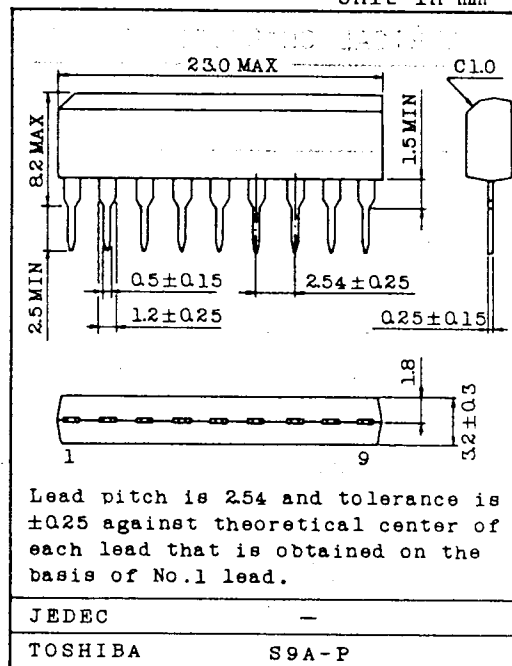


## FOR FM IF SYSTEM

- 3 Stage Differential IF Amplifier.
- Differential Peak Detector.
- Muting Circuit.
- Signal Meter Drive Circuit.
- Single In-line Package : 9 pin.
- High Recovered Output Voltage :  $V_{OD}=500mV_{rms}$  (Typ.)
- Low Distortion : THD=0.1% (Typ.)
- Wide Operating Supply Voltage Range :  
 $V_{CC}=8\sim 15V$  (Typ.)
- Signal Meter Drive Voltage :  $V_3=4V$  (Typ.)
- Variable Muting Point.
- Muting Off at Open Terminal.
- Simplified Single Coil Tuning.
- Very Few External Parts.

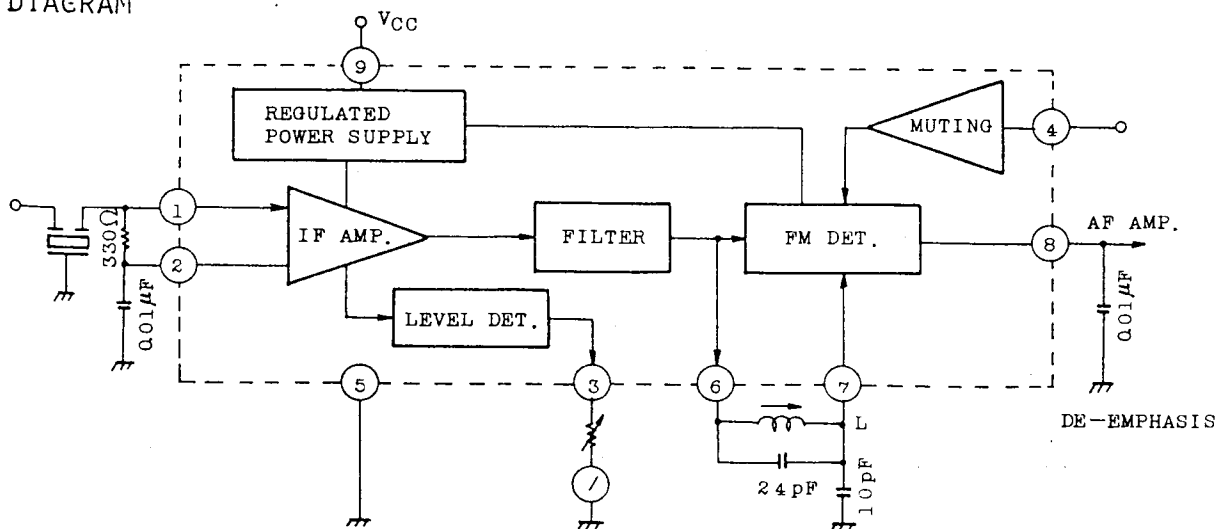
Unit in mm

MAXIMUM RATINGS ( $T_a=25^\circ$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	$V_{CC}$	15	V
Input Voltage	$V_{IN}$	0.7	V
Power Dissipation (Note)	$P_D$	750	mW
Operating Temperature	$T_{opr}$	$-25 \sim 75$	$^\circ C$
Storage Temperature	$T_{stg}$	$-55 \sim 150$	$^\circ C$

Note: Derated above  $T_a=25^\circ C$   
in the proportion of  
 $4mW/^\circ C$ .

