

9097247 TOSHIBA. ELECTRONIC

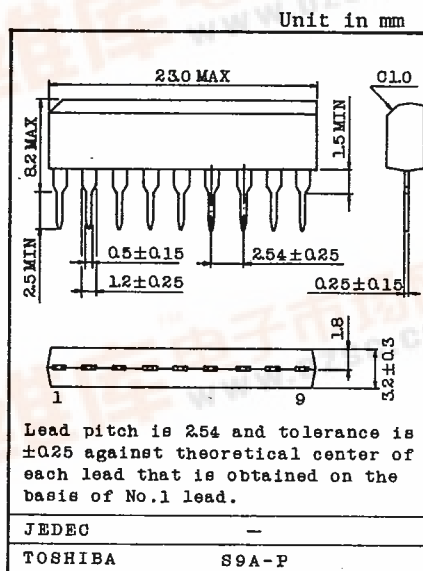
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T-77-21

# TA7137P/ST

PRE-AMPLIFIER (RECORDING OR PLAYING-BACK)  
WITH ALC TRANSISTOR FOR TAPE RECORDER.

- Low Noise :  $V_{NI} = 1.3\mu V_{rms}$  (Typ.)
- Wide ALC Range
- Wide Operating Supply Voltage Range :  $V_{CC} = 3 \sim 15V$
- TA7137P-ST is Matched ALC Characteristic for Stereo Tape Recorder.



## MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V <sub>CC</sub>	15	V
Power Dissipation (Note)	P <sub>D</sub>	200	mW
Operating Temperature	T <sub>opr</sub>	-25 ~ 75	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ 125	°C

Note: Derated above Ta=25°C in the proportion of 2mW/°C.

## ELECTRICAL CHARACTERISTICS (V<sub>CC</sub>=5V, Ta=25°C)

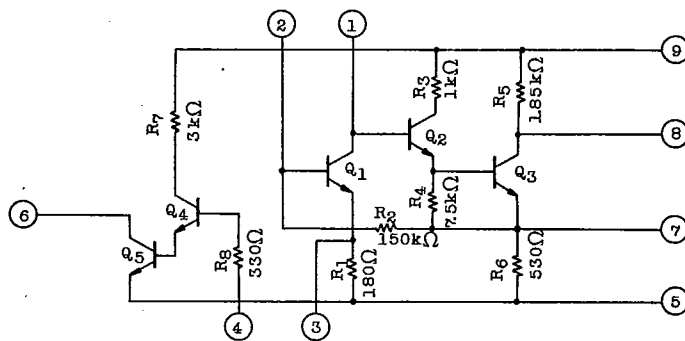
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Current	I <sub>CC</sub>	1	V <sub>IN</sub> =0, ALC off	-	1.3	1.75	mA
Voltage Gain (Open Loop)	G <sub>VO</sub>	1	V <sub>IN</sub> =-80dBm, f=1kHz	67	69	-	dB
Voltage Gain (Closed Loop) (Note)	G <sub>V</sub>	2	V <sub>OUT</sub> =0.7V <sub>rms</sub> , f=1kHz	33	35	37	dB
Maximum Output Voltage	V <sub>OM</sub>	2	f=1kHz, THD=1%	0.7	0.9	-	V <sub>rms</sub>
Equivalent Input Noise Voltage	V <sub>NI</sub>	3	NAB equalizer R <sub>g</sub> =22kΩ, f=1kHz	-	1.3	2.5	μV <sub>rms</sub>
Input Resistance	R <sub>IN</sub>	-	f=1kHz	-	150	-	kΩ
Q5 Saturation Voltage	V <sub>6(ON)</sub>	4	-	-	60	100	mV

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

**TOSHIBA**

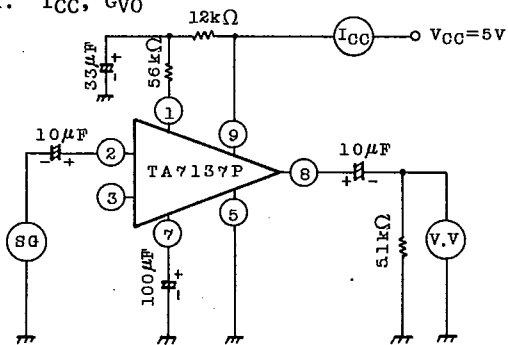
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## EQUIVALENT CIRCUIT

