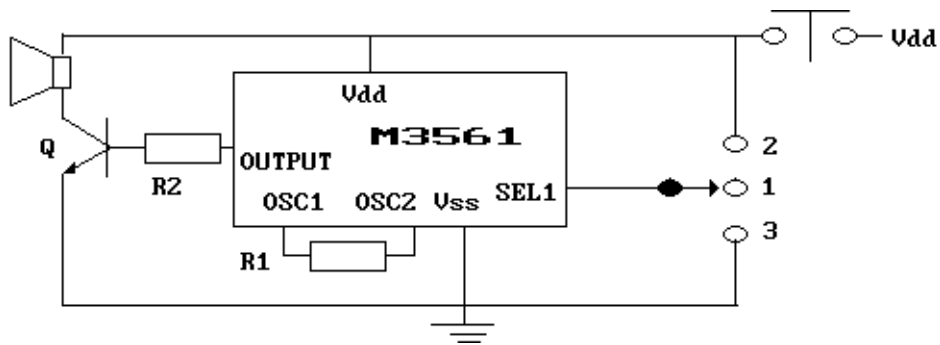
Pin no.	Symbol	Description
1	SEL2	Sound effect selection pin no. 2
2	V _{ss}	Negative power supply
3	OUTPUT	Mono-tone output
4	NC	Internal testing pin : Leave open for normal operation
5	V _{dd}	Positive power supply
6	SEL1	Sound effect selection pin no. 1
7	OSC1	External oscillator terminal 1
8	OSC2	External oscillator terminal 2

Typical Application Circuits

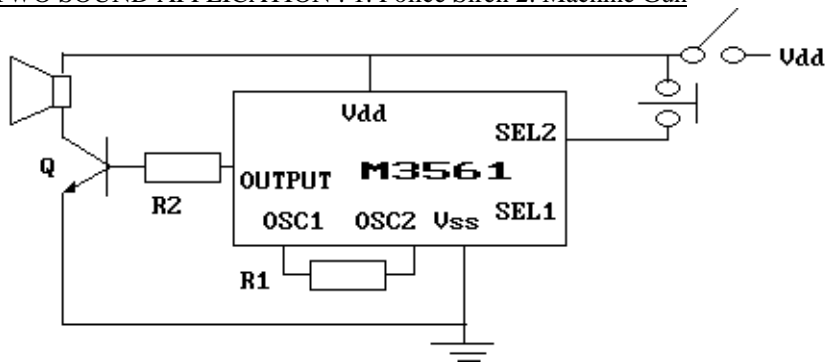
FOUR SOUND APPLICATION : 1. Police Siren 2. Fire Engine Siren 3. Ambulance Siren 4. Machine Gun



THREE SOUND APPLICATION : 1. Police Siren 2. Fire Engine Siren 3. Ambulance Siren



TWO SOUND APPLICATION : 1. Police Siren 2. Machine Gun



Recommended values : $R1 = 240k\Omega$, $R2 = 10k\Omega$, $Q = 2SC9013$

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