



INTEGRATED CIRCUIT

TECHNICAL DATA

TA7322P

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT

SILICON MONOLITHIC

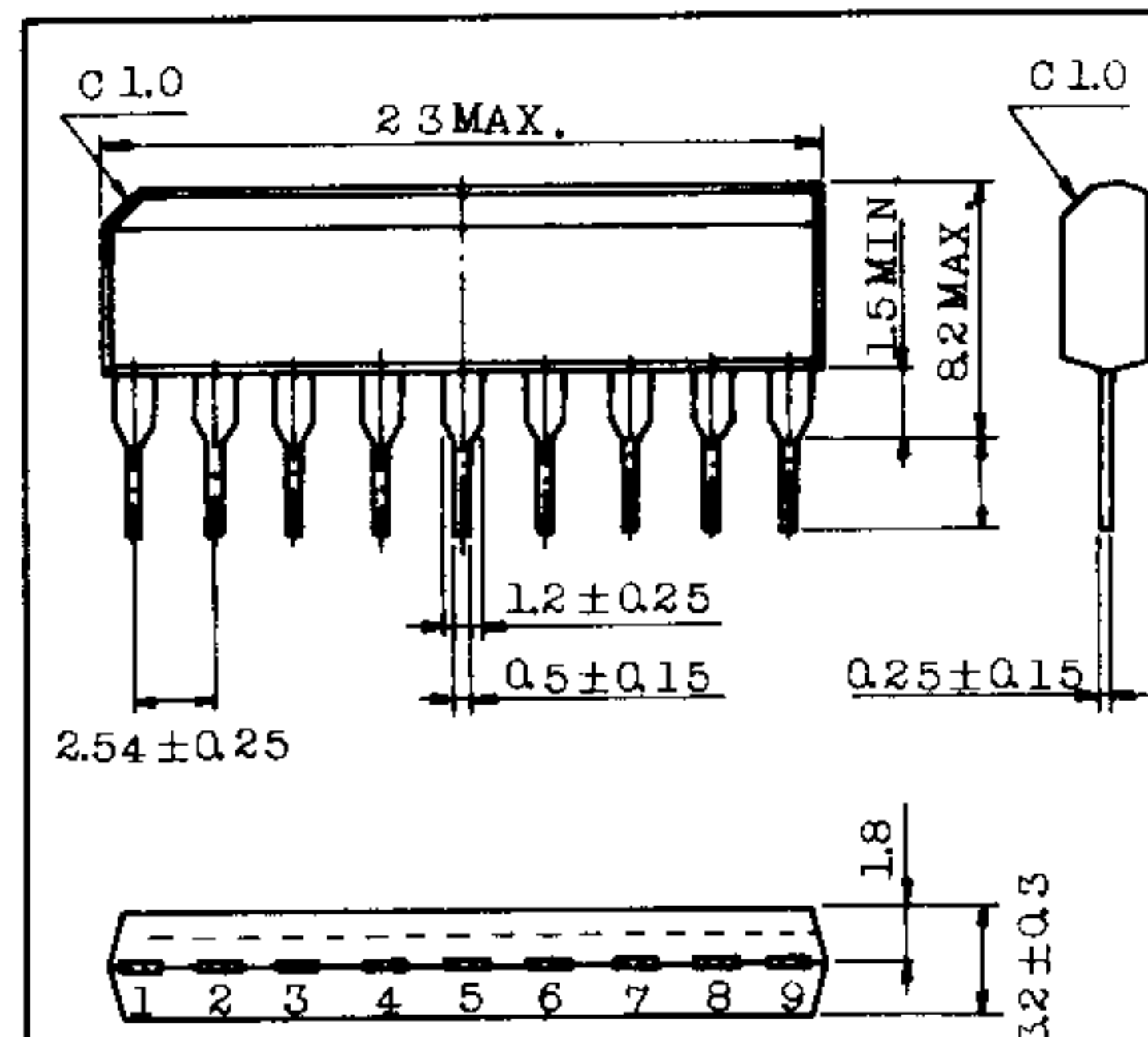
HIGH VOLTAGE, SUPER LOW NOISE PRE-AMPLIFIER WITH DUAL POWER SUPPLY.

The TA7322 is suitable for pre-amplifier of stereo or deck with equalizer, flat, tone and buffer amplifiers.

- . High Voltage and High Dynamic Range.
- . Low Harmonic Distortion.
- . Low Impedance Drive.
- . Super Low Noise. (S/N=82dB, IHF-A Filter).
- . High Stability for Buffer Amplifier.
- . Dual Power Operation.
- . Wide Operating Supply Voltage Range :

$$V_{CC}-V_{EE}=\pm 5V \sim \pm 30V.$$

Unit in mm



Lead pitch is 2.54 and tolerance is ±0.25 against theoretical center of each lead that is obtained on the basis of No.1 lead.

JEDEC	-
TOSHIBA	5-23B

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V ₉₋₅	±30	V
Output Current	I ₇	25	mA _{p-p}
Power Dissipation (Note)	P _D	750	mW
Operating Temperature	T _{opr}	-25 ~ 75	°C
Storage Temperature	T _{stg}	-55 ~ 150	°C

Note : Derated above Ta=25°C in the proportion of 6mW/°C.

ELECTRICAL CHARACTERISTICS

(Ta=25°C, V_{CC}=25V, V_{EE}=-25V, RIAA EQ f=1kHz, R_L=47kΩ)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	I _{CCQ}	1	V _{IN} =0	-	3.5	6.0	mA
Open Loop Voltage Gain	G _{VO}	1	V _{IN} =-90dBs	-	100	-	dB
Maximum Output Voltage	V _{OM}	2	THD=0.01%	12	15	-	V _{rms}
Total Harmonic Distortion	THD(1)	2	V _{OUT} =12V _{rms}	-	0.002	0.01	%
	THD(2)	2	f=20Hz ~ 20kHz V _{OUT} =3V _{rms}	-	0.004	-	%
Equivalent Input Noise Voltage	V _{NI}	2	R _g =2.2kΩ BW=15Hz ~ 30kHz	-	0.7	1.5	μV _{rms}
Signal-Noise Ratio	S/N	2	R _g =0, IHF A Curve Filter	-	82	-	dB

