

# AN7320

## 前置増幅回路/Pre-Amplifier Circuit

### ■ 概要

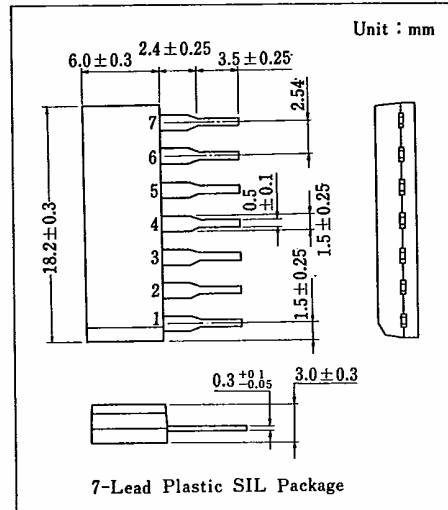
AN7320 は、低電圧動作のプリアンプ用半導体集積回路です。

### ■ 特徴

- 高利得・高出力で、低歪率・低雑音
- 動作電源電圧範囲が広い:  $V_{CC} = 2.2\text{ V} \sim 14.4\text{ V}$
- ALC 範囲が広い (Input:  $0.1\text{ mV} \sim 10\text{ mV}$ )

### ■ Features

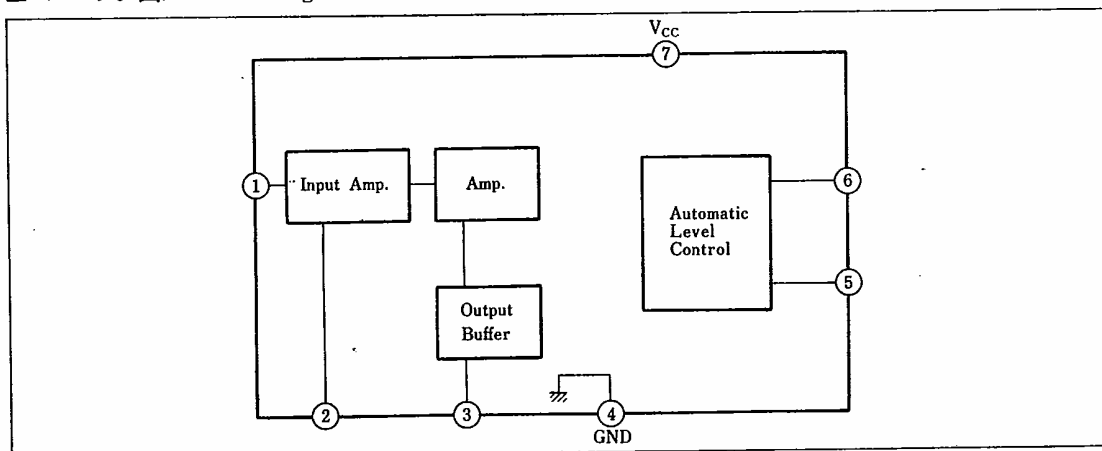
- High gain, high power, low distortion and low noise
- Wide supply voltage range ( $V_{CC} = 2.2\text{ V} \sim 14.4\text{ V}$ )
- Wide automatic level control (ALC)  
(Input:  $0.1\text{ mV} \sim 10\text{ mV}$ )



### ■ 端子名/Pin

Pin No.	端子名	Pin Name
1	入力	Input
2	負帰還	Neg. Feedback
3	出力	Output
4	アース	GND
5	ALC 出力	ALC Output
6	ALC 入力	ALC Input
7	電源電圧	V <sub>CC</sub>

### ■ ブロック図/Block Diagram



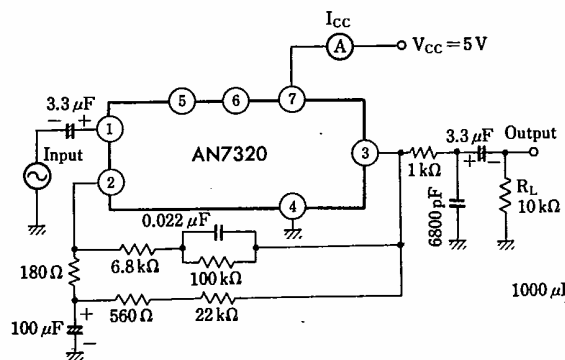
■ 絶対最大定格/Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ )

