

9097247 TOSHIBA. ELECTRONIC

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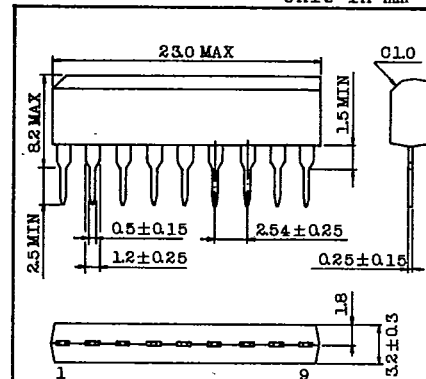
T-77-21

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.

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

S9A-P

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	15	V
Power Dissipation (Note)	P_D	200	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 $2mW/^\circ C$.

ELECTRICAL CHARACTERISTICS ($V_{CC} = 5V$, $T_a = 25^\circ C$)

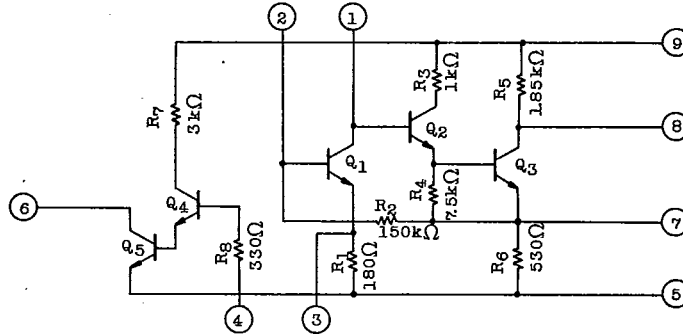
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Current	I_{CC}	1	$V_{IN} = 0$, ALC off	-	1.3	1.75	mA
Voltage Gain (Open Loop)	G_{VO}	1	$V_{IN} = -80dBm$, $f = 1kHz$	67	69	-	dB
Voltage Gain (Closed Loop) (Note)	G_V	2	$V_{OUT} = 0.7V_{rms}$, $f = 1kHz$	33	35	37	dB
Maximum Output Voltage	V_{OM}	2	$f = 1kHz$, $THD = 1\%$	0.7	0.9	-	V_{rms}
Equivalent Input Noise Voltage	V_{NI}	3	NAB equalizer $R_g = 22k\Omega$, $f = 1kHz$	-	1.3	2.5	μV_{rms}
Input Resistance	R_{IN}	-	$f = 1kHz$	-	150	-	$k\Omega$
Q_5 Saturation Voltage	$V_6(ON)$	4	-	-	60	100	mV

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

TOSHIBA

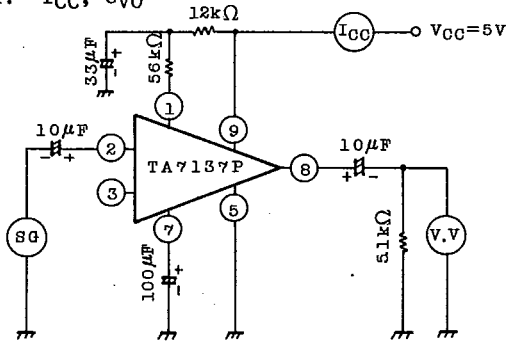
TA7137P/ST

EQUIVALENT CIRCUIT

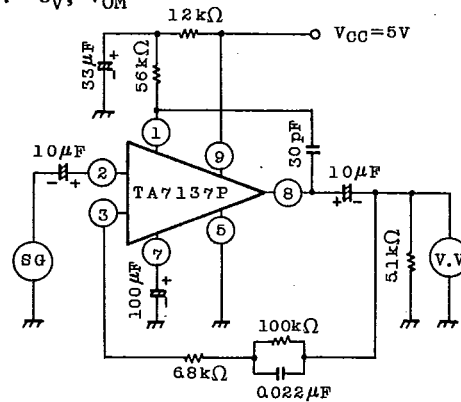


TEST CIRCUIT

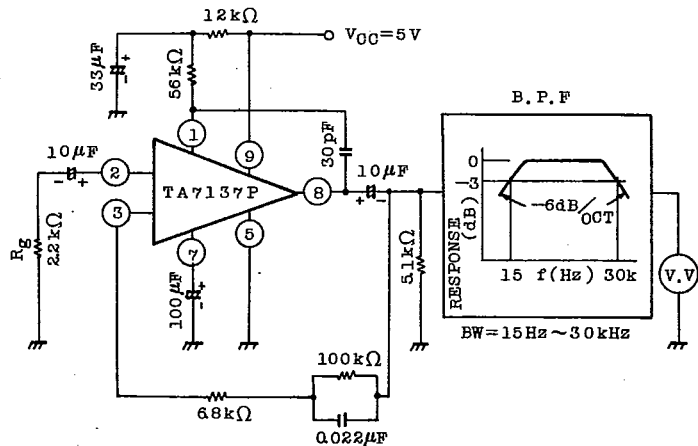
1. I_{CC} , G_{VO}



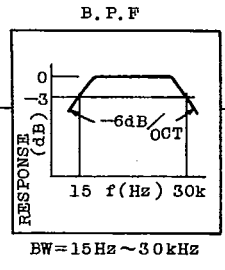
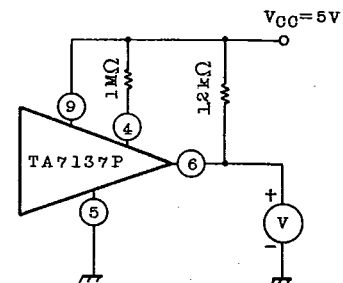
2. G_V , V_{OM}