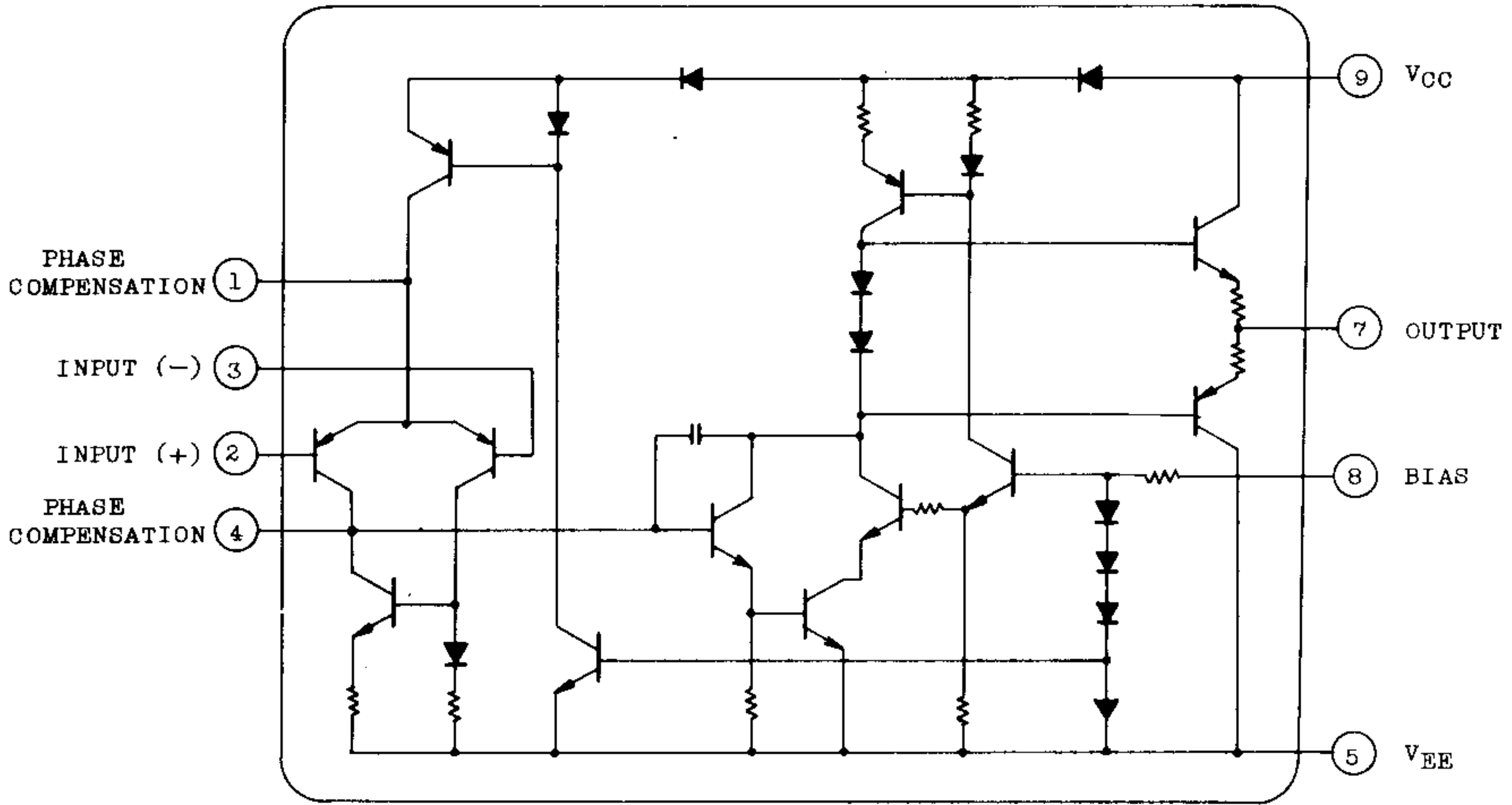


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EQUIVALENT CIRCUIT

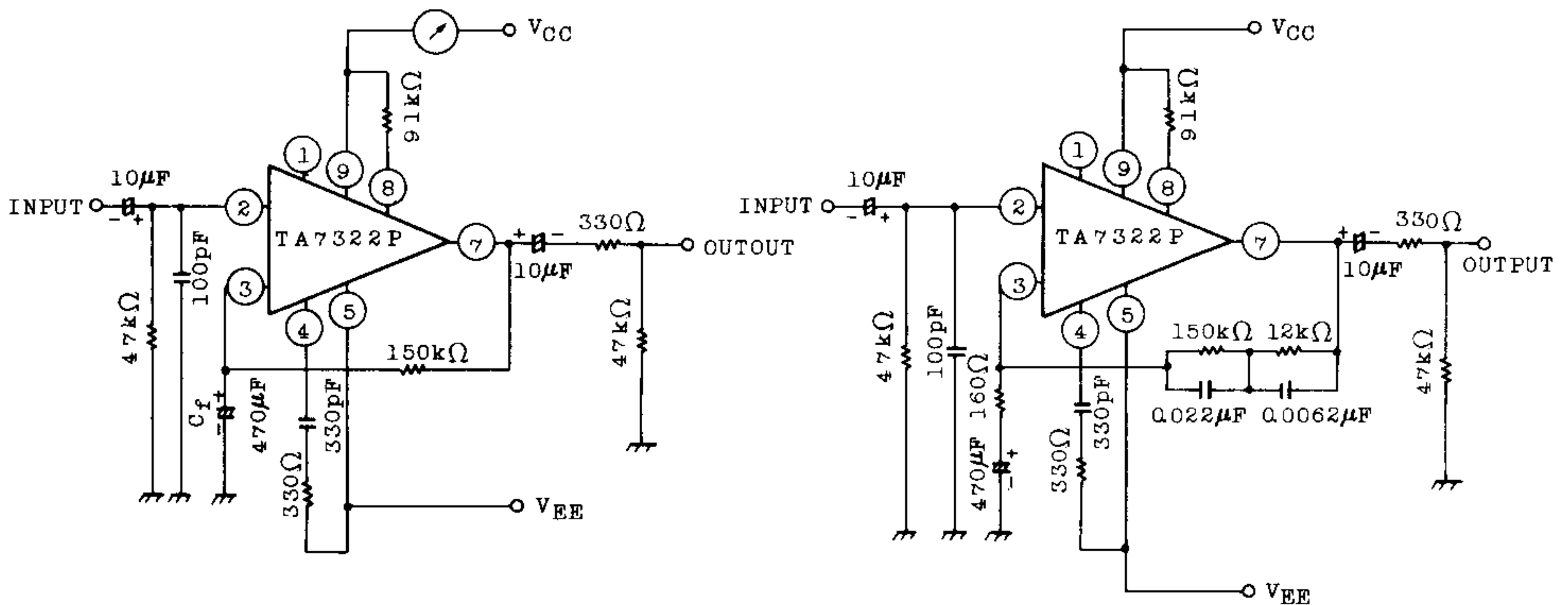