Item	Symbol	Rating	Unit
電源電圧	$V_{CC}$	14.4	V
電源電流	$I_{CC}$	10	mA
回路電流	$I_S$	80	mA
許容損失 ( $T_a=75^\circ\text{C}$ )	$P_D$	270	mW
動作周囲温度	$T_{opr}$	-25 ~ +75	$^\circ\text{C}$
保存温度	$T_{stg}$	-55 ~ +150	$^\circ\text{C}$

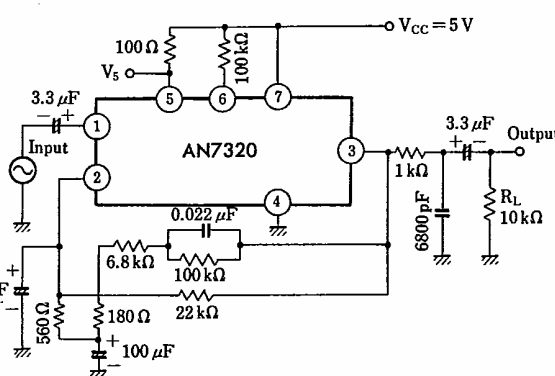
■ 電気的特性/Electrical Characteristics ( $V_{CC}=5\text{V}$ ,  $R_L=10\text{k}\Omega$ ,  $f=1\text{kHz}$ ,  $T_a=25^\circ\text{C}$ )

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
静止回路電流	$I_{CQ}$	1	$V_i=0\text{ mV}$	0.9	1.5	2.2	mA
開回路電圧利得	$G_{VO}$	2	$V_i=-80\text{ dB}$		-70		dB
閉回路電圧利得	$G_{VC}$	1	$V_i=-50\text{ dB}$		33.5		dB
出力電圧	$V_O$	1	THD=1%	0.7	1		V
入力抵抗	$R_i$	1			100		k $\Omega$
入力換算雑音電圧	$V_{ni}$	1	$R_g=2.2\text{ k}\Omega$		1.2	2	$\mu\text{V}$
ALC Tr コレクタ電圧	$V_S$	2	①-⑥ 100 k $\Omega$ , ⑦-⑤ 100 $\Omega$		0.7		V

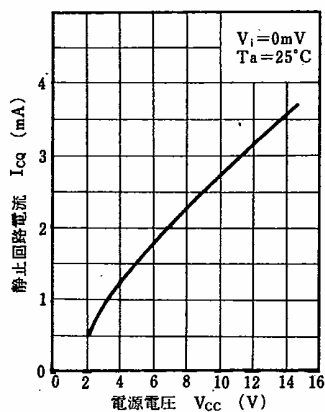
Test Circuit 1 ( $I_{CQ}$ ,  $G_{VC}$ ,  $V_O$ ,  $R_i$ ,  $V_{ni}$ )



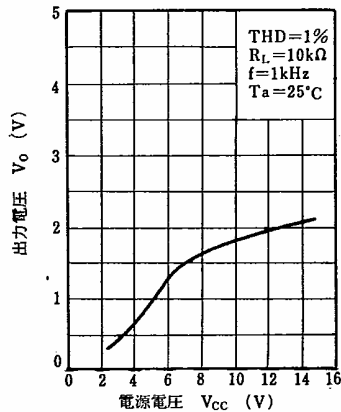
Test Circuit 2 ( $G_{VO}$ ,  $V_S$ )