## BLOCK DIAGRAM



# TA7303P

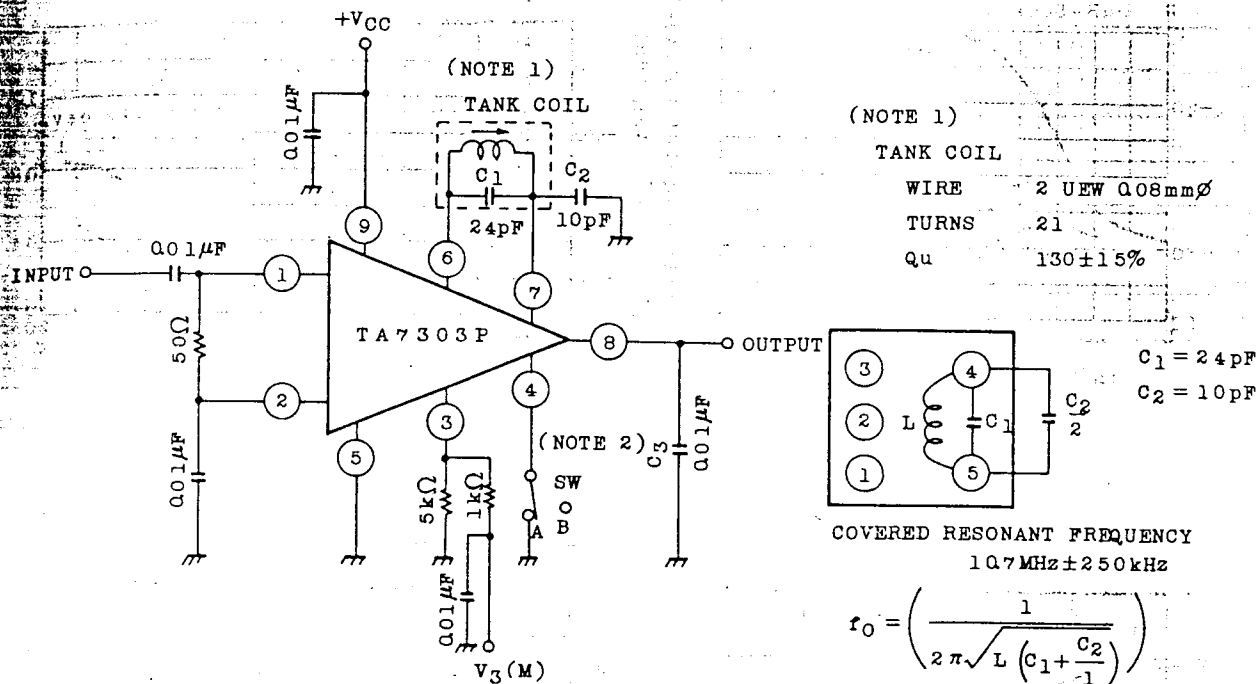
## ELECTRICAL CHARACTERISTICS (V<sub>CC</sub>=12V, f=10.7MHz, f<sub>m</sub>=400Hz, T<sub>a</sub>=25°C)

CHARACTERISTIC		SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Current		I <sub>CC</sub>	1	V <sub>IN</sub> =0	10	14	18	mA
Input Limiting Voltage		V <sub>IN(lim)</sub>	1	4F=±75kHz dev. -3dB LIMITING	-	50	55	dBμV
AM Rejection Ratio		AMR	1	FM: 4F=±75kHz dev. AM: 30% Mod. V <sub>IN</sub> =80dBμV	-	50	-	dB
Recovered Output Voltage		V <sub>OD</sub>	1	4F=±75kHz dev. V <sub>IN</sub> =80dBμV	300	500	700	mV <sub>rms</sub>
Total Harmonic Distortion		THD	1	4F=±22.5kHz dev. V <sub>IN</sub> =80dBμV	-	0.1	-	%
Signal to Noise Ratio		S/N	1	4F=±75kHz dev. V <sub>IN</sub> =80dBμV	-	75	-	dB
Muting Attenuation		MA	1	4F=±75kHz dev. V <sub>IN</sub> =80dBμV, V <sub>4</sub> =0	-	70	-	dB
Meter Drive Voltage		V <sub>3</sub> (Max.)	1	V <sub>IN</sub> =110dBμV	-	4	-	V
Input Impedance	Parallel Input Resistance	r <sub>ip</sub>	-	f=10.7MHz, 1 pin-GND	-	5	-	kΩ
	Parallel Input Capacitance	c <sub>ip</sub>	-		-	4.5	-	pF
Output Impedance	Parallel Output Resistance	r <sub>op</sub>	-	f=10.7MHz, 6 pin-GND	-	1.3	-	kΩ
	Parallel Output Capacitance	c <sub>op</sub>	-		-	4	-	pF
Output Resistance		R <sub>O</sub>	-	f=400Hz, 8 pin-GND	-	7.7	-	kΩ