PIN 6 : NO CONNECTION

TEST CIRCUIT

1. I_{CCQ} , G_{VO}

2. V_{OM} , $THD(1)$, $THD(2)$, V_{NI} , S/N

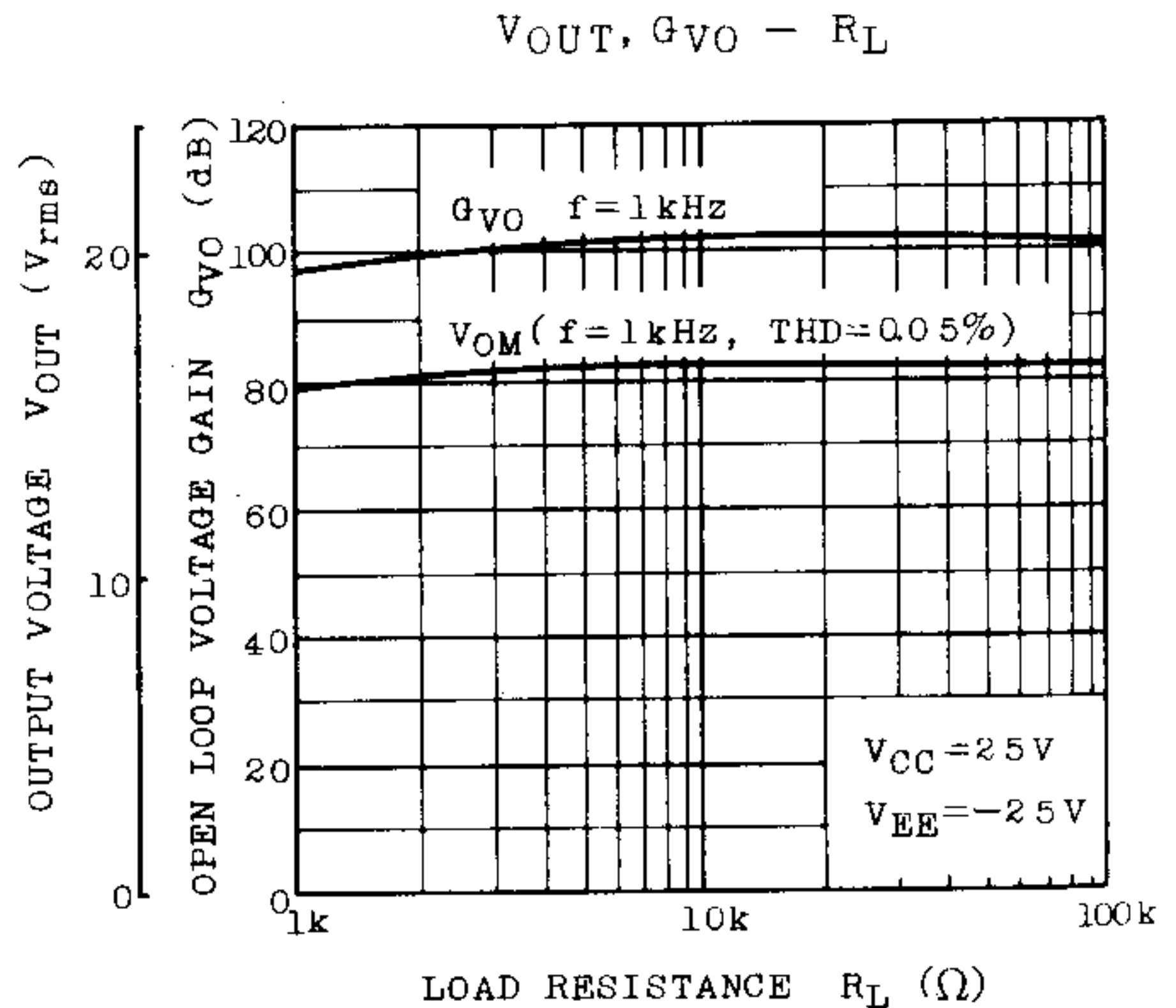