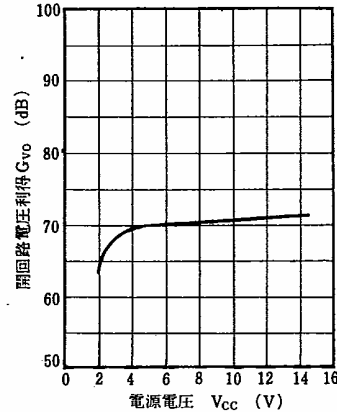
$I_{CQ} - V_{CC}$

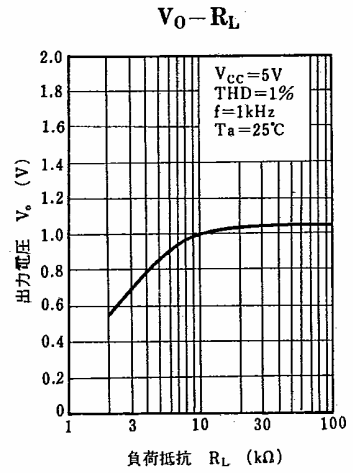
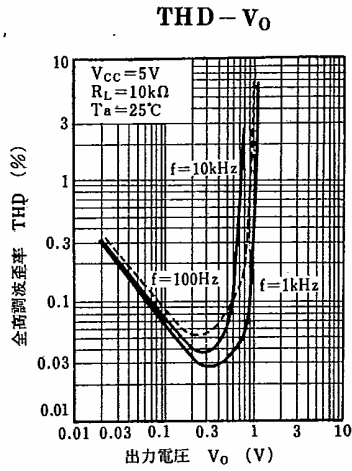
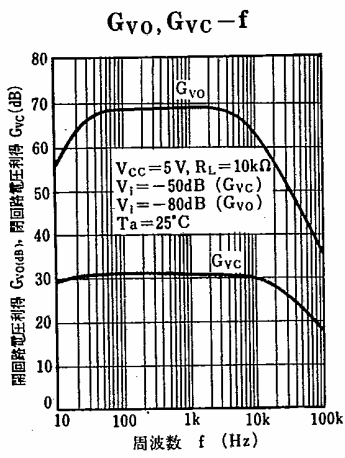


$V_O - V_{CC}$

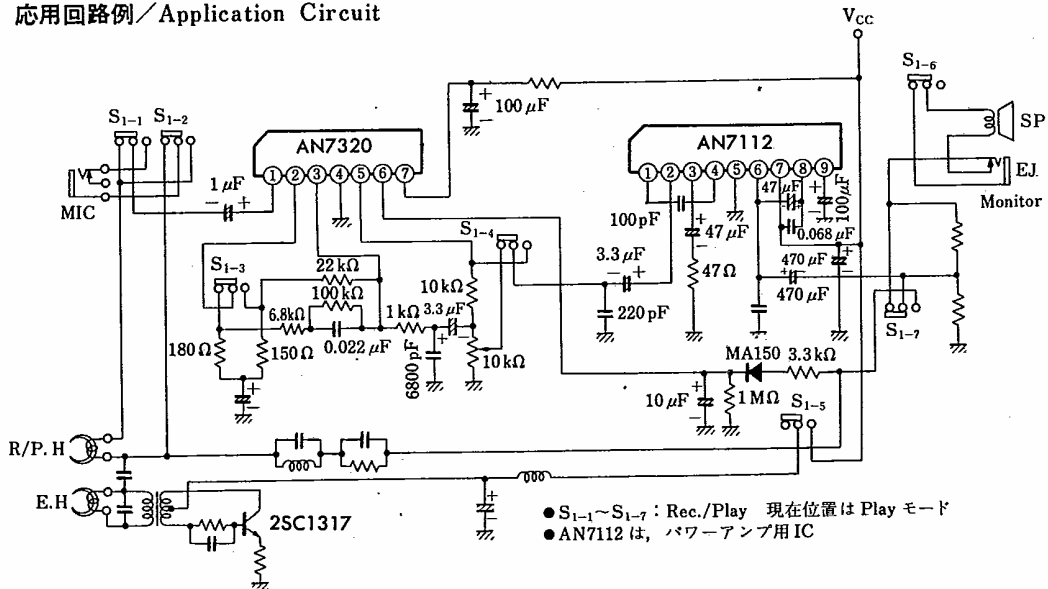


$G_{VO} - V_{CC}$

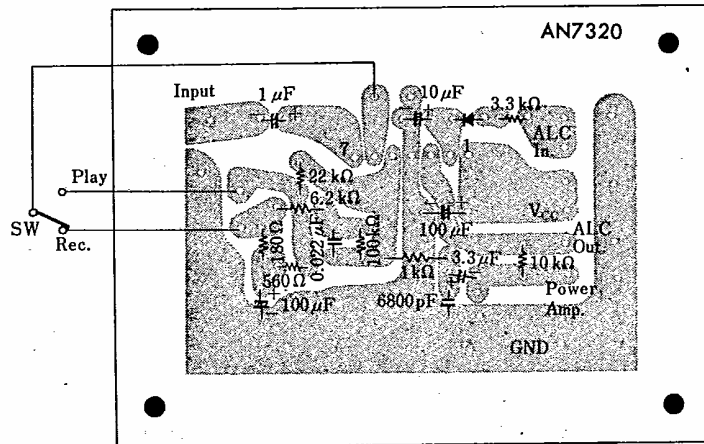




## ■ 応用回路例 / Application Circuit



## ■ プリント板パターン例 / Printed Circuit Board Layout



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