

TA7130P

FOR FM IF AMPLIFIER AMPLIFIER AND DETECTOR

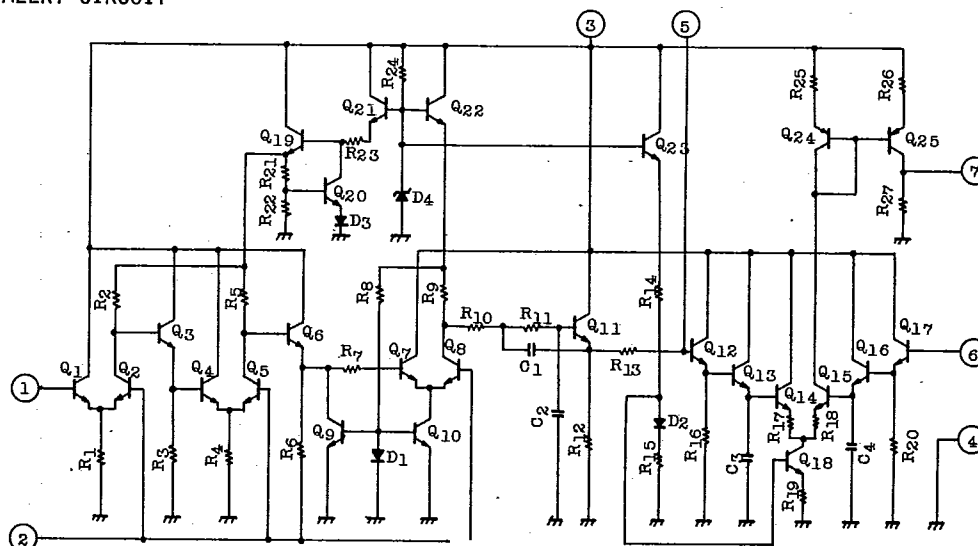
- 3 Stage Differential IF Amplifier.
- Differential Peak Detector.
- Excellent AM Rejection : AMR=50dB(Typ.)
- High Sensitivity : $V_{IN(1m)}=50dB\mu V$ (Typ.)
- Operating Supply Voltage Range : $V_{CC}=8\sim 15V$.
- Low Distortion : THD=0.2%(Typ.)
- High Recovered Output Voltage : $V_{OD}=430mV$ (Typ.)
at $4F=\pm 75kHz$ dev.
- Simplified Single Coil Tuning.
- Very Few External Parts.

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

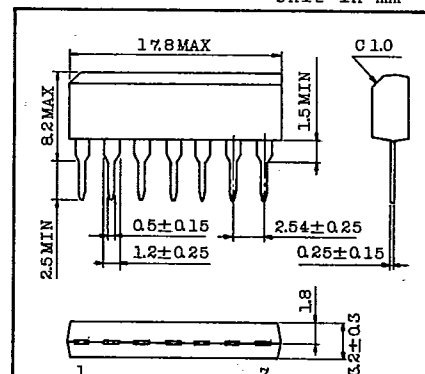
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	$V_{CC}(V_3)$	15	V
Input Voltage	$V_{IN}(V_1)$	0.7	V_{rms}
Power Dissipation (Note)	P_D	400	mW
Operating Temperature	T_{opr}	$-25\sim 75$	$^\circ C$
Storage Temperature	T_{stg}	$-55\sim 125$	$^\circ C$