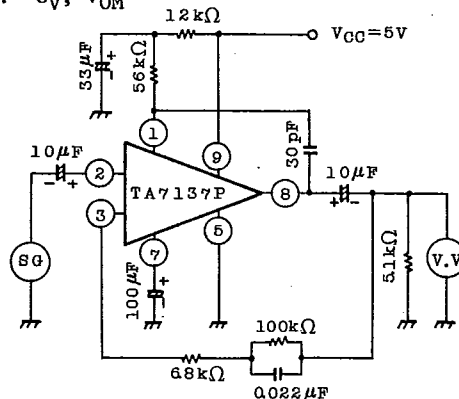


## TEST CIRCUIT

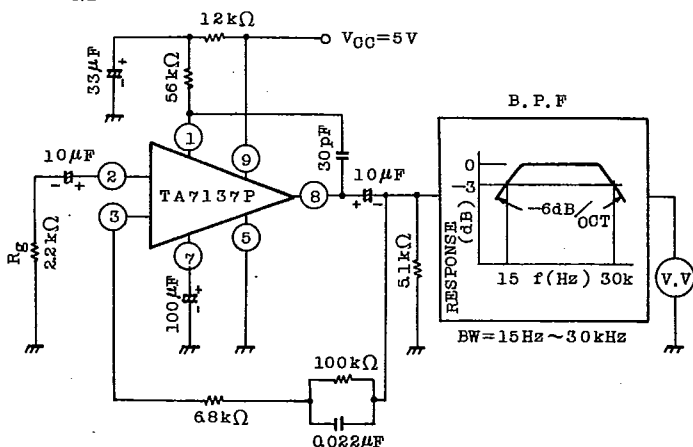
### 1. $I_{CC}$ , $G_{VO}$



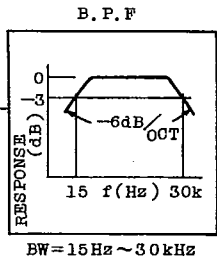
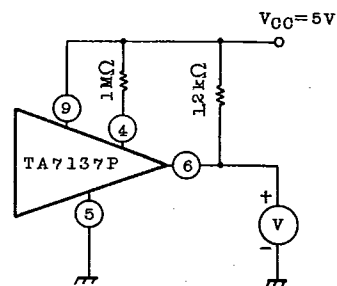
### 2. $G_V$ , $V_{OM}$