3. V_{NI}



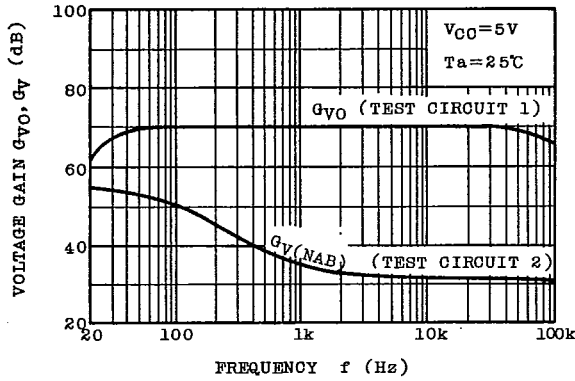
4. V_6 (ON)



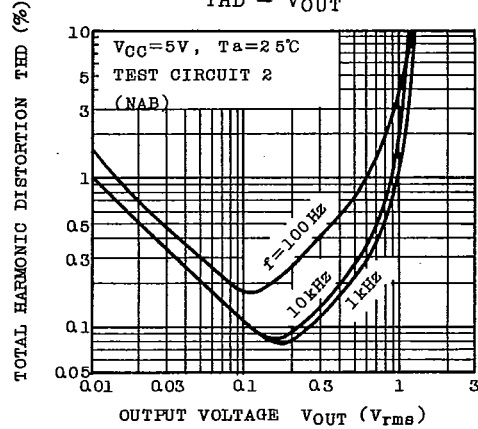
AUDIO LINEAR IC

TA7137P/ST

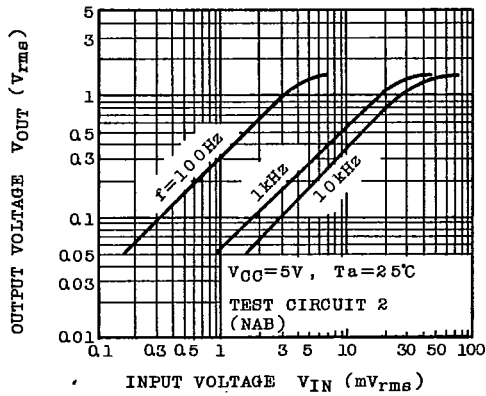
$G_{VO}, G_V(NAB) - f$



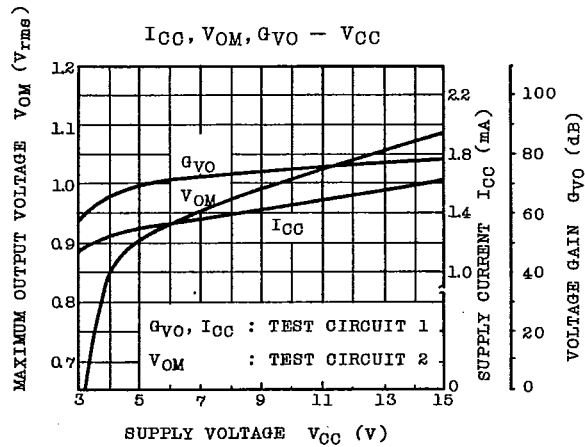
THD - V_{OUT}



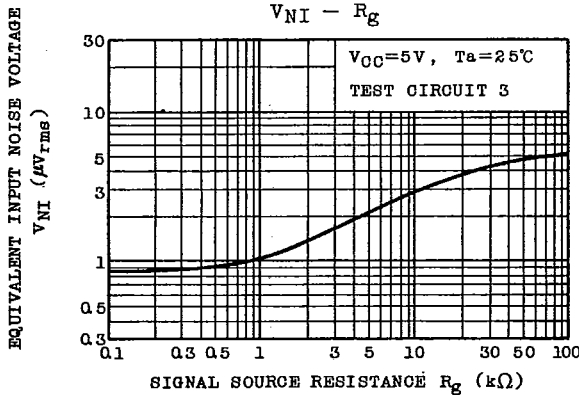
$V_{OUT} - V_{IN}$



$I_{CC}, V_{OM}, G_{VO} - V_{CC}$

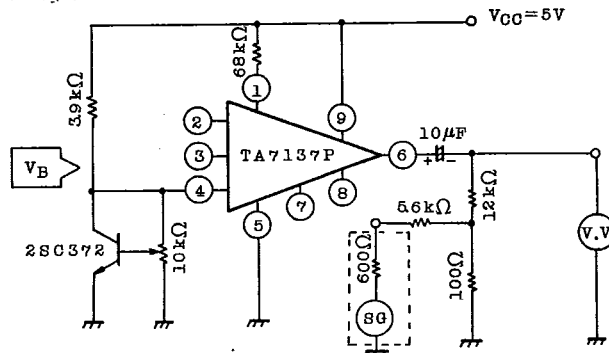


$V_{NI} - R_g$



TA7137P/ST

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 A₁ to C₆, and then V_B fixed 1.16V at Ta=25°C. (ALC-G.R=(V.V Indicated) -35dB)

ALC-GAIN REDUCTION IS CLASSIFIED AS FOLLOWS.

TYPE	G _v (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