

AN5285K

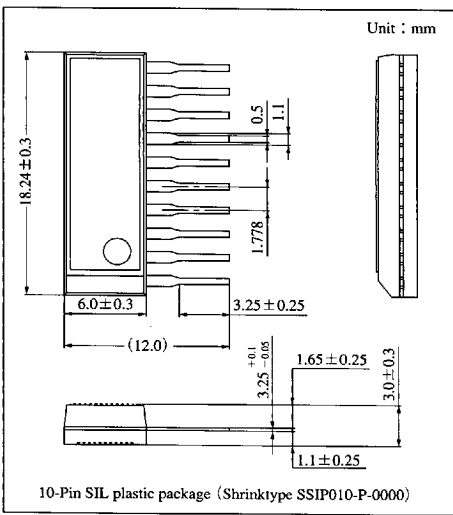
Sound level AGC IC

Overview

The AN5285K is a TV/VCR stereo-sound automatic gain control IC. It incorporates an AGC circuit with a certain time constant to prevent sudden change in sound level when channels or programs are changed.

Features

- Sound level AGC function by controlling VCA gain
- VCA gain is lowered for low sound level (typically not more than 20 mV) to prevent S/N ratio deterioration.
- AGC can be switched ON or OFF externally.
- VCA gain 0dB point can be adjusted by selecting an external resistor.
- Two VCAs to support stereo sound



Absolute Maximum Ratings

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 to +75	°C
Storage temperature	T_{stg}	-55 to +150	°C

Note) $T_a = 25^\circ\text{C}$ except operating ambient temperature and storage temperature.

■ Recommended Operating Range (Ta=25°C)

Parameter	Symbol	Range	Unit
Operating supply voltage range	V _{CC}	8.5 to 12.5	V

■ Electrical Characteristics

Parameter	Symbol	Condition	min	typ	max	Unit
Supply current*	I _{CC}	No input signal	5	10	15	mA
I/O level 1*	V ₁	V _{in} = 1mV _{rms}	0.7	1.0	1.4	mV _{rms}
I/O level 2*	V ₂	V _{in} = 50mV _{rms}	80	110	140	mV _{rms}
I/O level 3*	V ₃	V _{in} = 200mV _{rms}	150	200	250	mV _{rms}
I/O level 4*	V ₄	V _{in} = 1V _{rms}	200	280	360	mV _{rms}
I/O level 5	V ₅	V _{in} = 100mV _{rms} V _{ctl} = 25V	50	100	150	mV _{rms}
I/O level 6	V ₆	V _{in} = 100mV _{rms} V _{ctl} = 25V	230	300	350	mV _{rms}
Total harmonics distortion*	THD	V _{in} = 200mV _{rms}	—	0.1	0.5	%
Noise level*	V _n	No input signal (with IHF-A)	—	—	100	μV _{rms}
Maximum input level*	V _{max}	Input level at THD = 1 %	2.8	—	—	V _{rms}
Cross-talk between channels	CT	V _{in} = 2V _{rms} , ACC OFF	60	—	—	dB
AGC off voltage	V _{SW}	V _{in} = 1V _{rms} V _{ctl} = 1.2V	890	1000	1130	mV _{rms}
Channel balance*	CB	V _{in} = 200mV _{rms}	-1.0	0	1.0	dB
Frequency characteristics*	FC	V _{in} = 200mV _{rms} , level difference when compared (fin = 1kHz) with (fin = 20kHz)	-1.0	0	1.0	dB
I/O level 7	V ₇	V _{in} = 200mV _{rms} ACC OFF	175	200	225	mV _{rms}

