

AN5262N

Preamplifier-Incorporated Volume IC for TV (1-channel)

Overview

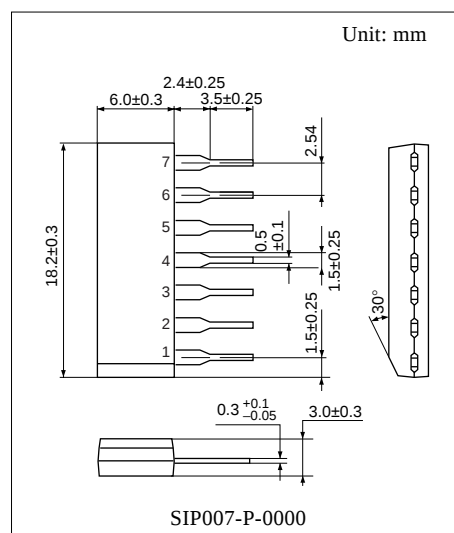
The AN5262N is an IC for sound volume control of TV set. It incorporates a DC-voltage controlled volume which has a linear characteristic to hearing sensation, sound preamplifiers and a mute function.

Features

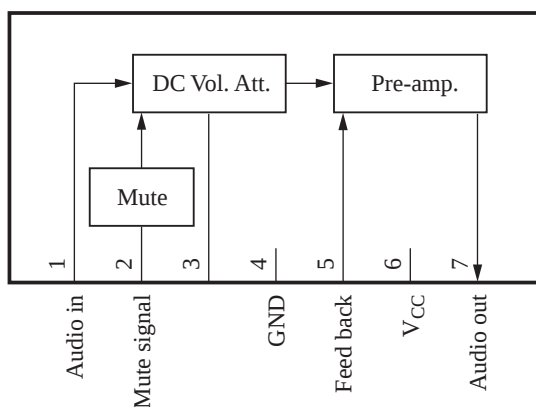
- Volume maximum attenuation = 95 dB
- Built-in preamplifier ($G_V = 22$ dB)
- Maximum output voltage = 2.9 V[rms]
- Operating supply voltage range; 8 V to 12 V

Applications

- TV



Block Diagram



■ Pin Description

Pin No.	Description
1	Sound input
2	Mute signal input
3	Sound adjustment
4	Grounding
5	Feedback input
6	Power supply
7	Sound output

■ Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	12	V
Circuit voltage	V_{2-4}	0 to 7	V
	V_{3-4}	0 to V_{6-4}	
Supply current	I_{CC}	18	mA
Circuit current	I_2	-10 to +5	mA
	I_3	-10 to +3	
	I_5	-5 to +1	
	I_7	-20 to +0.3	
Power dissipation ^{*2}	P_D	216	mW
Operating ambient temperature ^{*1}	T_{opr}	-20 to +70	°C
Storage temperature ^{*1}	T_{stg}	-55 to +150	°C

Note) 1. Do not apply external currents or voltages to any pins not specifically mentioned.

For circuit currents, '+' denotes current flowing into the IC, and '-' denotes current flowing out of the IC.

2. ^{*1}: Except for the operating ambient temperature and storage temperature, all ratings are for $T_a = 25^\circ\text{C}$.

^{*2}: $T_a = 70^\circ\text{C}$

■ Recommended Operating Range

Parameter	Symbol	Range	Unit
Supply voltage	V_{CC}	8 to 12	V

■ Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Circuit current	I_6		9	12	15	mA
Pin voltage	V_{1-4}		3.3	4.5	5.7	V
	V_{5-4}		0.7	1.4	1.8	
	V_{7-4}		3.0	4.1	5.2	
Voltage gain	A_{7-4}	$f = 1 \text{ kHz}$, $V_1 = 180 \text{ mV[rms]}$ $V_3 = V_{CC}$	19.5	22.0	23.5	dB
Mute operating voltage	V_{2-4}	$f = 1 \text{ kHz}$, $V_1 = 180 \text{ mV[rms]}$ $V_3 = V_{CC}$, $V_O \leq 0.6 \text{ mV[rms]}$	2.45	2.7	2.95	V
Maximum attenuation amount	A_{tt}	$f = 1 \text{ kHz}$, $V_1 = 180 \text{ mV[rms]}$ the ratio at $V_3 = V_{CC}$ to at $V_3 = 0 \text{ V}$	72	95	—	dB
Harmonic distortion rate	THD	$f = 1 \text{ kHz}$, $V_1 = 180 \text{ mV[rms]}$ $V_3 = V_{CC}$	—	0.3	1.0	%
Maximum undistorted power output	V_O	$f = 1 \text{ kHz}$ $V_3 = V_{CC}$ at THD = 10%	2.6	2.9	3.2	V[rms]

■ Application Circuit Example