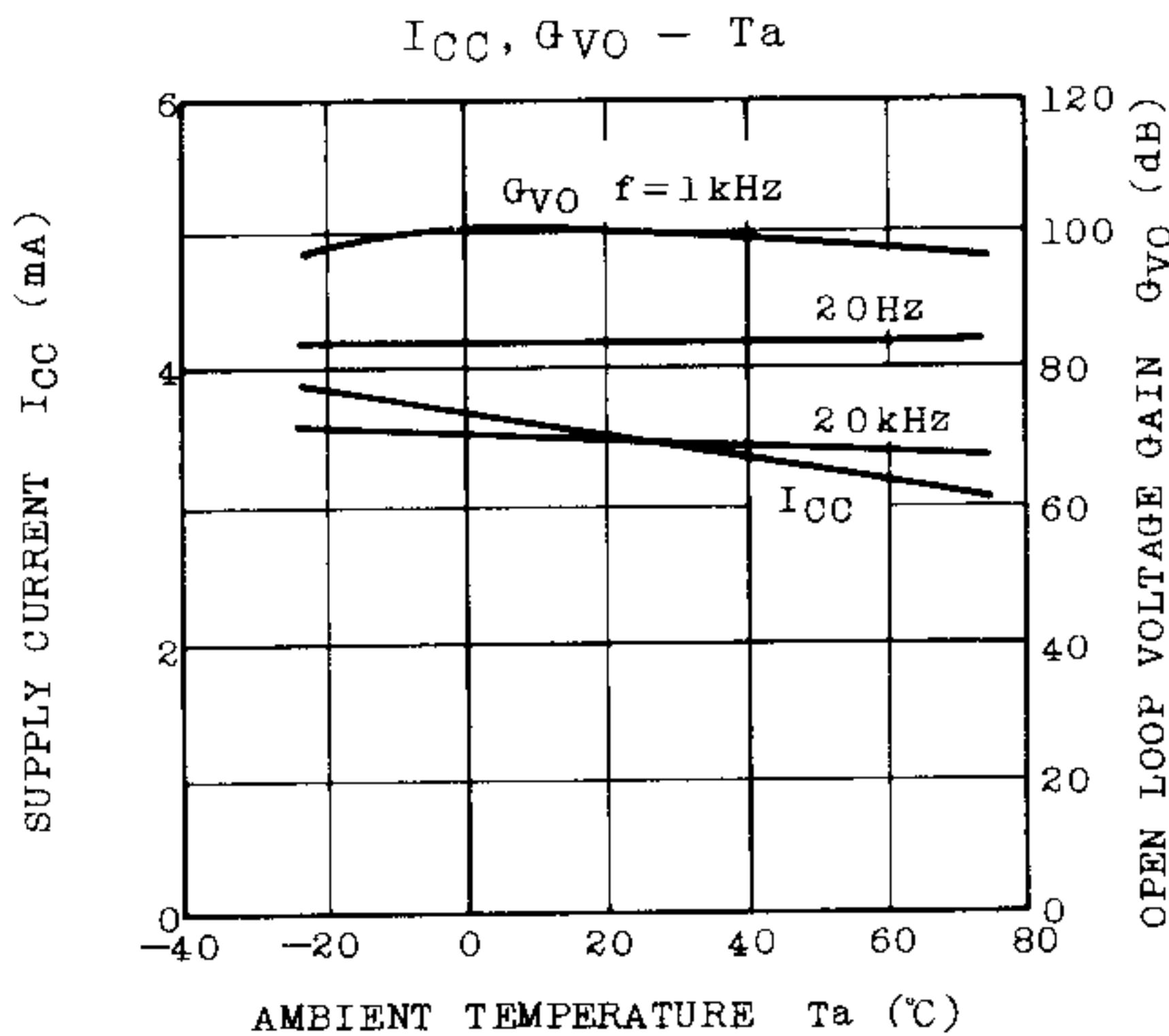
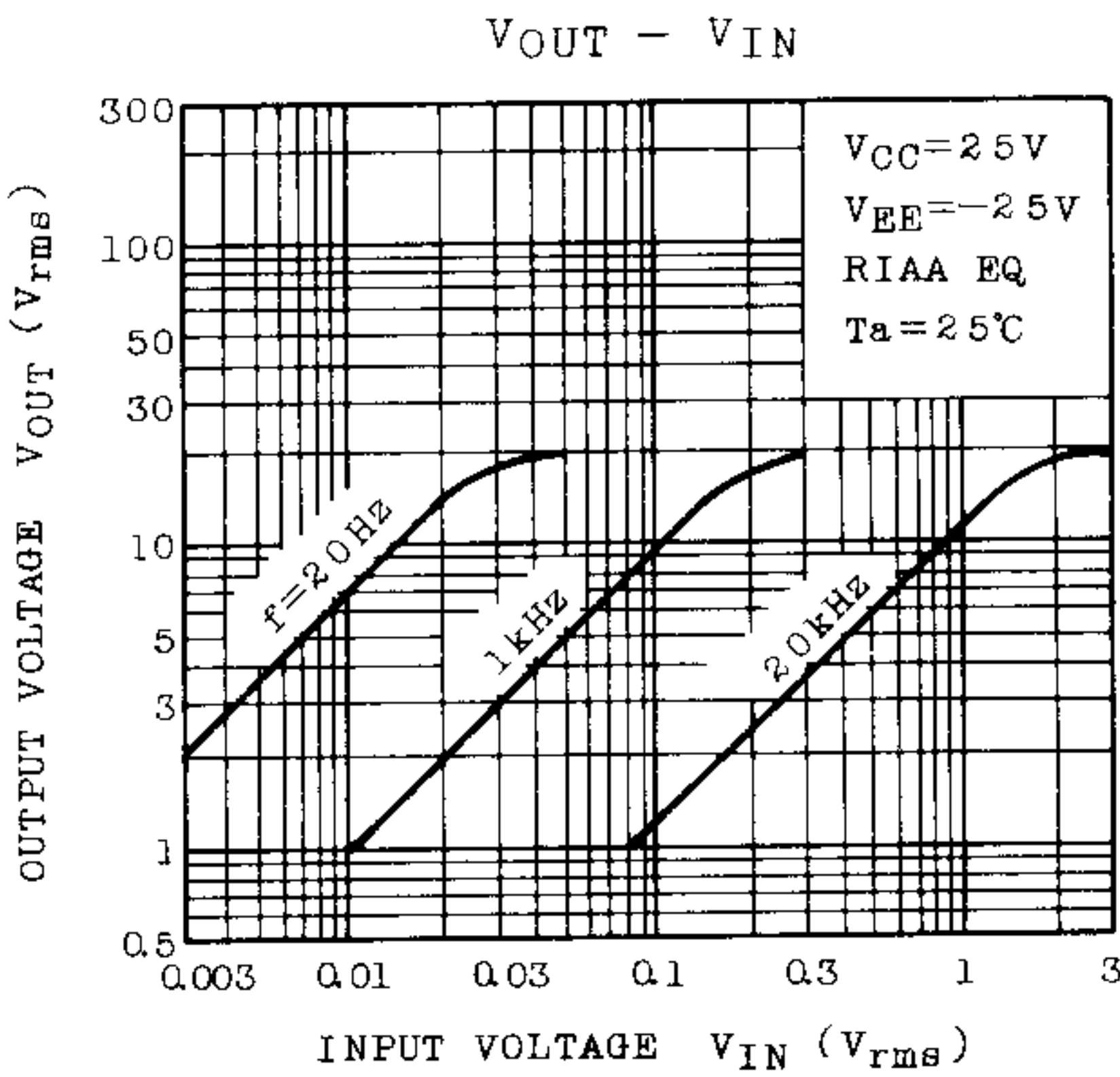
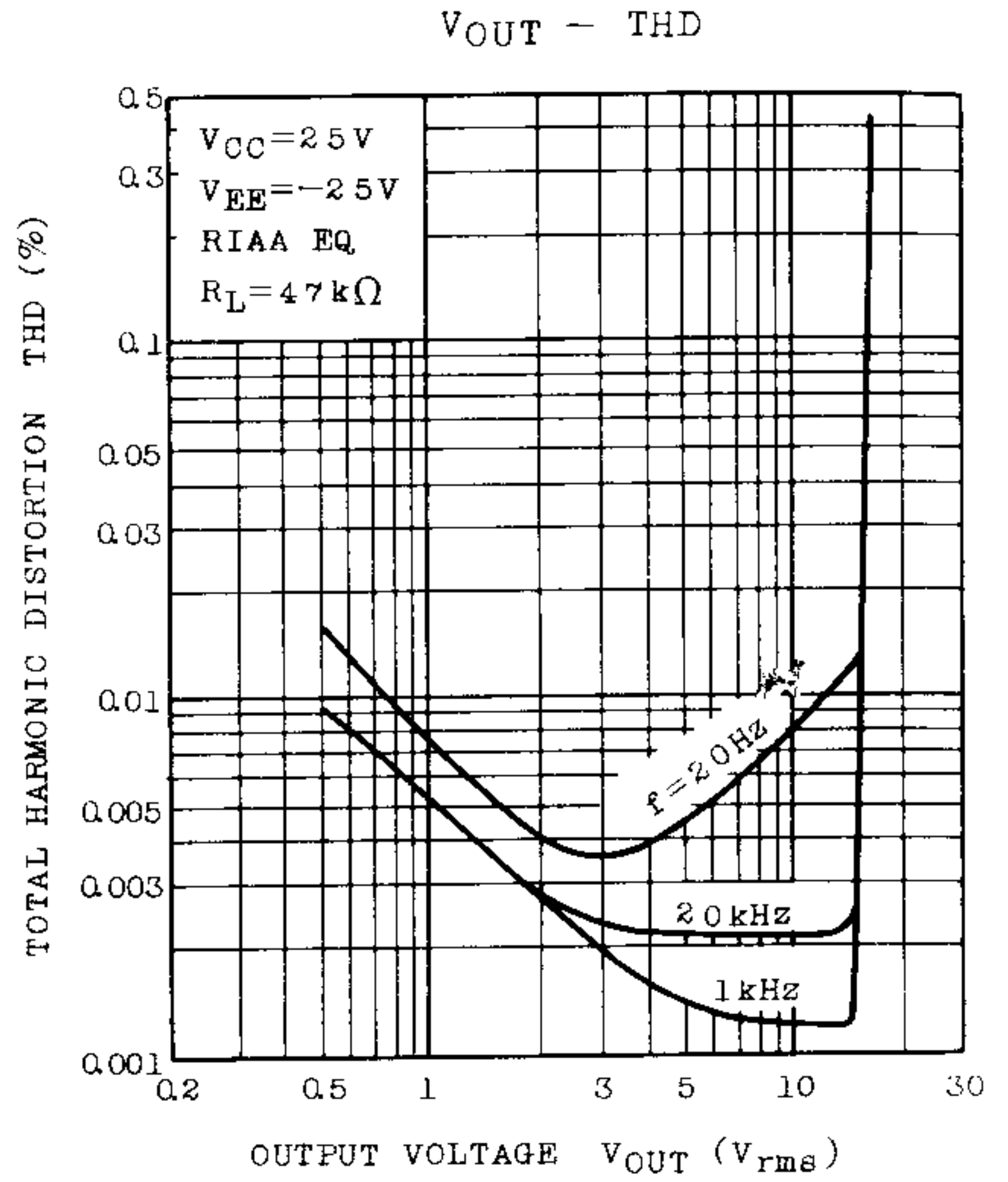
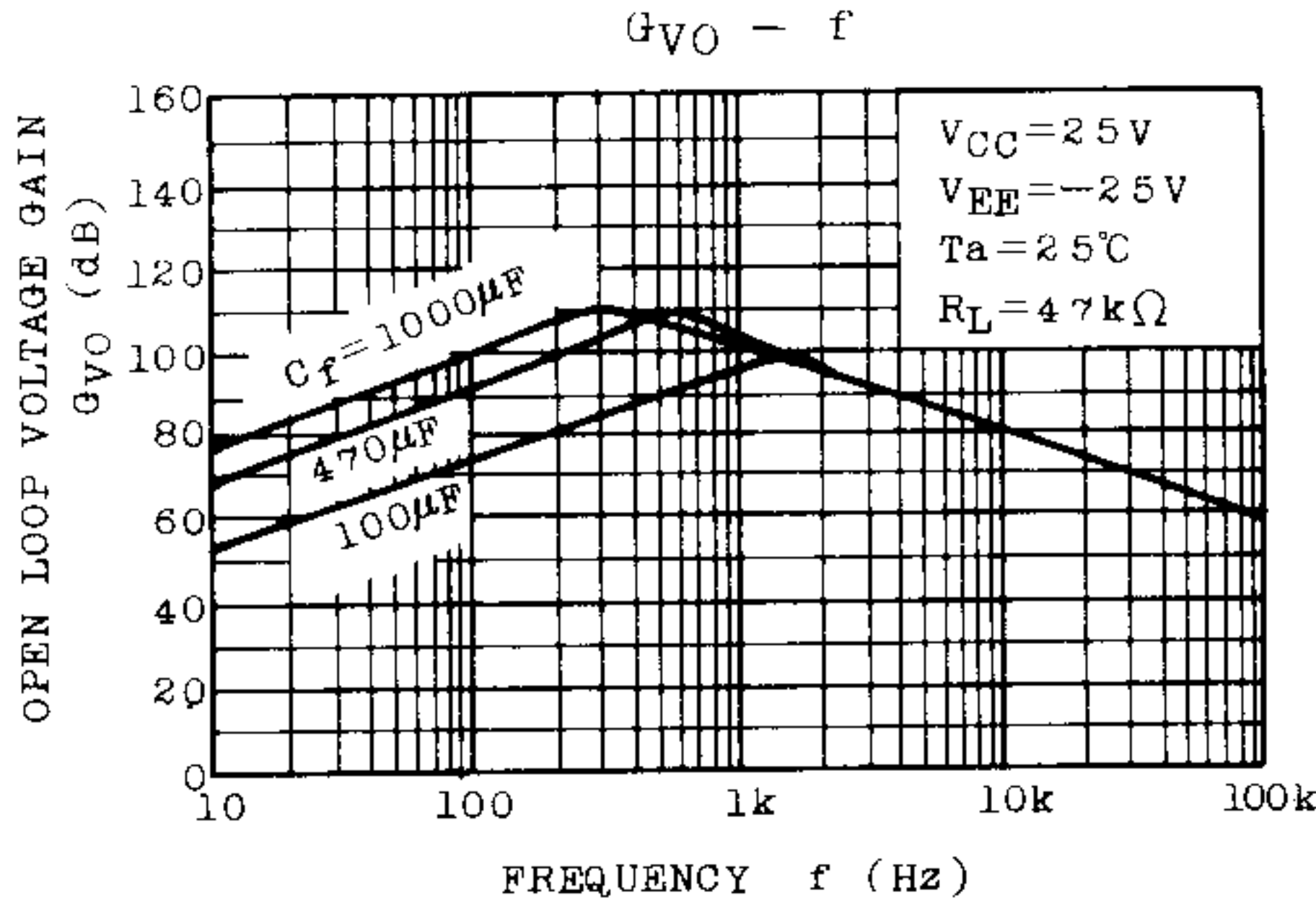