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

EQUIVALENT CIRCUIT



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

S7A-P

TOSHIBA

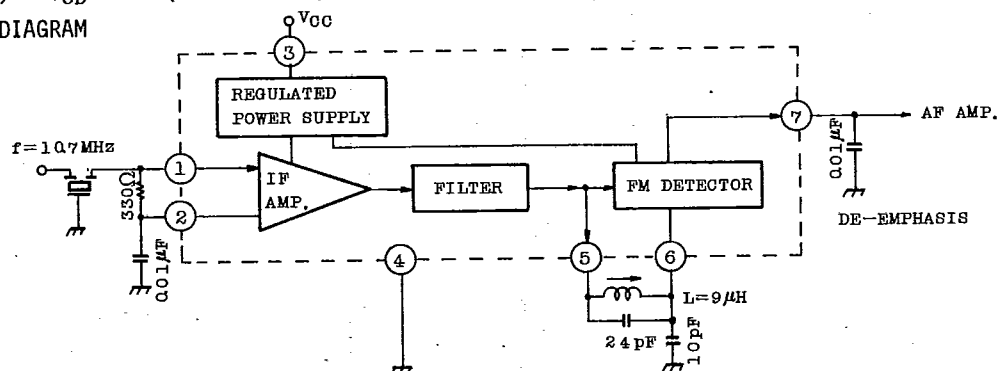
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ELECTRICAL CHARACTERISTICS ($V_{CC}=12V$, $T_a=25^{\circ}$)

CHARACTERISTIC		SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Current		I_{CC}	1	$V_{IN}=0$	8	11	15	mA
Output Terminal DC Voltage (Pin 7)		V_7	-	$V_{IN}=0, 5, 6$ pin short	4.0	4.8	5.5	V
Recovered Output Voltage (Note)		V_{OD}	1	$f=10.7\text{MHz}$, $f_M=400\text{Hz}$ $\Delta F=\pm 75\text{kHz}$ dev $V_{IN}=80\text{dB}\mu\text{V}$	300	500	700	mV _{rms}
Input Limiting Voltage		$V_{IN}(\text{lim})$	1	$f=10.7\text{MHz}$, $f_M=400\text{Hz}$ $\Delta F=\pm 22.5\text{kHz}$ dev. -3dB Limiting	-	50	55	dB μV
Total Harmonic Distortion		THD	1	$f=10.7\text{MHz}$, $f_M=400\text{Hz}$ $\Delta F=\pm 22.5\text{kHz}$ dev. $V_{IN}=80\text{dB}\mu\text{V}$	-	0.2	-	%
Signal to Noise Ratio		S/N	-	$f=10.7\text{MHz}$, $f_M=400\text{Hz}$ $\Delta F=\pm 22.5\text{kHz} \rightarrow 0\text{kHz}$, $V_{IN}=80\text{dB}\mu\text{V}$	-	60	-	dB
AM Rejection Ratio		AMR	1	$f=10.7\text{MHz}$, $f_M=400\text{Hz}$ $V_{IN}=80\text{dB}\mu\text{V}$ FM: 75kHz dev. AM: 30% MOD	-	50	-	dB
Output Resistance		R_O	-	$f=400\text{Hz}$, 7pin-GND	6.2	7.7	9.5	k Ω
Input Impedance	Parallel Input Resistance	r_{ip}	-	$f=10.7\text{MHz}$, 1 pin-GND	-	5	-	k Ω
	Parallel Input Capacitance	c_{ip}			-	4.5	-	pF
Output Impedance	Parallel Output Resistance	r_{op}	-	$f=10.7\text{MHz}$, 5 pin-GND	-	1.3	-	k Ω
	Parallel Output Capacitance	c_{op}			-	4	-	pF

(Note) V_{OD} RANK ($\Delta f = \pm 22.5\text{kHz}$) : B RANK $90 \sim 140\text{mV}_{\text{rms}}$, C RANK $130 \sim 200\text{mV}_{\text{rms}}$

BLOCK DIAGRAM

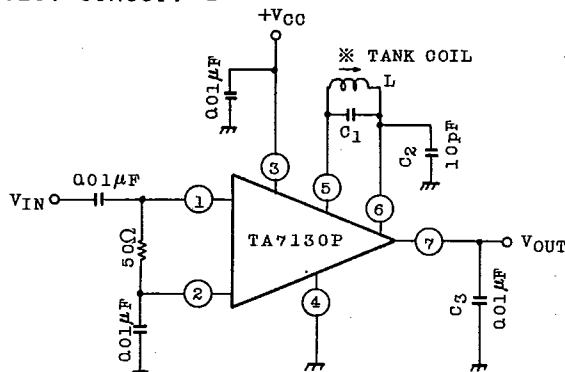


AUDIO LINEAR IC

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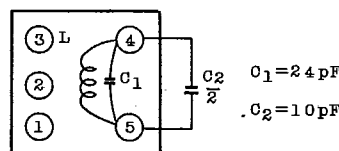
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TEST CIRCUIT 1



