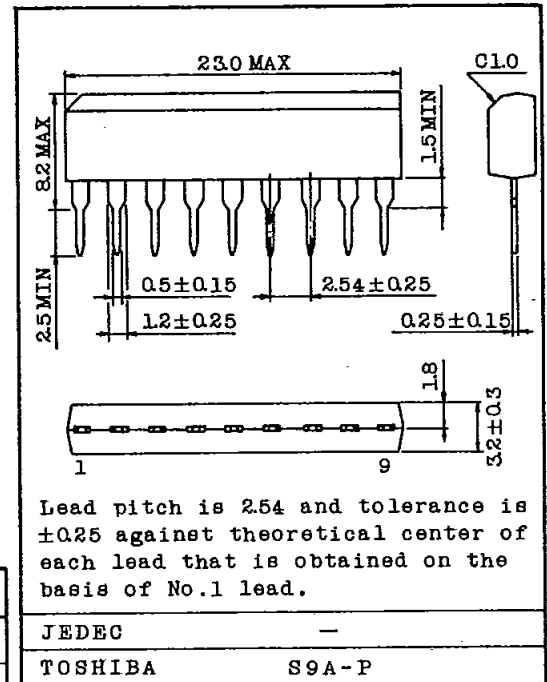


## AUDIO POWER AMPLIFIER

- Designed for Output Power, Radio and Portable Cassette Tape Recorder.
- Output Power :  $P_{OUT}=500\text{mW(Typ.)}$   
at  $V_{CC}=6\text{V}$ ,  $R_L=8\Omega$ ,  $\text{THD}=10\%$
- Wide Operating Supply Voltage Range :  $V_{CC}=4 \sim 14\text{V}$
- Low Quiescent Current
- Without Heat Sink

Unit in mm



## MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	$V_{CC}$	14	V
Output Current (Peak)	$I_{O(\text{peak})}$	0.5	A
Power Dissipation	$P_D$	750	mW
Operating Temperature	$T_{opr}$	$-25 \sim 75$	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	$-55 \sim 150$	$^\circ\text{C}$

