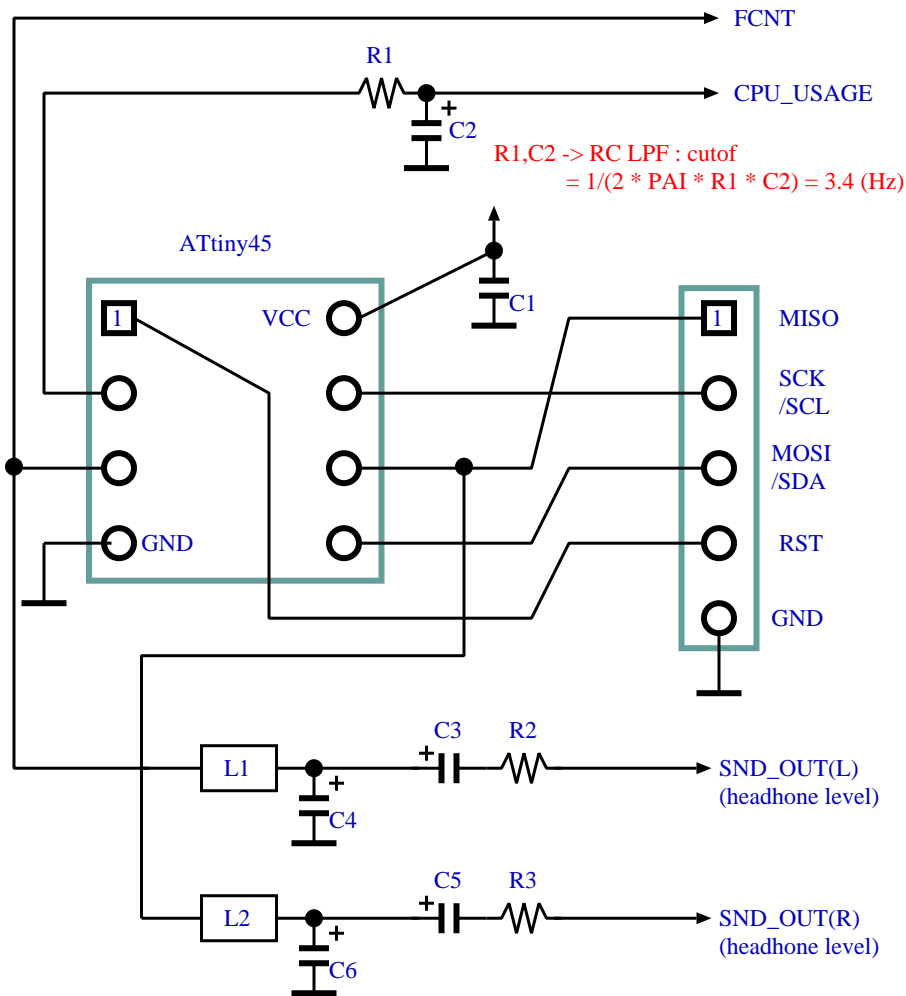
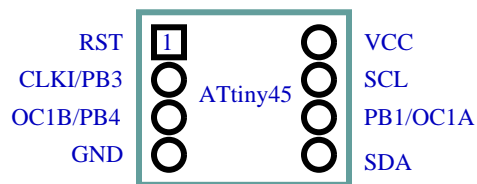


# I2CSND-S (Simple Version)



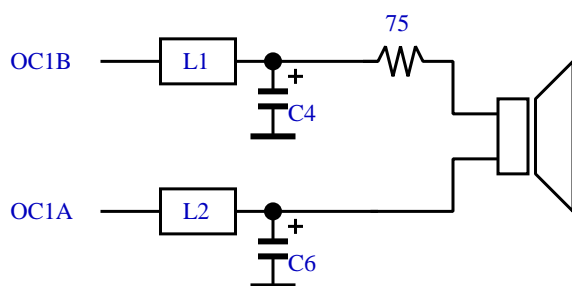
$L1, C4 \rightarrow LC\ LPF : \text{cutoff} = 1/(2 * \text{PAI} * \text{sqrt}(L1 * C4)) = 7.3(KHz)$   
 $C3, (R2 + \text{Output}) \rightarrow RC\ HPF : \text{cutoff} = 1/(2 * \text{PAI} * (75 + 16) * C3) = 17(Hz)$   
 $\text{Output Power} = (5/2 * 1/1.41421356)^2 / (16 + 75) = 34\ (mW)$

R1	4.7K
R2 ,R3	(75 - 150 ?)@VCC=5V
C1	1.5u
C2	10u
C3,C5	100u
C4 ,C6	10u for 7.3 kHz 47u for 3.4 kHz
L1,L2	47uH