INTEGRATED CIRCUIT

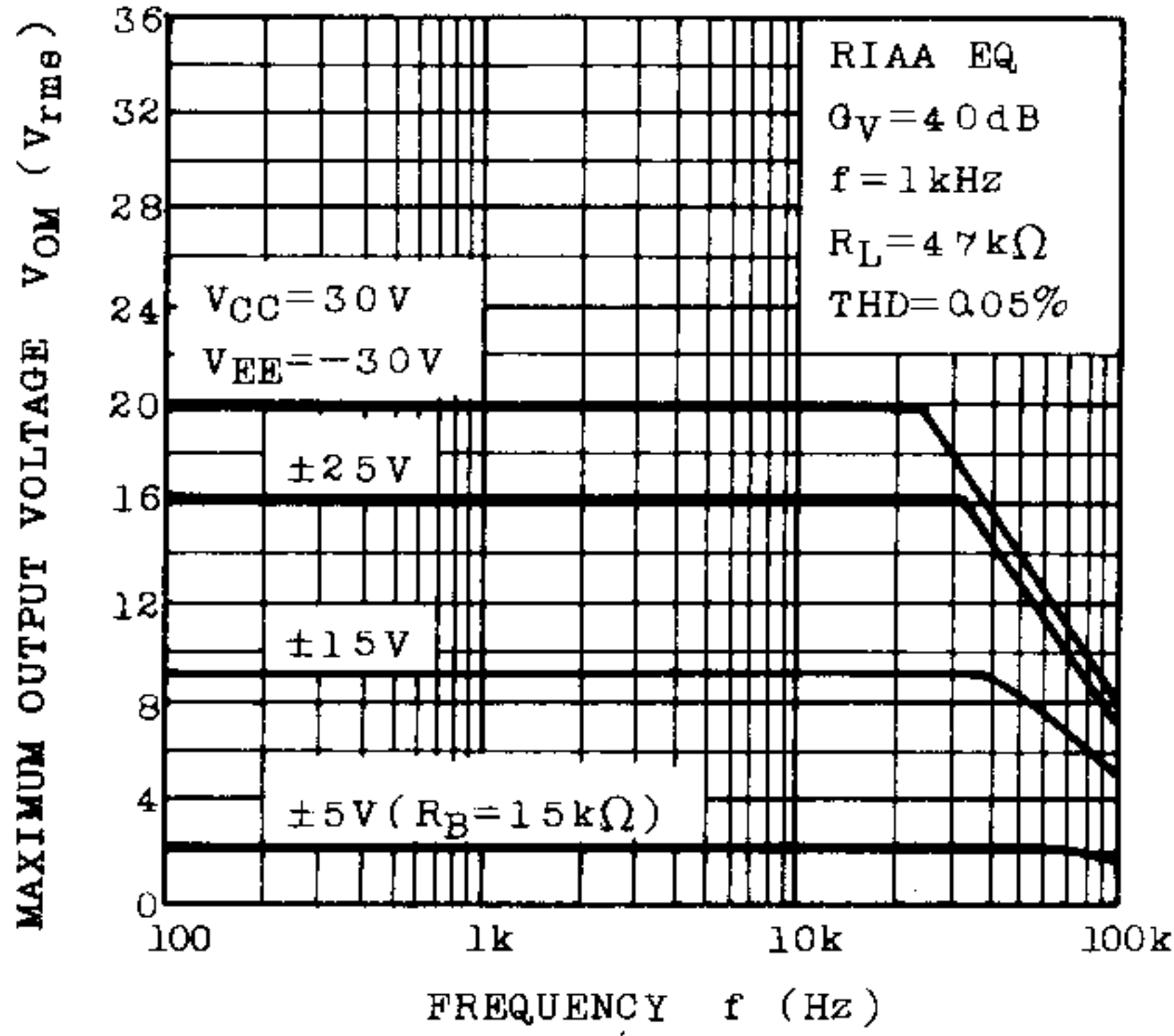
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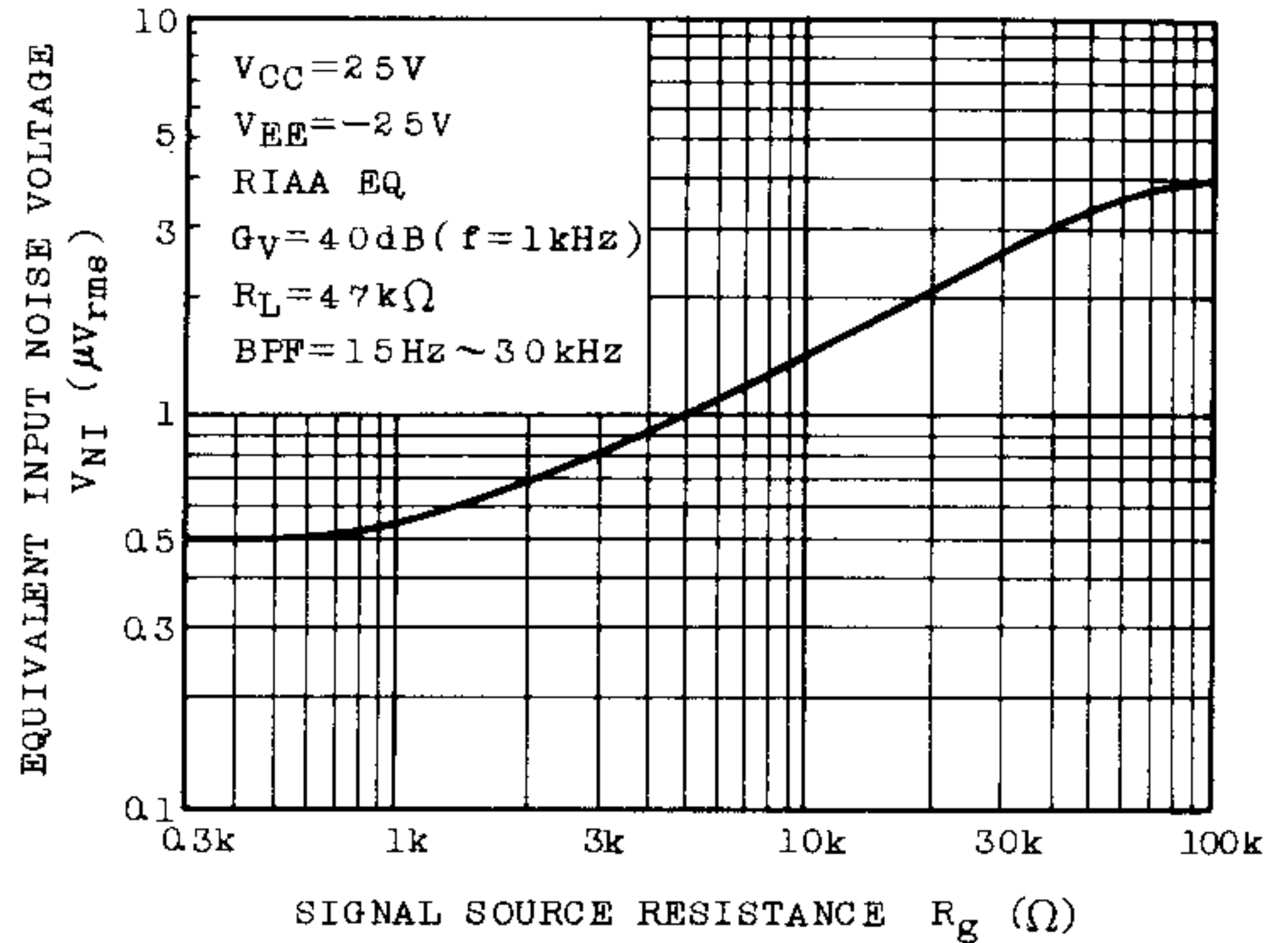