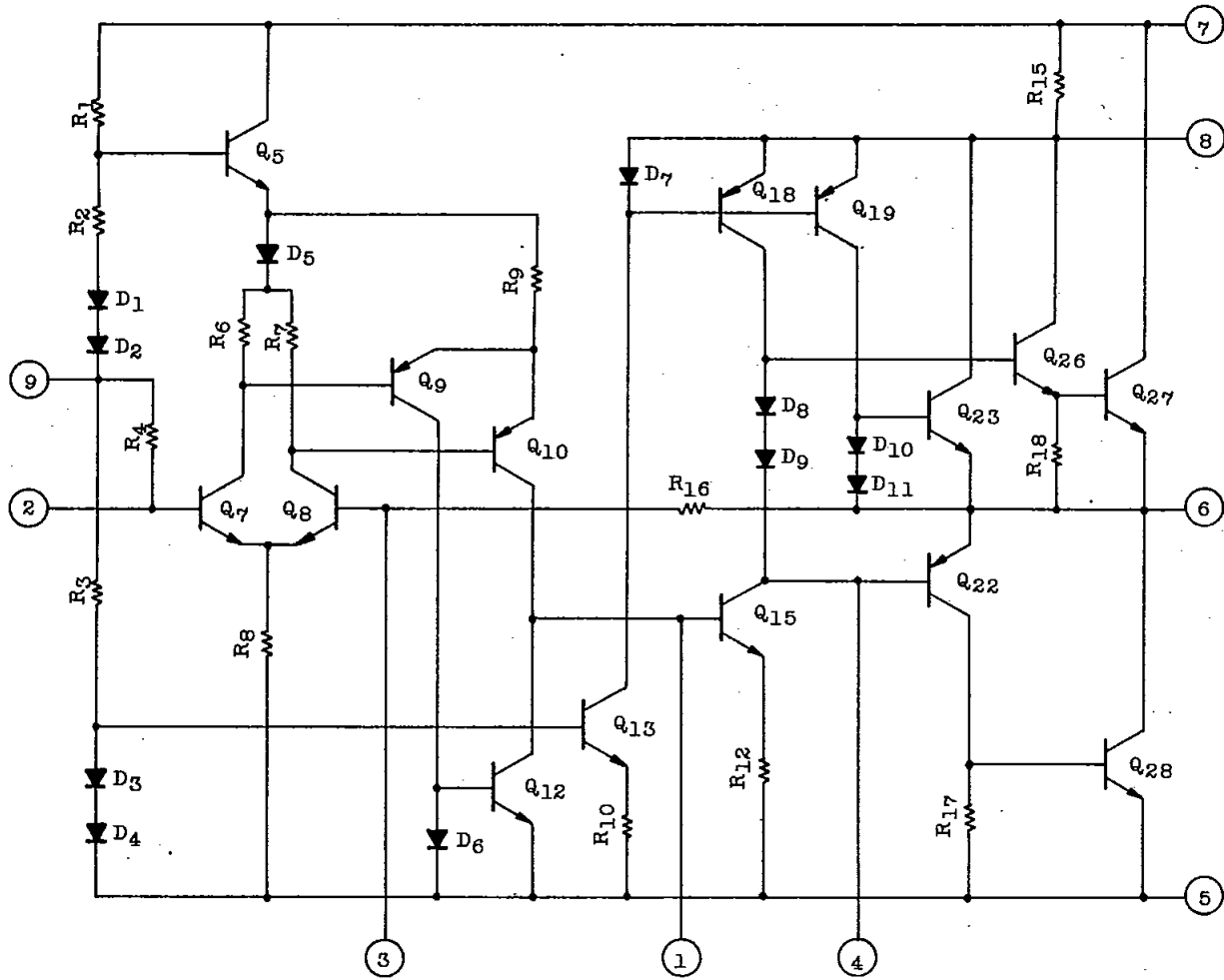
## ELECTRICAL CHARACTERISTICS

(Unless otherwise specified  $V_{CC}=6\text{V}$ ,  $R_L=8\Omega$ ,  $R_g=600\Omega$ ,  $R_f=47\Omega$ ,  $f=1\text{kHz}$ )

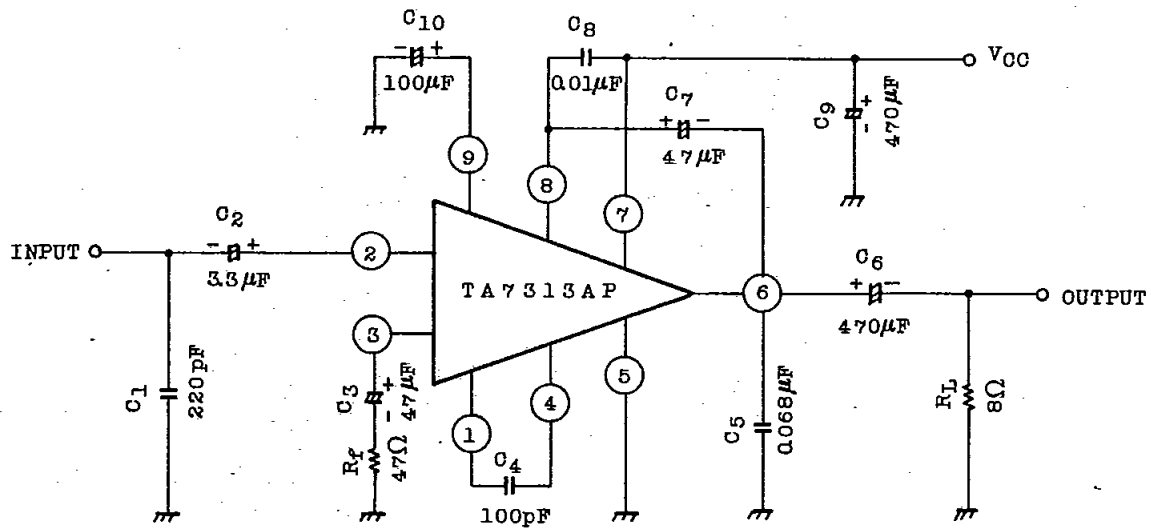
CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	$I_{CCQ}$	-	$V_{CC}=4\text{V}$	7	-	-	mA
			$V_{CC}=6\text{V}$	-	15	20	
			$V_{CC}=9\text{V}$	-	17	23	
Output Power	$P_{OUT}$	-	$\text{THD}=10\%$	0.45	0.5	-	W
			$V_{CC}=9\text{V}$ , $R_L=16\Omega$	-	0.70	-	
Total Harmonic Distortion	THD	-	$P_{OUT}=100\text{mW}$	-	0.3	1.0	%
Open Loop Voltage Gain	$G_{VO}$	-	$R_f=0$	65	71	-	dB
Closed Loop Voltage Gain (Note)	$G_V$	-	$R_f=47\Omega$	47	50	52	dB
Input Resistance	$R_{IN}$	-	-	-	15	-	$\text{k}\Omega$
Output Noise Voltage	$V_{NO}$	-	$R_g=10\text{k}\Omega$ , $\text{BW}=50 \sim 20\text{kHz}$	-	0.4	1.0	$\text{mV}_{\text{rms}}$

