AN7082K

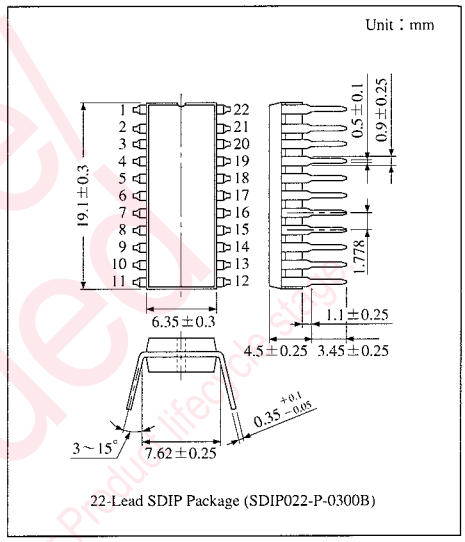
Pre-/Power Amplifier, Governor Single Chip IC for 3V Headphone Stereo

■ Overview

The AN7082K is a bipolar IC most suitable for stereo headphone cassette player integrated pre-amp., power amp., motor governor into a single chip and built-in electronic VR.

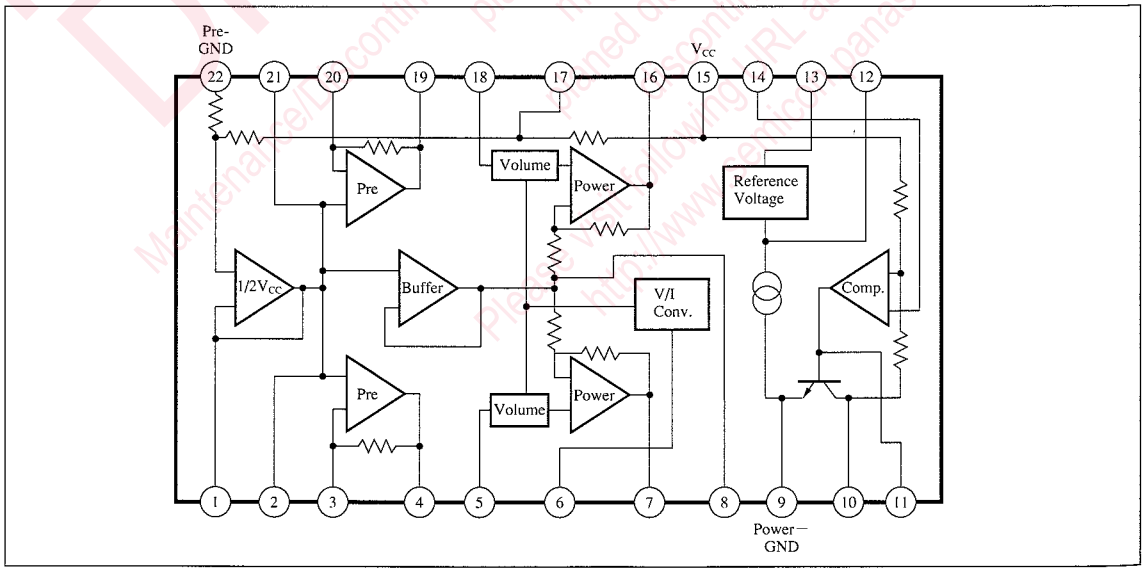
■ Features

- Wide operating supply voltage range : $V_{CC\ (opr.)}$ = 1.8V ~6V
- Fewer peripheral parts
- Both channel VR control by single string VR is possible due to electronic VR built-in.
- Available for graphic equalizer



22-Lead SDIP Package (SDIP022-P-0300B)

■ Block Diagram



■ Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Supply Voltage	V_{CC}	7	V
Supply Current	I_{CC}	1000	mA
Power Dissipation	P_D	1000	mW
Operating Ambient Temperature	T_{opr}	−25～+75	℃
Storage Temperature	T_{stg}	−55～+150	℃

■ Recommended Operating Range (Ta=25℃)

Parameter	Symbol	Range
Operating Supply Voltage Range	V_{CC}	1.8～6.0V

■ Electrical Characteristics (V_{CC}=3V, f=1kHz, R_L=32Ω, Ta=25℃)