TECHNICAL DATA

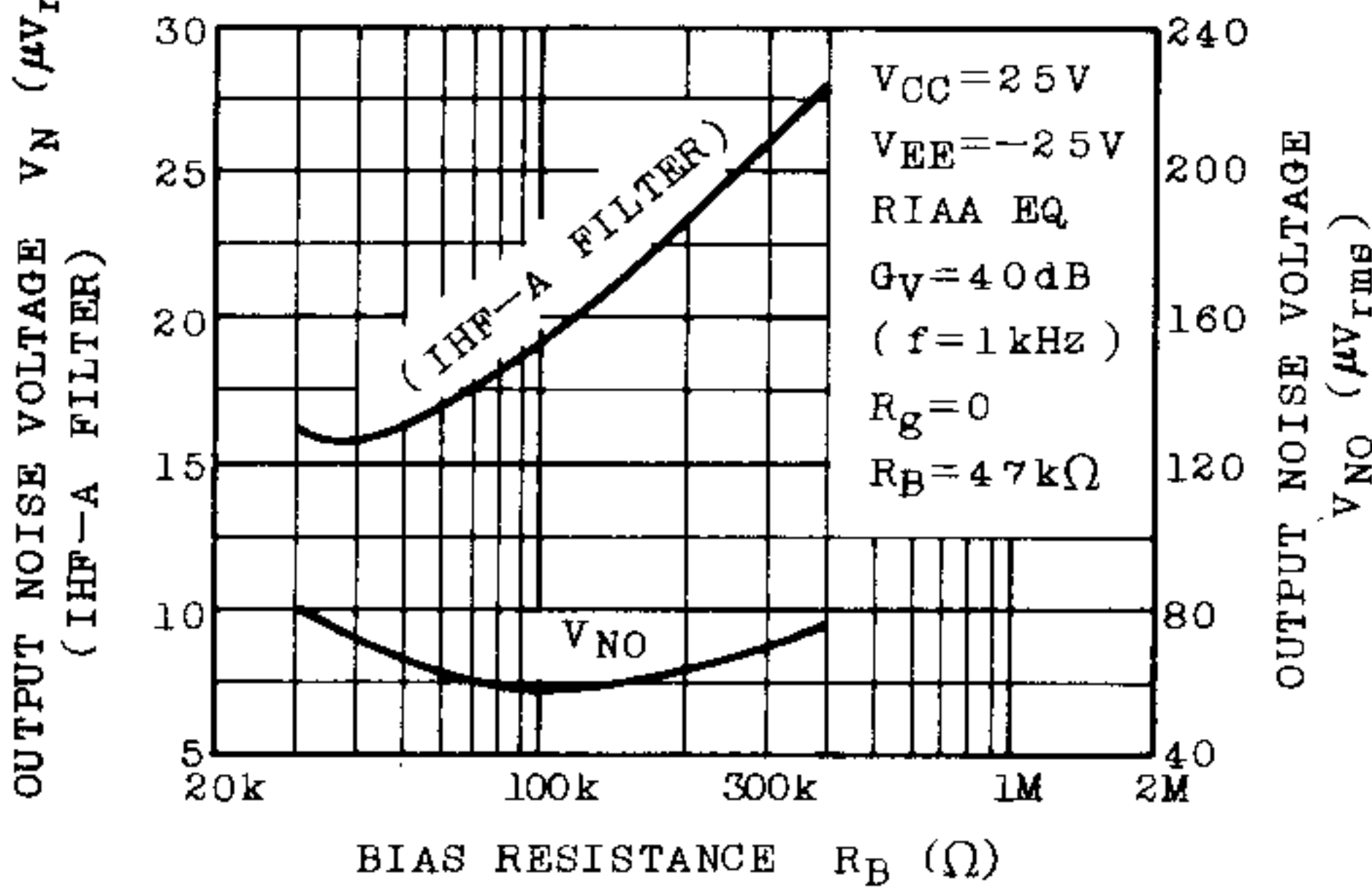
$V_{OM} - f$



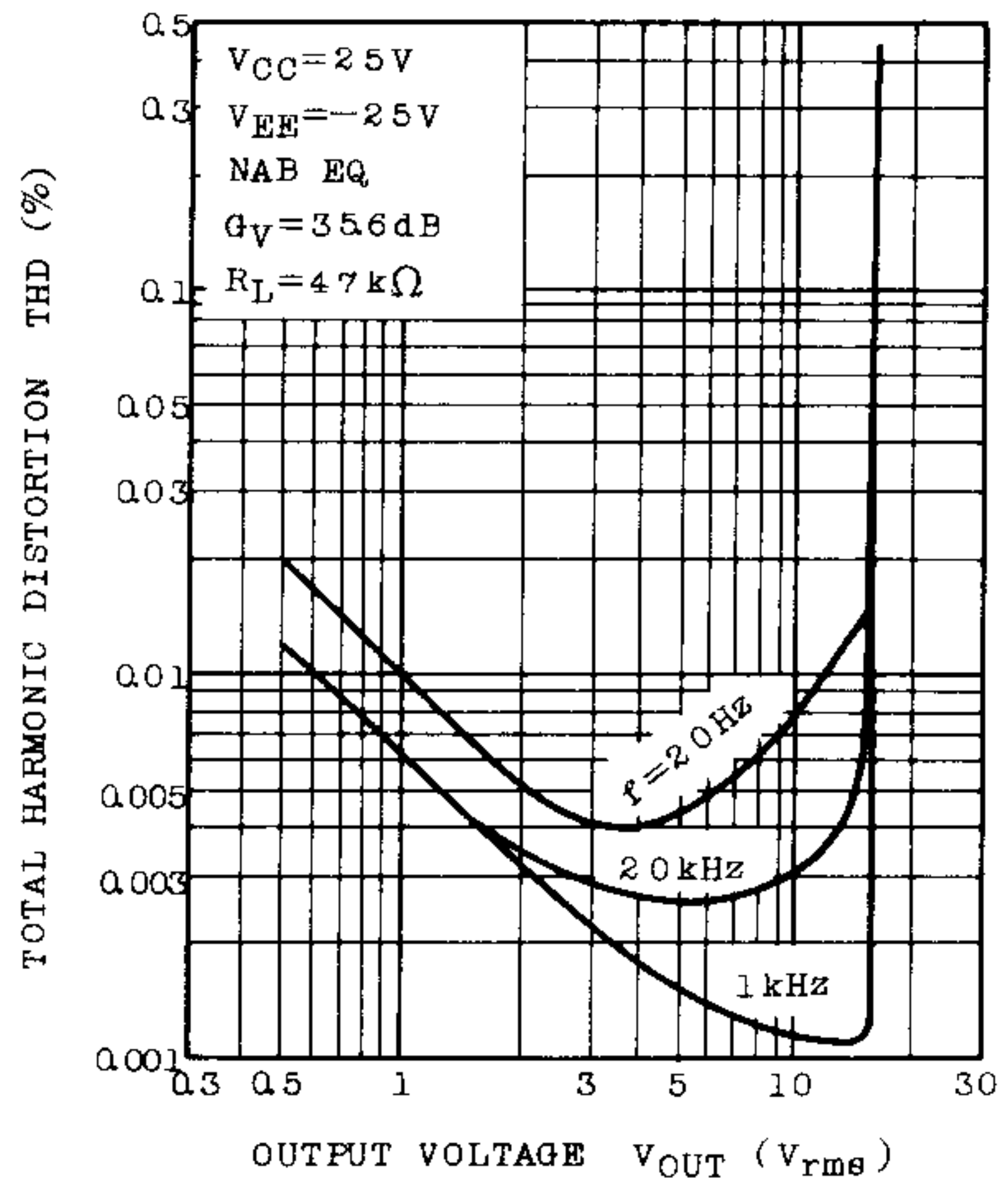
$V_{NI} - R_g$



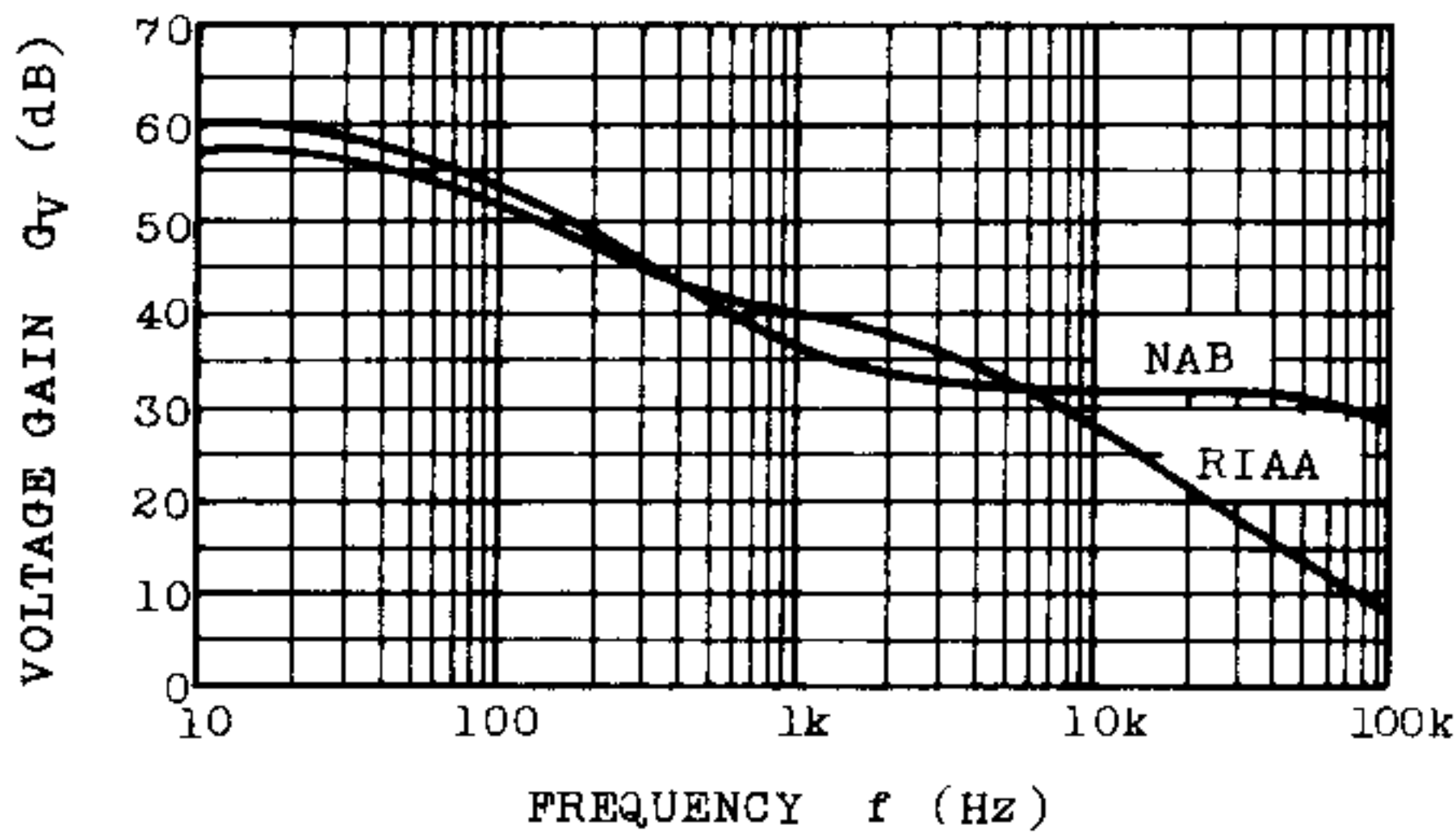
$V_N, V_{NO} - R_B$