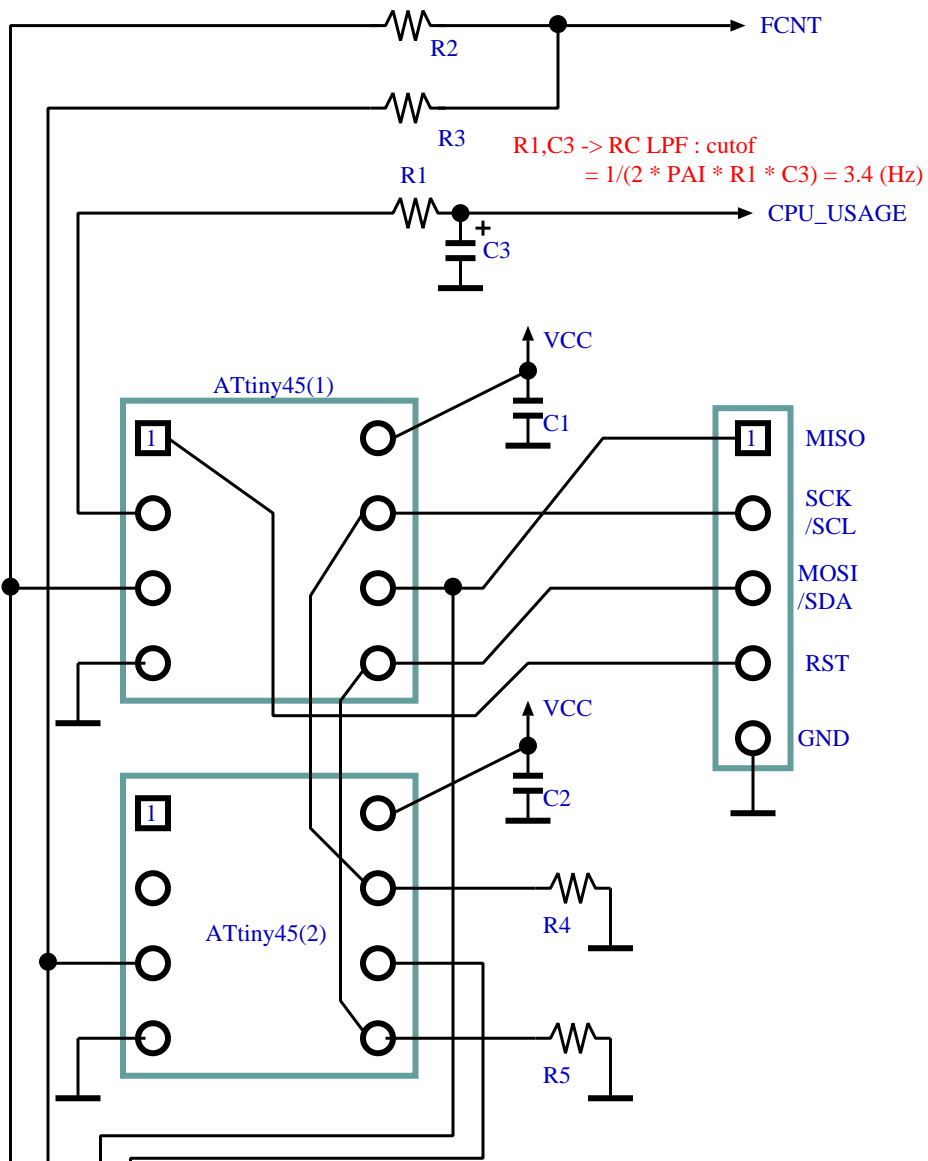
VCC = 5V, CLK=16Mhz

Memo: Small Speaker BTL Version:



$\text{Output Current} = (5 * 1/1.41421356)/(16 + 75) = 39\ (mA)$   
 $\text{Output Power} = (5 * 1/1.41421356)^2 / (16 + 75) = 137(mW)$

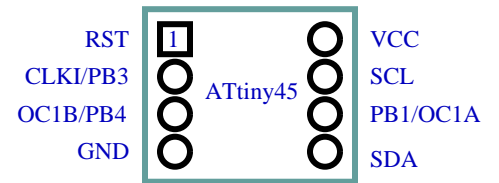
## I2CSND-D (Dual Version)



R1	4.7K
R2,R3	33K
R4,R5	33K
R6	33k+33k 33k@CMOS opamp
R7	33k
R8-11	2.2K
VR1,VR2	5K