Note: V<sub>OD</sub> Ranck (at 4f=±22.5kHz)

RANK	MIN.	MAX.	UNIT
B	90	150	mV <sub>rms</sub>
C	130	210	mV <sub>rms</sub>

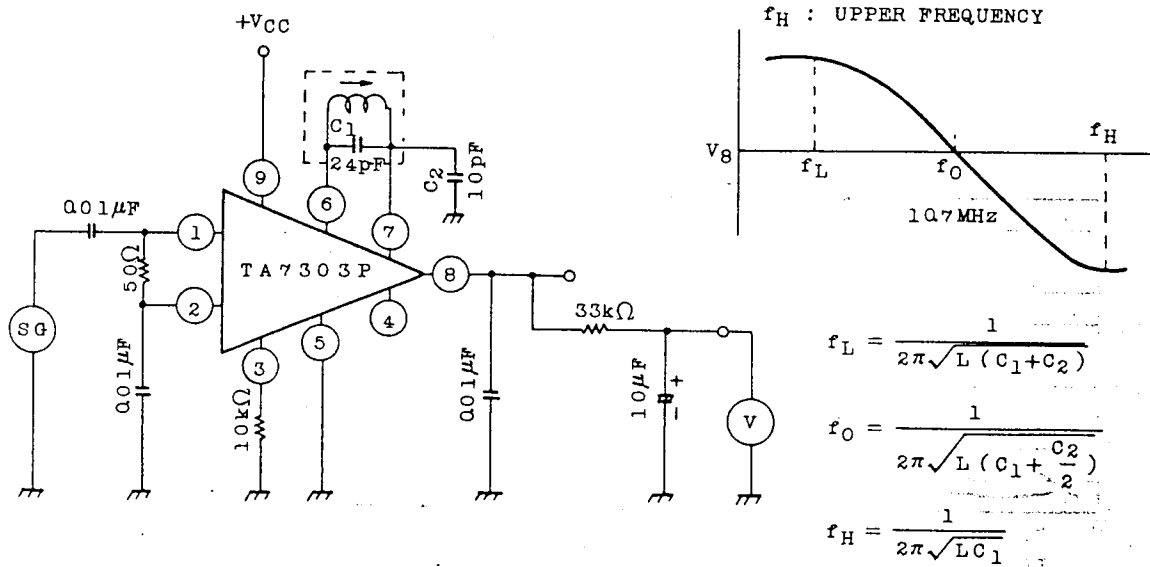
## TEST CIRCUIT 1



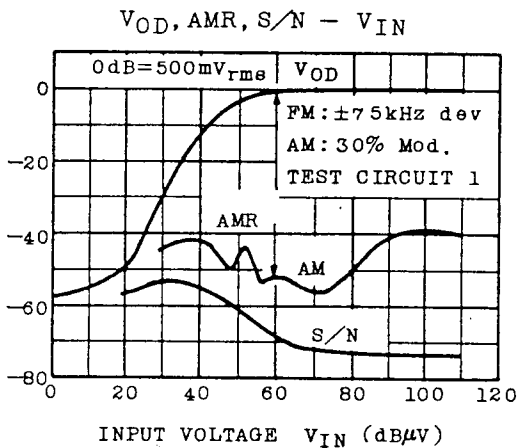
(Note 1) Tuning coil is adjusted to make recovered output voltage maximum  
at f=10.7MHz

(Note 2) SW ; To A for muting attenuation test only.

