

AN5285K

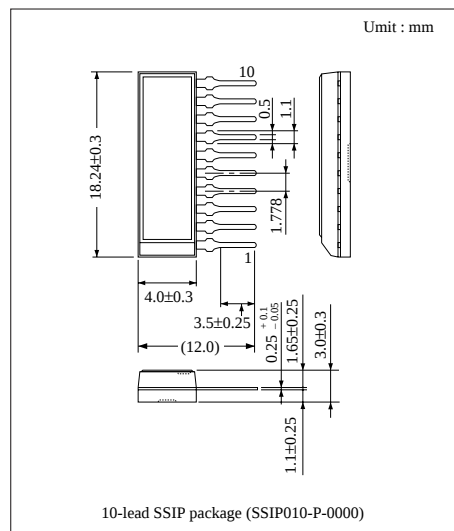
Sound Level Automatic Gain Control Circuit

■ Overview

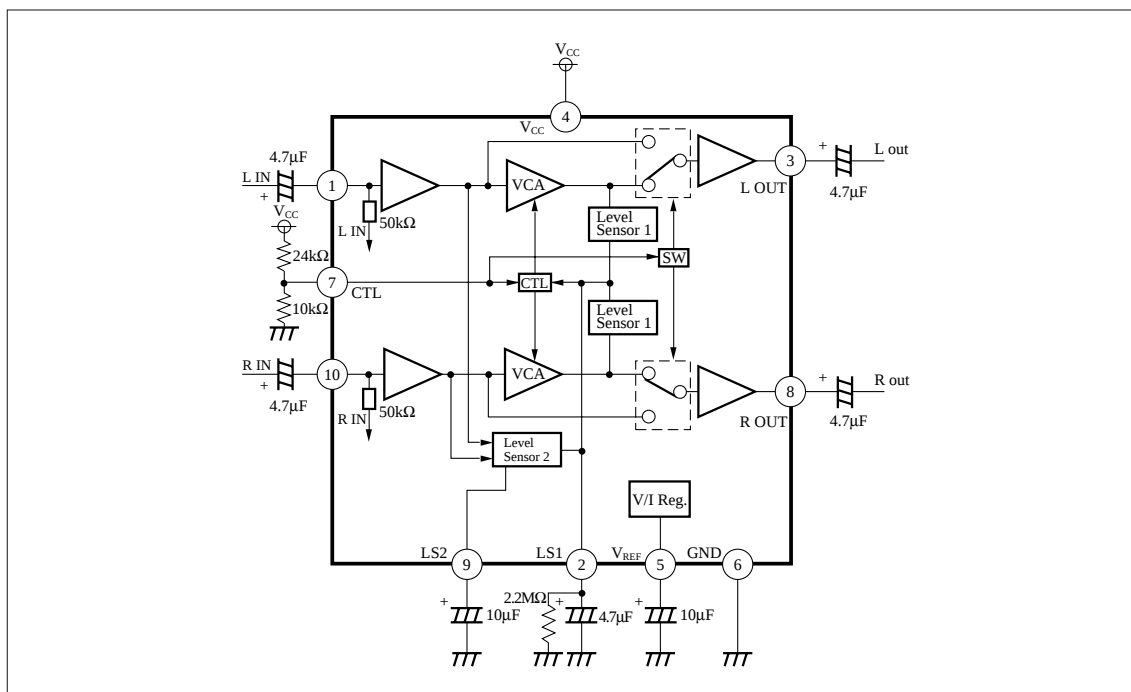
The AN5285K is an IC for automatic volume adjustment for TV/VTR stereo which reduces the dynamic amplitude change of sound signal by using a certain type of AGC circuit with an appropriate time constant, in order to reduce the volume difference between programs or between CATV stations.

■ Features

- AGC function of sound level by VCA gain control
- Prevention of S/N deterioration by reduction of VCA gain at no sound (typ. 20mV or less)
- AGC function ON/OFF from outside possible
- Operation point for VCA gain decrease controllable by an external resistance
- Stereo sound supported by two VCAs



■ Block Diagram



■ Absolute Maximum Ratings (Ta= 25°C)

Parameter	Symbol	Rating	Unit
Supply Voltage	V _{CC}	13	V
Supply Current	I _{CC}	30	mA
Power Dissipation	P _D	390	mW
Operating Ambient Temperature	T _{opr}	− 20 ~ + 75	°C
Storage Temperature	T _{stg}	− 55 ~ + 150	°C

■ Recommended Operating Range (Ta= 25°C)

Parameter	Symbol	Range
Operating Supply Voltage Range	V _{CC}	8.5V ~ 12.5V

■ Electrical Characteristics (V_{CC} = 12V, f_{in} = 1kHz, Ta = 25±2°C)

Parameter	Symbol	Condition	min.	typ.	max.	Unit
Supply Current *1	I _{CC}	No input signal	5	10	15	mA
Input/Output Level 1 *1	V ₁	V _{in} = 1mVrms	0.7	1.0	1.4	mVrms
Input/Output Level 2 *1	V ₂	V _{in} = 50mVrms	80	110	140	mVrms
Input/Output Level 3 *1	V ₃	V _{in} = 200mVrms	150	200	250	mVrms
Input/Output Level 4 *1	V ₄	V _{in} = 1Vrms	200	280	360	mVrms
Input/Output Level 5	V ₅	V _{in} = 100mVrms, V _{ctl} = 2.5V	50	100	150	mVrms
Input/Output Level 6	V ₆	V _{in} = 300mVrms, V _{ctl} = 4.5V	230	300	370	mVrms
Total Harmonics Distortion *1	THD	V _{in} = 200mVrms	—	0.1	0.5	%
Noise Level *1	V _n	No input signal (with IHF – A)	—	—	100	μVrms
Max. Input Level *1	V _{max.}	Input level when THD = 1%	2.8	—	—	Vrms
Crosstalk between channels	CT	V _{in} = 2Vrms, AGC OFF	60	—	—	dB
AGC Off Voltage	V _{sw}	V _{in} = 1Vrms, V _{ctl} = 1.2V	890	1000	1130	mVrms
Channel Balance *1	CB	V _{in} = 200mVrms	−1.0	0	1.0	dB
Frequency Characteristics *1	FC	V _{in} = 200mVrms f _{in} = 1kHz/20kHz level difference	−1.0	0	1.0	dB
Input/Output Level 7	V ₇	V _{in} = 200mVrms, AGC OFF	175	200	225	mVrms

*1 Assuming V_{ctl} = 3.5V