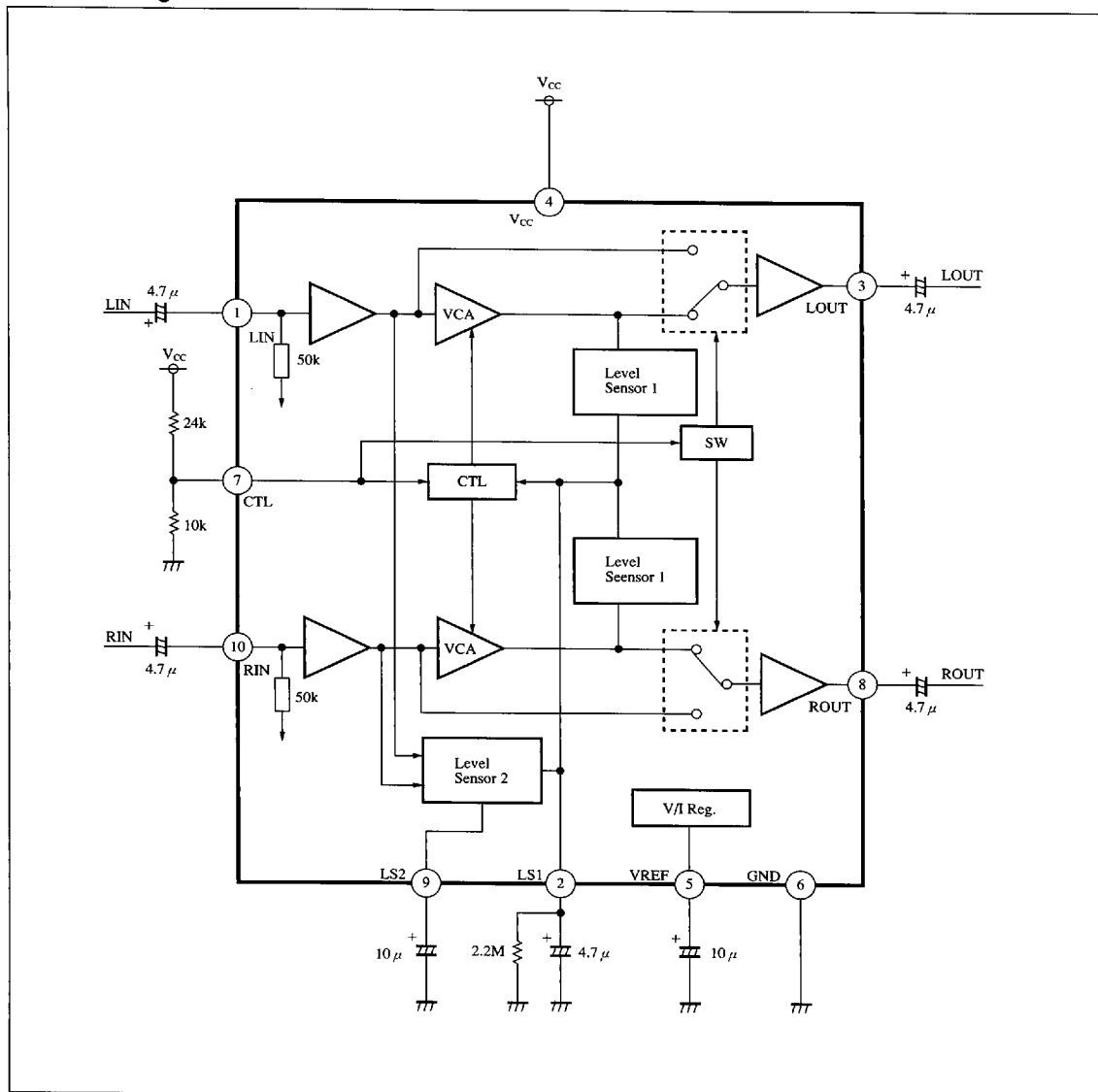
Note) Unless otherwise specified, V_{CC} = 12V, fin = 1kHz, and Ta = 25 ± 2°C.

* V_{ctl} = 3.5 V

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■ Block Diagram



ICs for TV

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[Terminal Equivalent Circuit]

$V_{CC} = 12V, T_a = 25^\circ C$

No.	Pin name	Pin voltage	Description	Equivalent circuit
1	LIN	6V	Input L.ch	
2	LSI	0.5V to 1.5V	AGC level sensor 1, 2	
3	LOUT	6V	Output L.ch	
4	Vcc	—	Vcc	—
5	VREF	6V	Stabilization of reference voltage	
6	GND	0V	GND	—
7	CTL	—	AGC ON/OFF switch (Less than 1.2V, AGC is OFF)	
8	ROUT	6V	Output R.ch	
9	LS2	6V	AGC level sensor 2	
10	RIN	6V	Input R.ch	

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