C1,C2	1.5u
C3	10u
C4	(*)
C5	(*)
C6,C10	0.01u
C7,C11	0.1u (?)
C8,C12	10u for 7.3kHz 47u for 3.4 kHz
C9,C13	220u
C14	0.1u

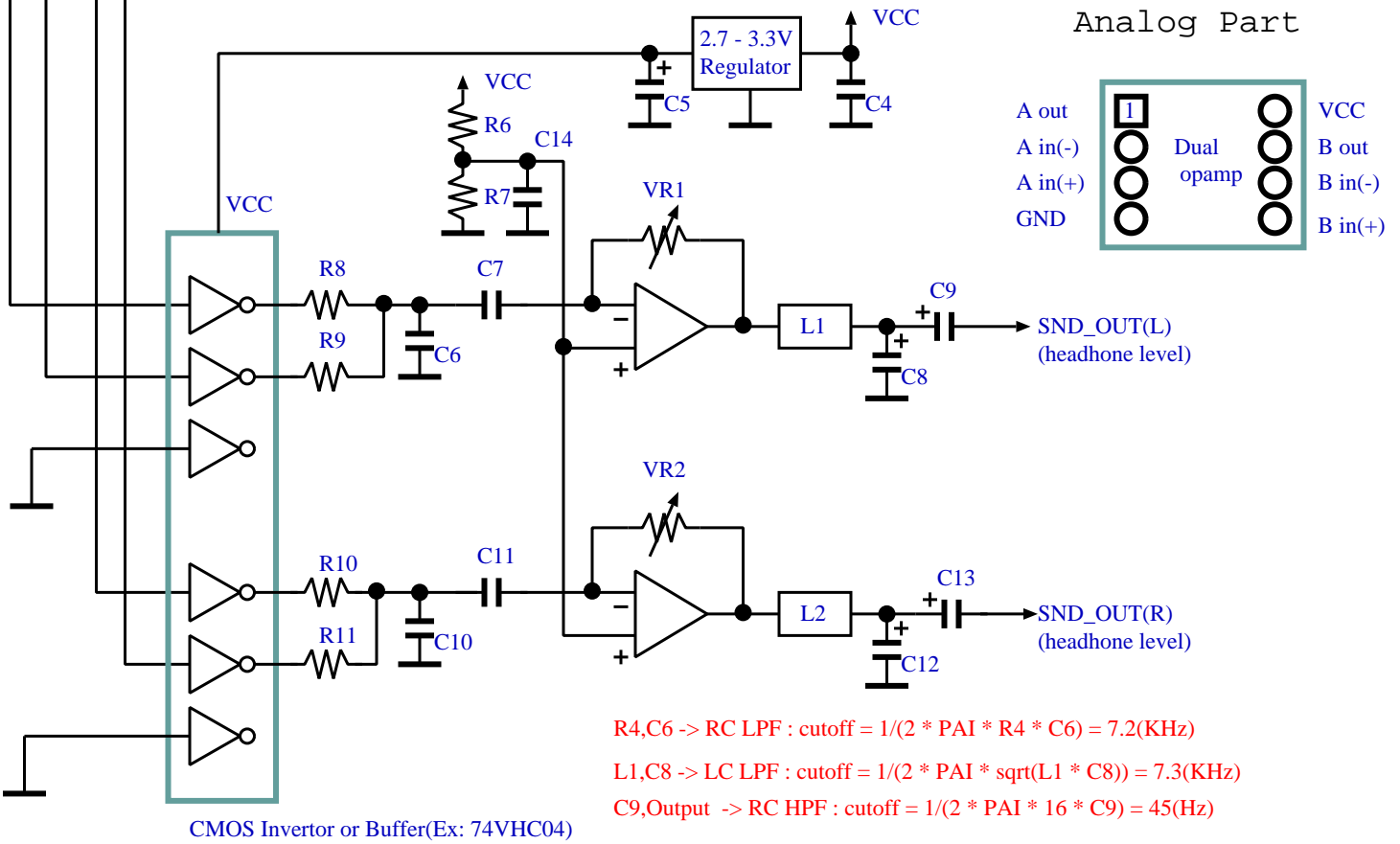
L1,L2      47uH



VCC = 5V, CLK=16Mhz

Digital Part

## Analog Part



**R4,C6 -> RC LPF : cutoff =  $1/(2 * \text{PAI} * \text{R4} * \text{C6}) = 7.2(\text{KHz})$**

**L1,C8 -> LC LPF : cutoff =  $1/(2 * \text{PAI} * \text{sqrt}(\text{L1} * \text{C8})) = 7.3(\text{KHz})$**

C9,Output -> RC HPF : cutoff =  $1/(2 * \text{PAI} * 16 * \text{C9}) = 45(\text{Hz})$