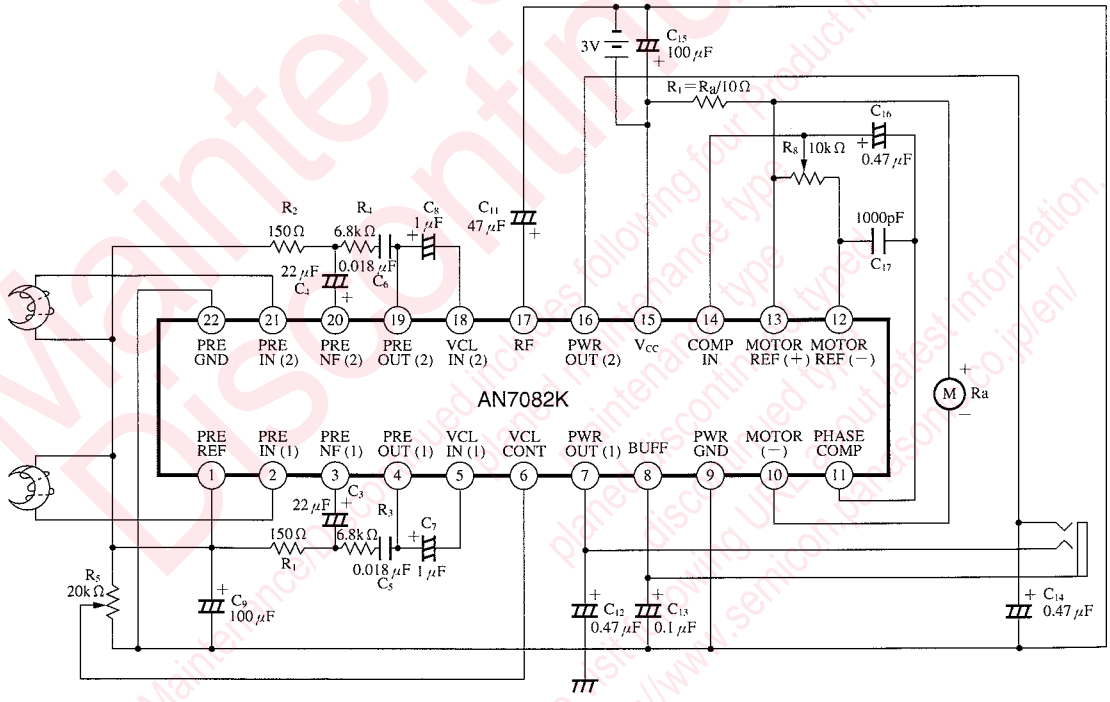
Parameter	Symbol	Condition	min.	typ.	max.	Unit
Supply Current	I_{CQ}	Vi=0V, Im=0mA	10	20	35	mA
<Pre Amplifier>						
Close-Loop Gain	G_{VC}	V_O=0.3V	34	37.5	40	dB
Maximum Output Voltage	V_{om}	THD=1%	0.6	0.8	—	V
Total Harmonic Distortion	THD	V_O=300mVrms	—	0.05	0.5	%
Input Noise Voltage	V_{ni}	Vi=0V, R_g=2.2kΩ BPF (300Hz～20kHz)	—	1.8	5.0	μV
Channel Balance	CB	V_{in}=5mVrms	−2	0	+2	dB
<Attenuator>						
Maximum Attenuation	VaM	Vi=0.4V, Pin⑥=0	60	65	—	dB
<Power Amplifier>						
Voltage Gain	G_V	P_{out}=5mW	25.5	28	30.5	dB
Maximum Power	$P_{om}1$	THD=10% R_L=32Ω	15	20	—	mW
Total Harmonic Distortion	THD	P_{out}=5mW	—	0.2	1.0	%
Channel Balance	CB	V_O=0.4Vrms	−2	0	2	dB
Output Noise Voltage	V_{no}	BPF (300Hz～20kHz)	—	0.3	0.4	mV
Ripple Rejection	RR	f=100Hz, 50mV	34	40	—	dB
Cross-Talk	CT	V_O=0.6Vrms	25	35	—	dB
<Motor Governor>						
Load Regulation 1	$\frac{\Delta Va}{Va}/\Delta Ia$	I_{IO}=30mA～200mA	—	0.01	0.1	%/mA
Line Regulation 1	$\frac{\Delta Va}{Va}/\Delta V_{CC}$	I_m=50mA V_{CC}=1.8～6.0V	—	0.1	1.0	%/V
Reference Voltage	V_{REF}	I_m=100mA R13−12>10kΩ	—	1.28	—	V
Saturation Voltage	V_{sat}	I_m=100mA, 1.8V Ra=4.7Ω	—	0.2	—	V
Line Regulation 2	$\frac{\Delta V_{REF}}{V_{REF}}/\Delta V_{CC}$	I_m=50mA V_{CC}=1.8～6.0V	—	0.2	—	%/V
Temp. Characteristics	$\frac{\Delta Va}{Va}/\Delta Ta$	Ta=−25℃～75℃	—	0.01	—	%/℃

ICs for Cassette Deck

Pin Descriptions

Pin No.	Pin Name	Pin No.	Pin Name
1	Pre-V_{REF}	12	Motor Ref. Voltage (−)
2	Channel 1 Pre Amp. Input	13	Motor Ref. Voltage (+)
3	Channel 1 Pre Negative Feedback	14	Comparator Input
4	Channel 1 Pre Amp. Output	15	V_{CC} Supply
5	Channel 1 Volume Input	16	Channel 2 Power Amp. Output
6	Volume Control	17	Ripple Filter
7	Channel 1 Power Amp. Output	18	Channel 2 Volume Input
8	Buffer Output	19	Channel 2 Pre Amp. Output
9	Power/Motor Ground	20	Channel 2 Pre Negative Feedback
10	Motor Terminal (−)	21	Channel 2 Pre Amp. Input
11	Phase Compensation	22	Pre-Ground

Application Circuit



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