Note: In regard to the value of closed loop voltage gain, it is possible to be classified.

## EQUIVALENT CIRCUIT

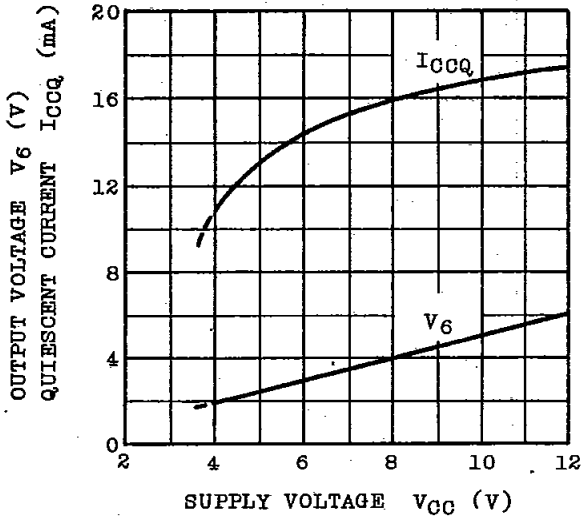


## TEST CIRCUIT

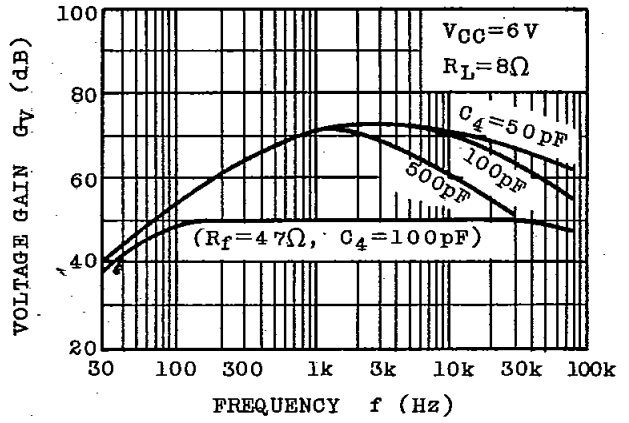


# TA7313AP

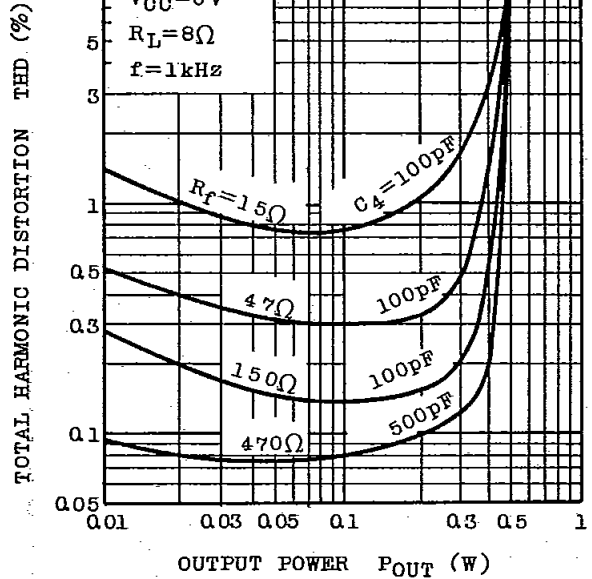
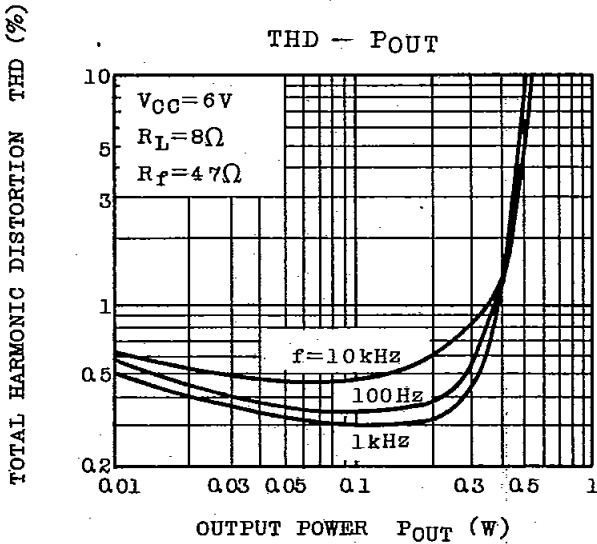
$I_{CCQ}, V_6 - V_{CC}$



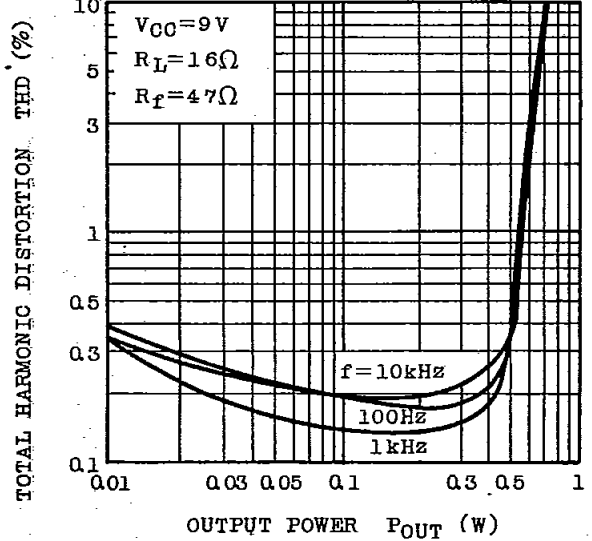
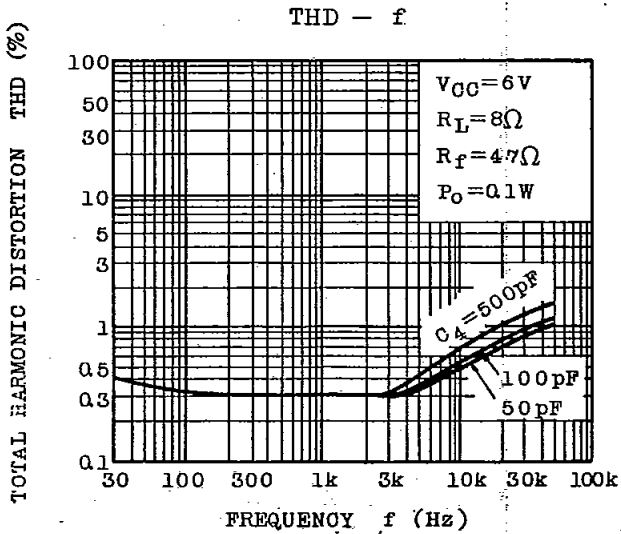
$G_v - f$