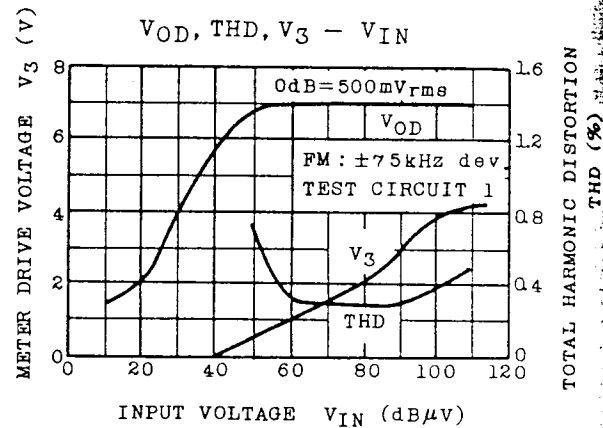
## TEST CIRCUIT 2



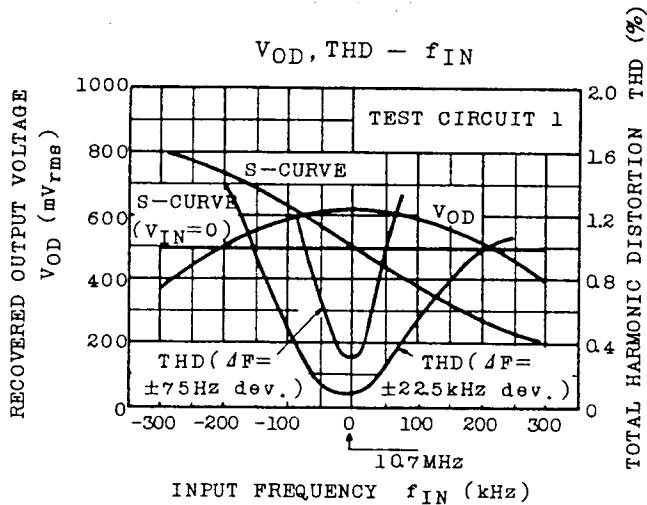
RECOVERED OUTPUT VOLTAGE  $V_{OD}$   
AM REJECTION RATIO AMR  
SIGNAL TO NOISE RATIO S/N (dB)



RECOVERED OUTPUT VOLTAGE  $V_{OD}$  (dB)

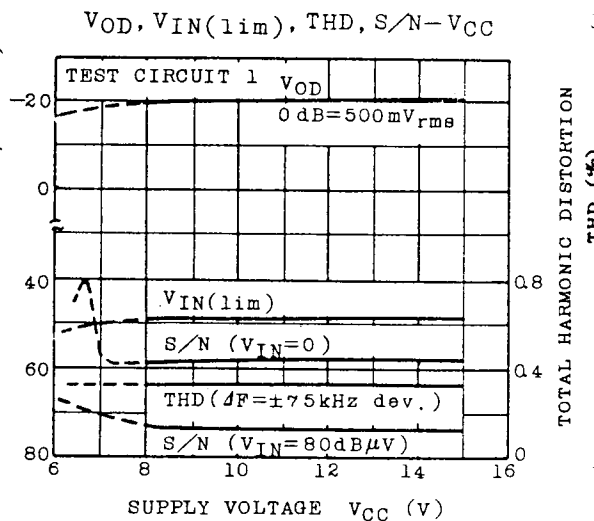


TOTAL HARMONIC DISTORTION THD (%)

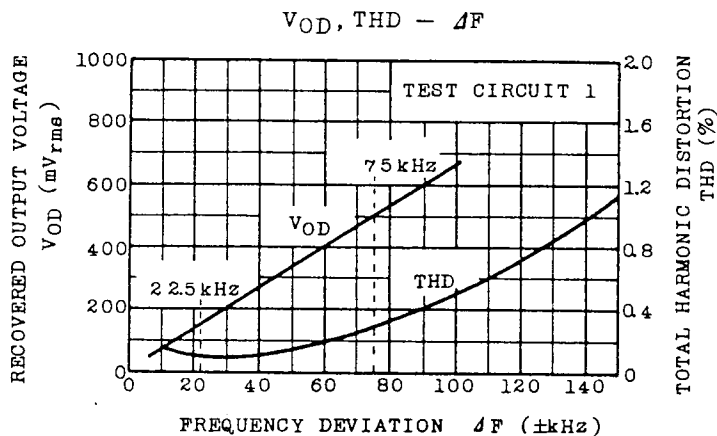


TOTAL HARMONIC DISTORTION THD (%)