$V_{OUT} - THD$



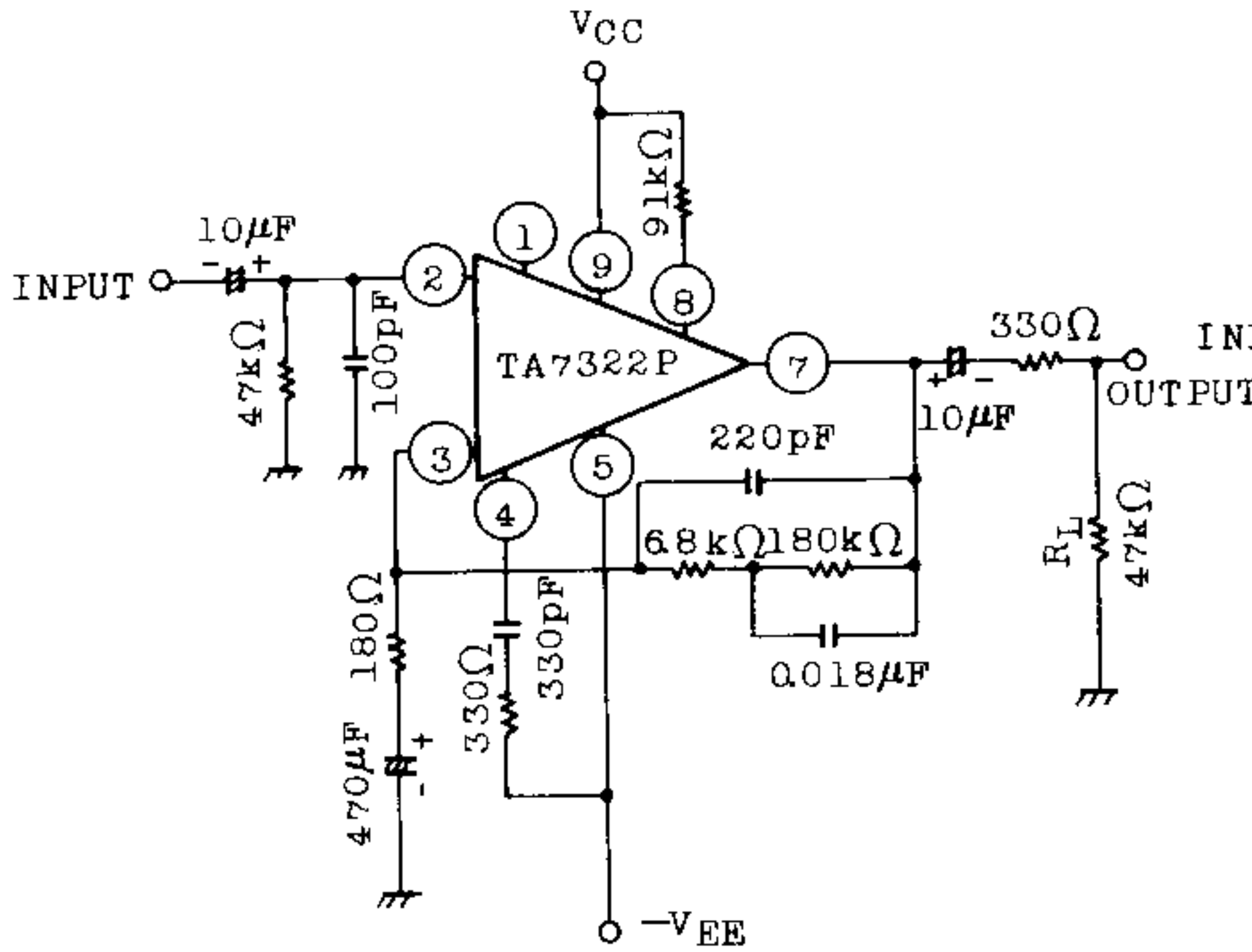
$G_V - f$



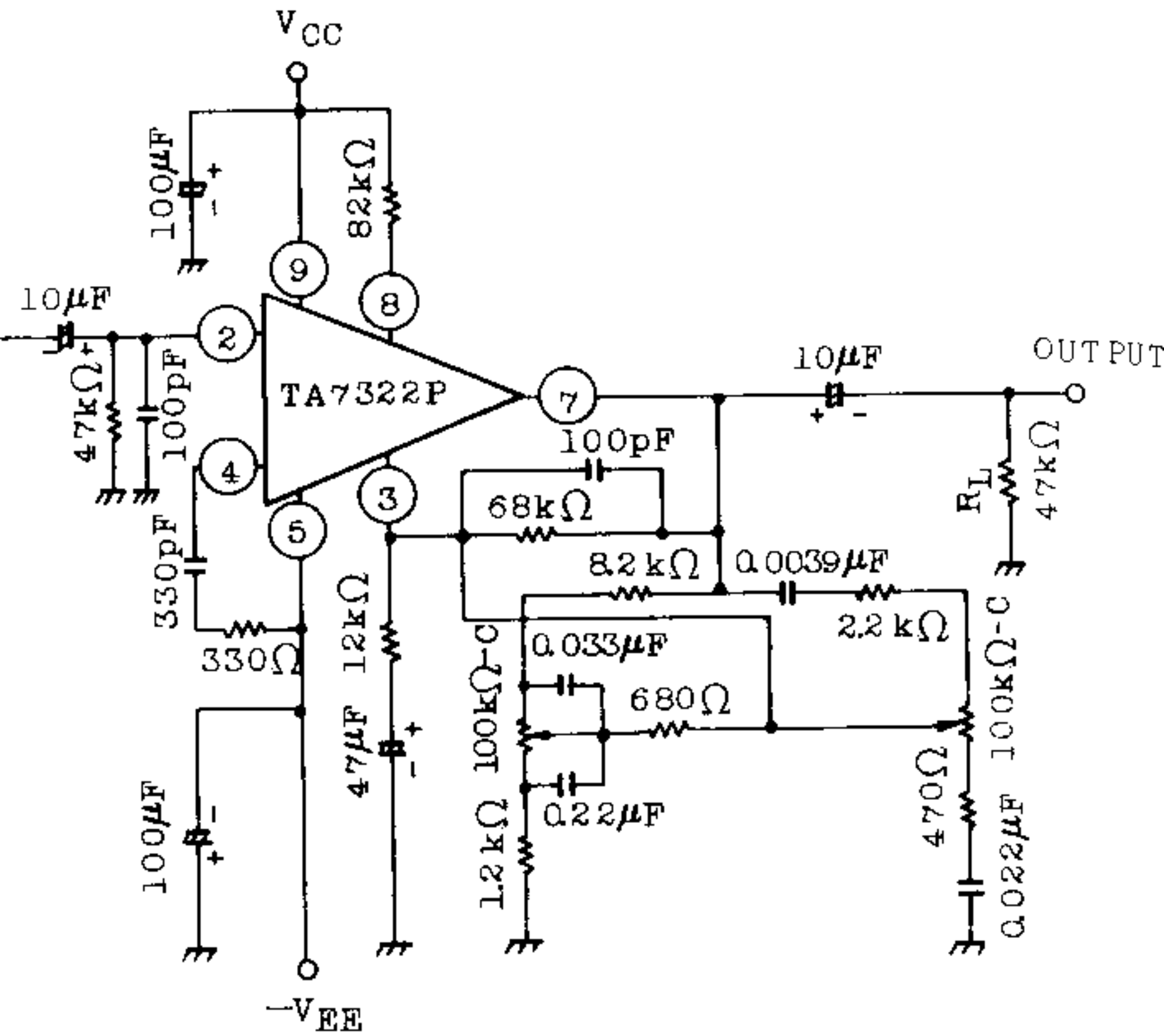
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APPLICATION CIRCUIT