THD -  $P_{OUT}$

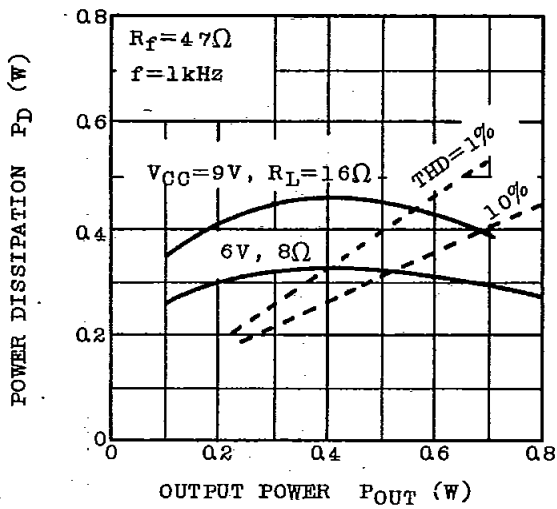


THD -  $P_{OUT}$

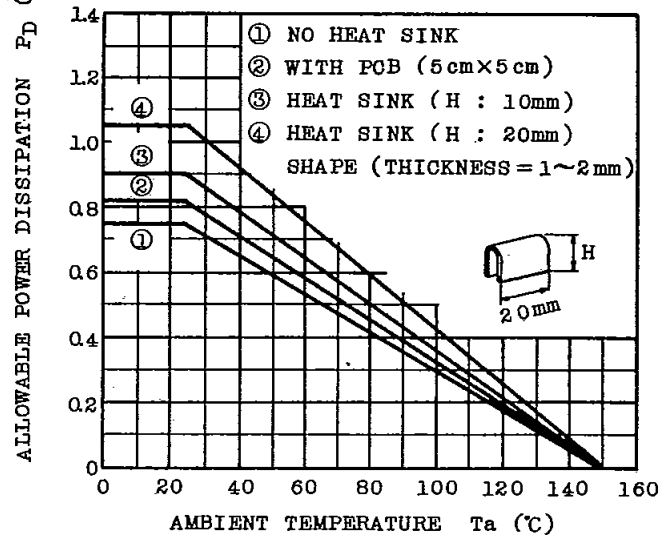


AUDIO LINEAR IC

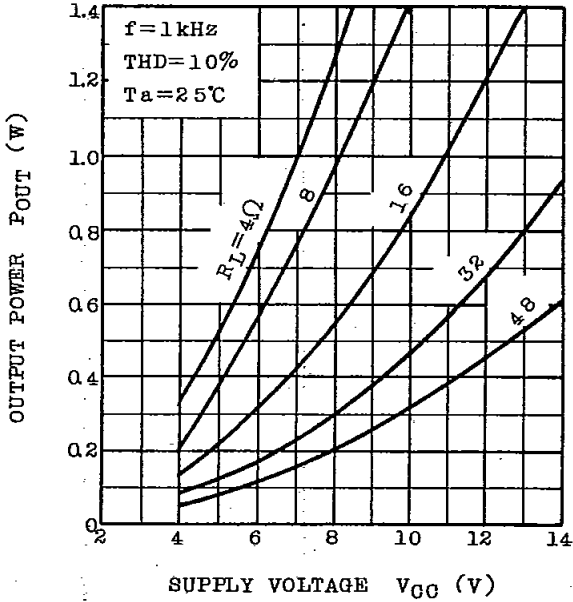
$P_D - P_{OUT}$



$P_D - T_a$



$P_{OUT} - V_{CC}$



$P_D \text{ MAX} - V_{CC}$