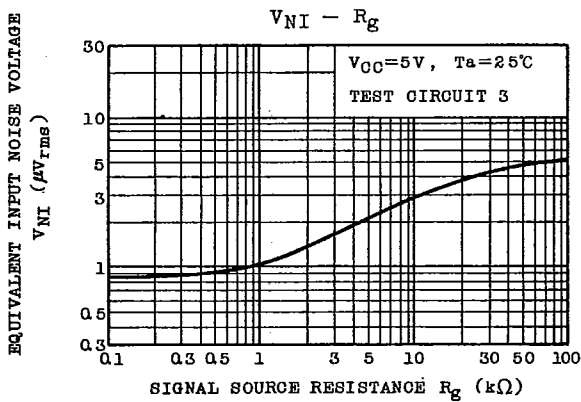
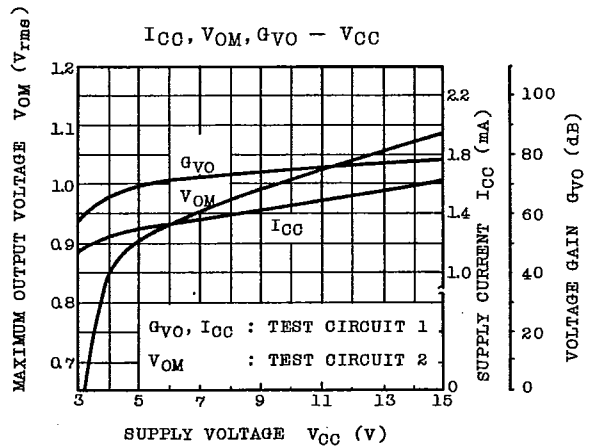
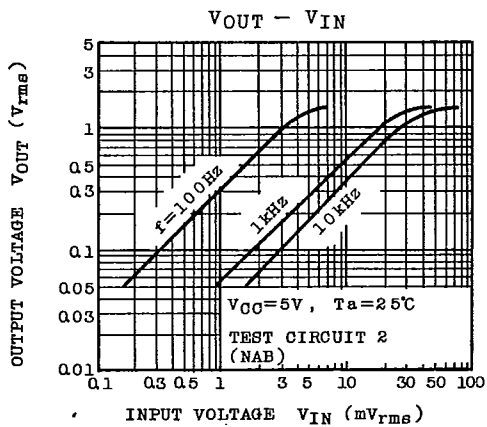
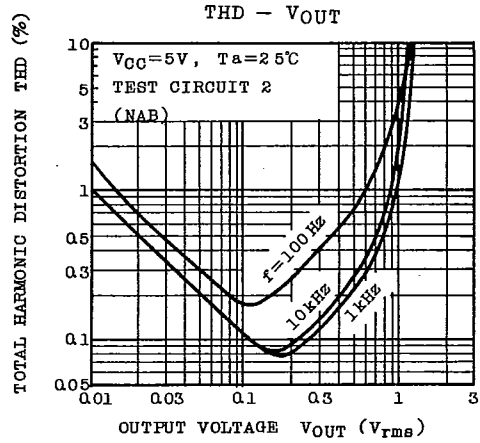
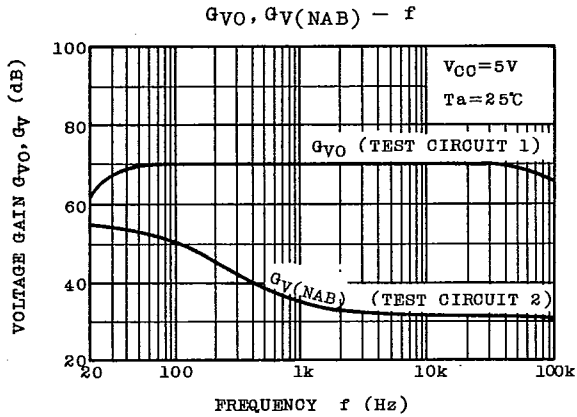
### 3. $V_{NI}$



### 4. $V_6(ON)$

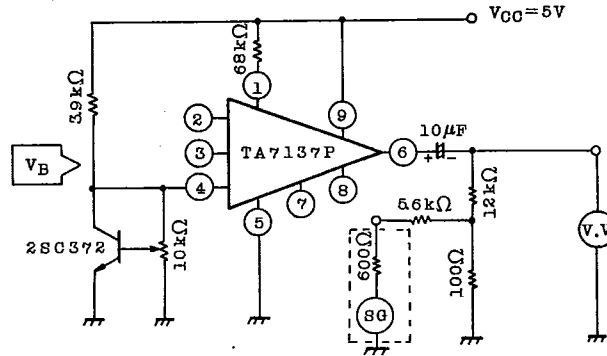


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TEST CIRCUIT FOR ALC GAIN REDUCTION



ALC-GAIN REDUCTION (ALC-G.R) TEST METHOD

1. Above Test Circuit the V.V Indicator must adjust -35dBm at without IC.
2. ALC-G.R Can classified from A<sub>1</sub> to C<sub>6</sub>, and then V<sub>B</sub> fixed 1.16V at T<sub>a</sub>=25°C. (ALC-G.R=(V.V Indicated) -35dB)

ALC-GAIN REDUCTION IS CLASSIFIED AS FOLLOWS.

TYPE	G <sub>v</sub> (dB)		ALC-G.R (dB)	
	MIN.	MAX.	MIN.	MAX.
TA7137P-A1	33	35	-16.0	-20.0
" A2			-18.5	-22.5
" A3			-21.0	-25.0
" A4			-24.0	-28.0
" A5			-27.0	-31.0
" A6			-30.0	-34.0
TA7137P-B1	34	36	-16.0	-20.0
" B2			-18.5	-22.5
" B3			-21.0	-25.0
" B4			-24.0	-28.0
" B5			-27.0	-31.0
" B6			-30.0	-34.0
TA7137P-C1	35	37	-16.0	-20.0
" C2			-18.5	-22.5
" C3			-21.0	-25.0
" C4			-24.0	-28.0
" C5			-27.0	-31.0
" C6			-30.0	-34.0

AUDIO LINEAR IC