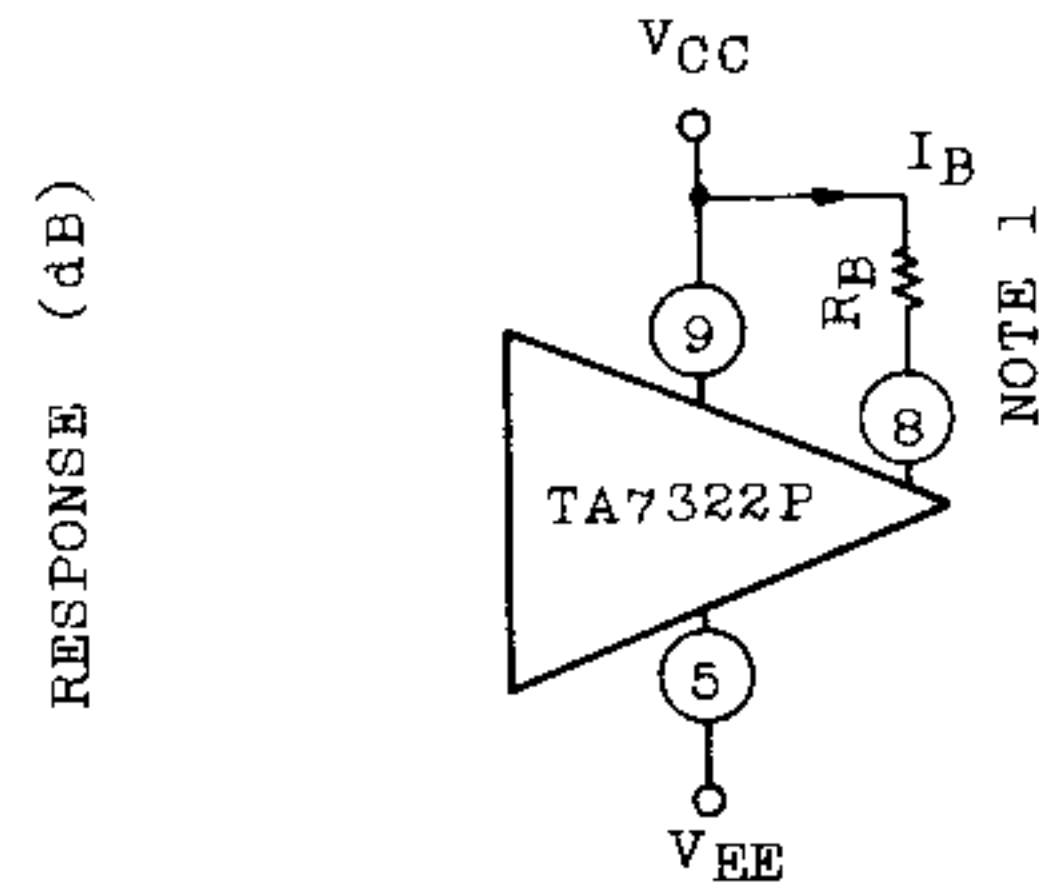
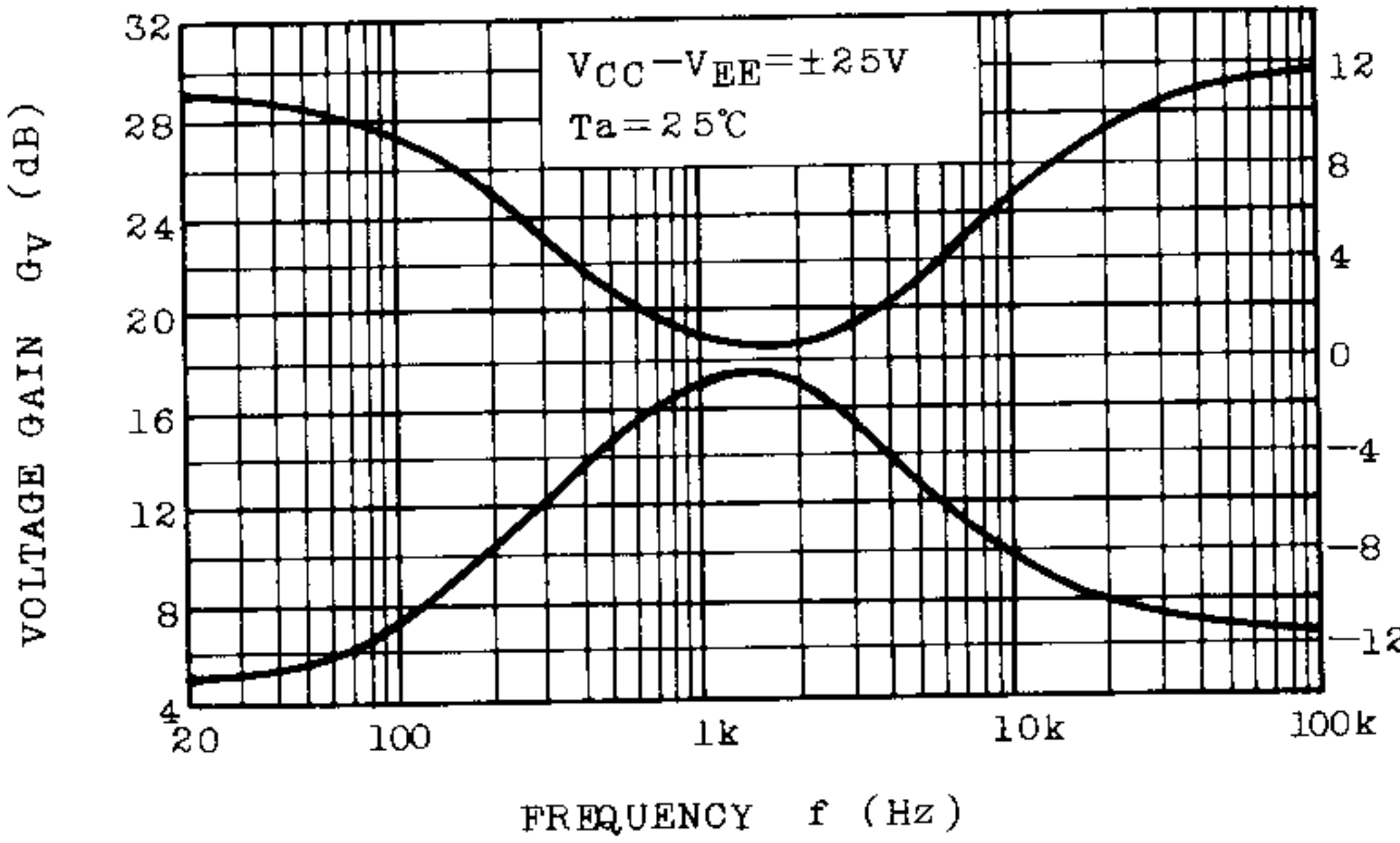
1. NAB EQ



2. TONE CONTROL CIRCUIT



G_V - f



Note 1. Institution of Bias Resistance (R_B)
 In regard to the value of supply voltage, R_B is found using the following formula:

$$R_B = \frac{V_{CC} - (V_{EE}) - 5.3V}{I_B} \quad (\Omega)$$

where I_B = 500µA
 (Example)
 at V_{CC} = 25V, V_{EE} = -25V

$$R_B = \frac{25 + 25 - 5.3}{0.5\text{mA}} = 89.4\text{k}\Omega$$