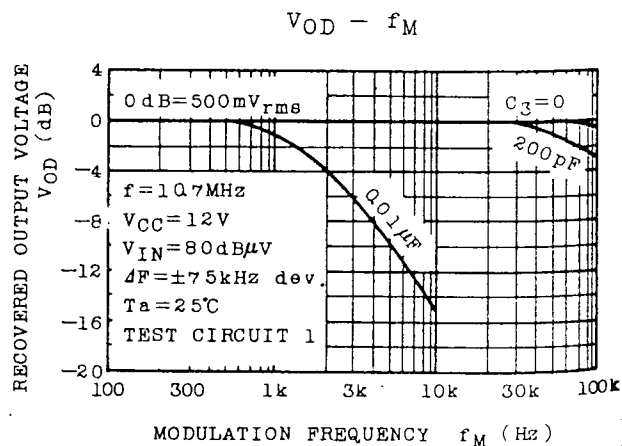
RECOVERED OUTPUT VOLTAGE  $V_{OD}$  (dB)  
LIMITING VOLTAGE  $V_{IN(lim)}$  (dB $\mu$ V)  
SIGNAL TO NOISE RATIO S/N (dB)

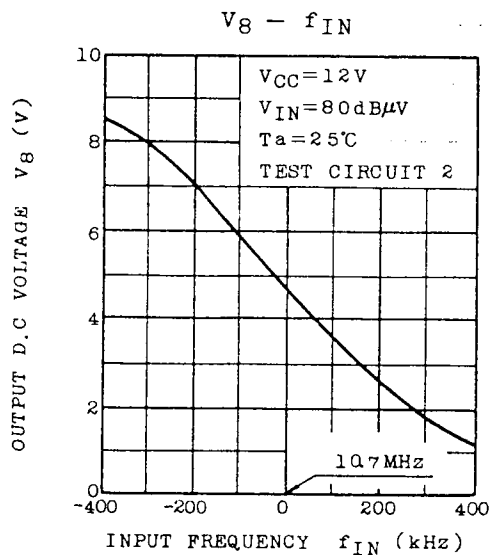
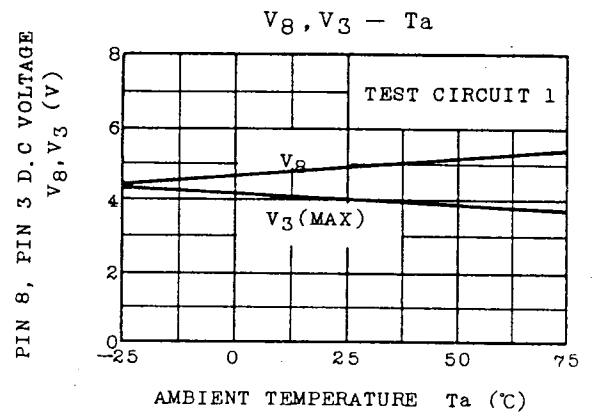
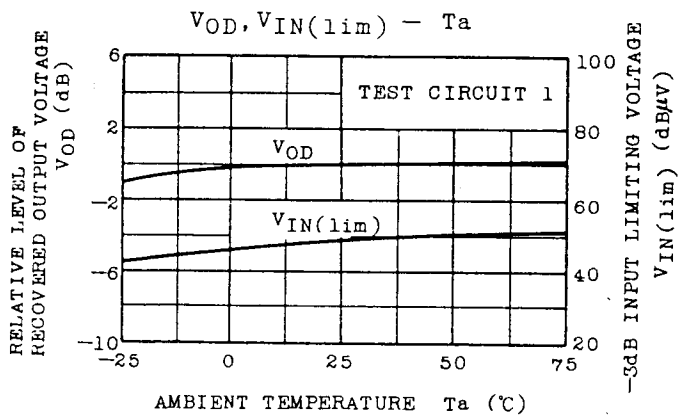
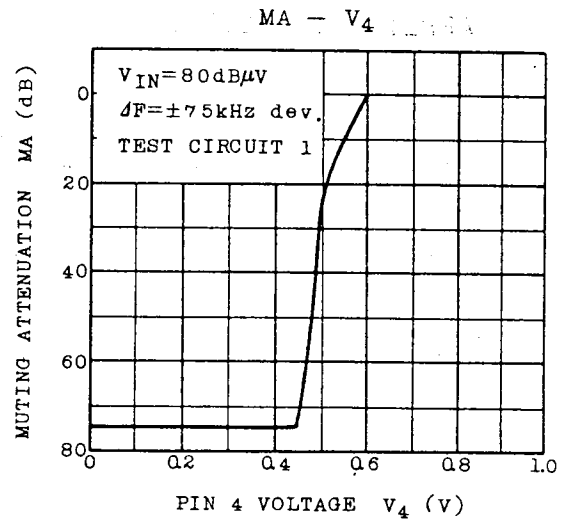
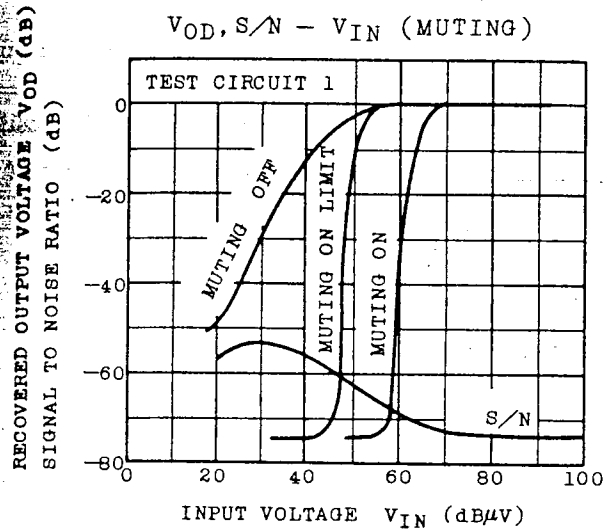