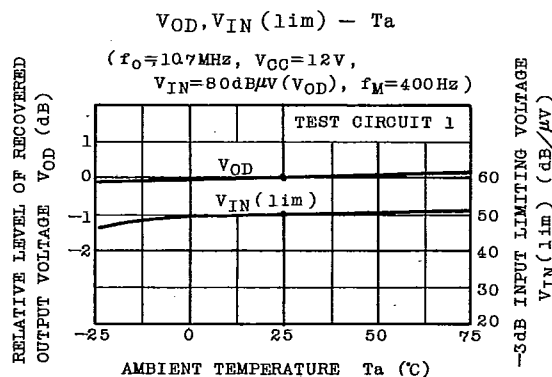
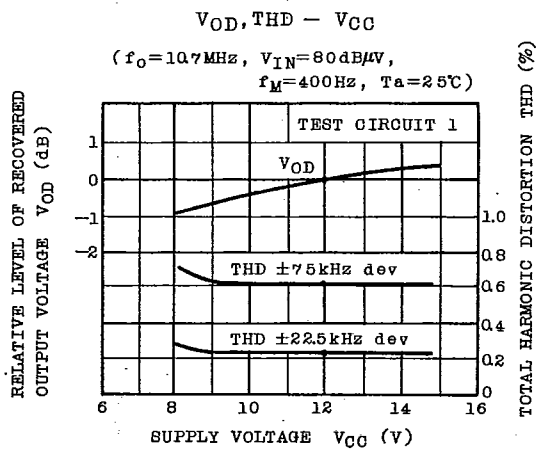
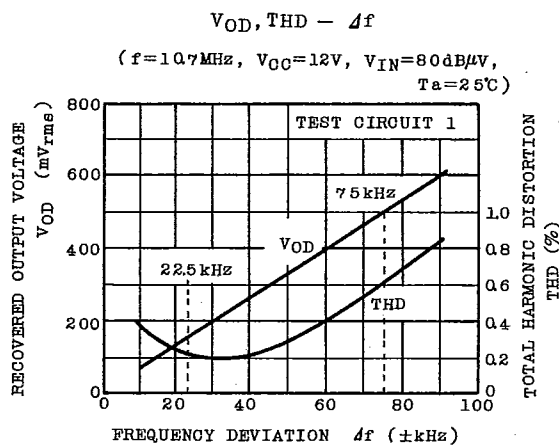
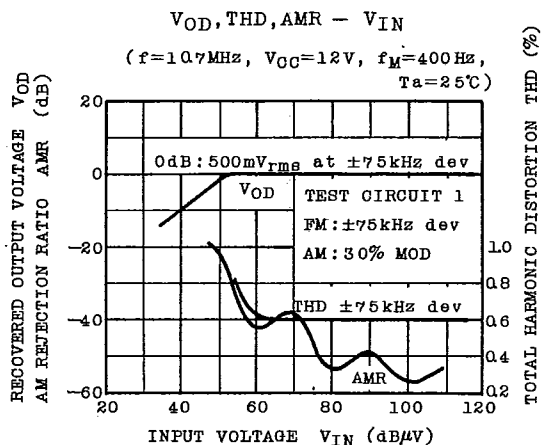
* TANK COIL

WIRE 2 UEW 0.08mmφ
 TURNS 21
 Qu 130±15%



COVERED RESONANT FREQUENCY :
 10.7MHz±250kHz

* Tuning coil is adjusted to make recovered output voltage maximum at $f=10.7\text{MHz}$.