TOTAL HARMONIC DISTORTION THD (%)



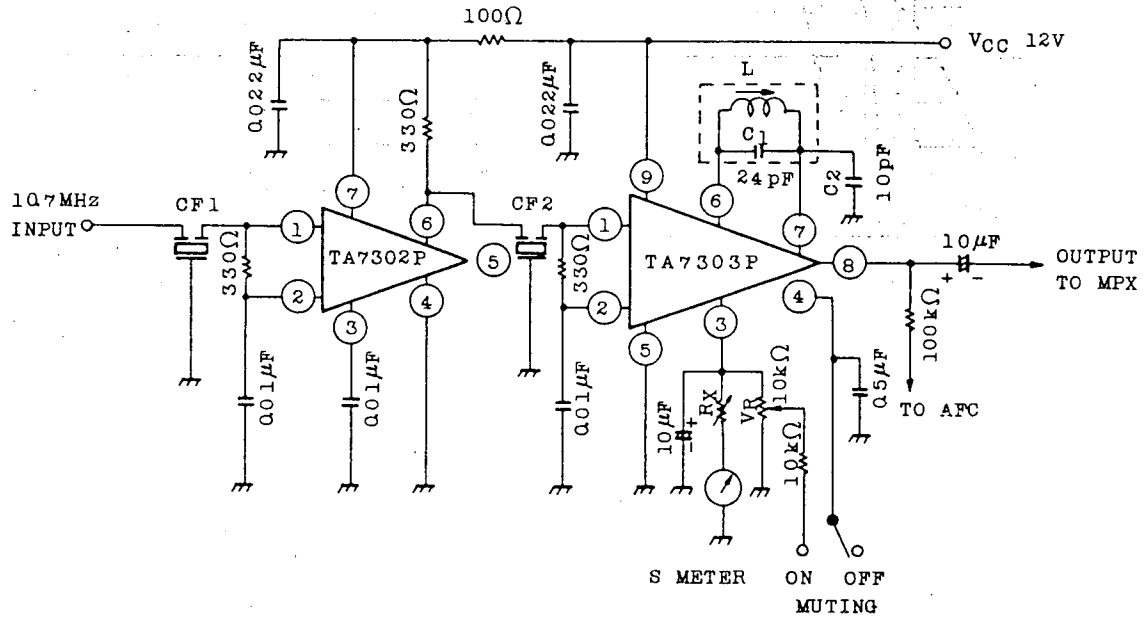
TOTAL HARMONIC DISTORTION THD (%)





# TA7303P

## APPLICATION CIRCUIT



$V_{OD}, S/N, V_3 - V_{IN}$