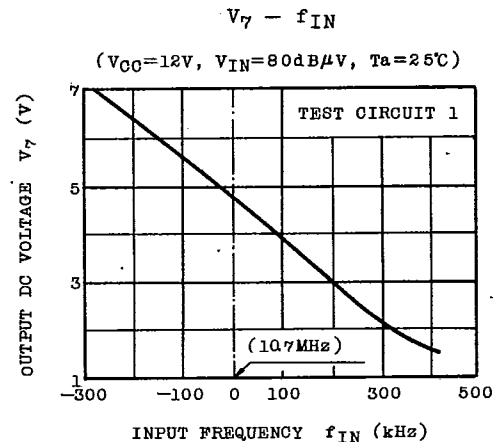
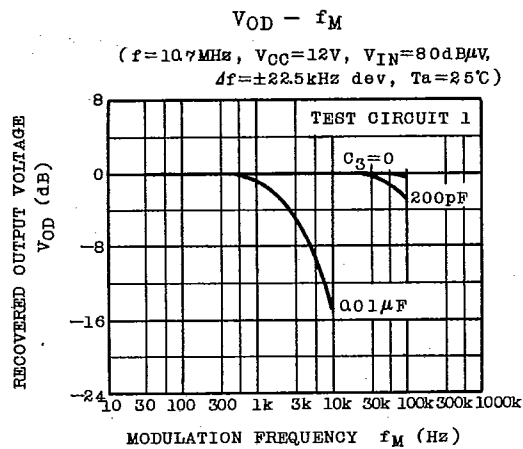
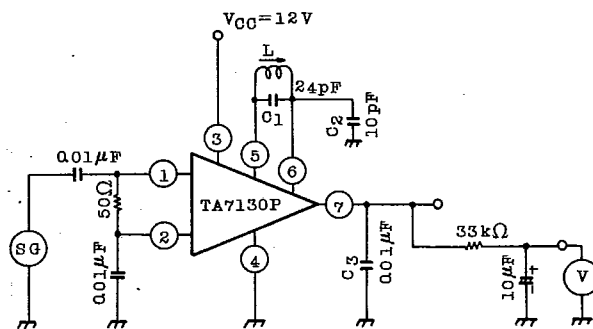
Note: Not includes temperature variation of external components.

TOSHIBA

9097247 TOSHIBA. ELECTRONIC

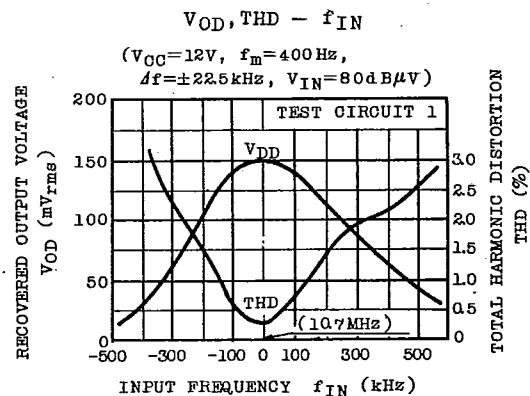
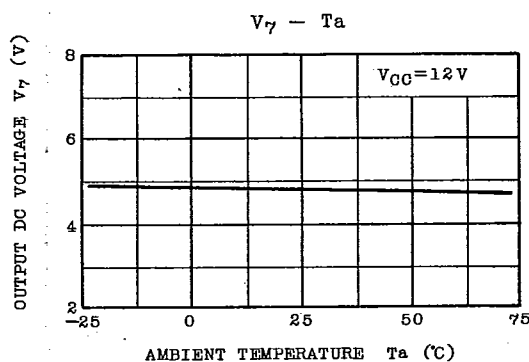
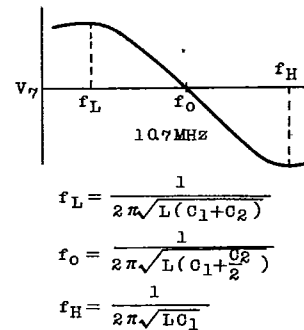
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TA7130P**TEST CIRCUIT 2**

Output DC voltage (V_7) Can be utilized as control voltage for AFC.

f_L : LOWER PEAK FREQUENCY
 f_o : CENTER FREQUENCY
 f_H : UPPER PEAK FREQUENCY

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APPLICATION CIRCUIT

