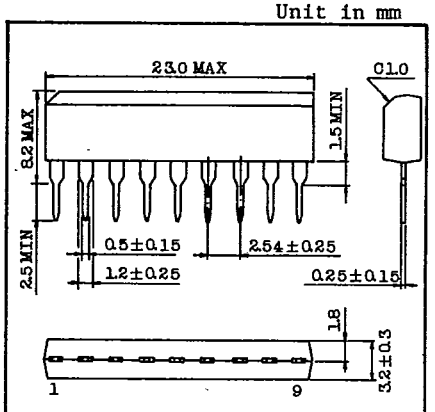
TA7137P/ST

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

- Low Noise : V_{NI} =1.3μV_{rms}(Typ.)
- Wide ALC Range
- Wide Operating Supply Voltage Range : V_{CC}=3～15V
- 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 (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	15	V
Power Dissipation (Note)	P_D	200	mW
Operating Temperature	T_{opr}	-25～75	°C
Storage Temperature	T_{stg}	-55～125	°C

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

ELECTRICAL CHARACTERISTICS (V_{CC}=5V, Ta=25°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=22kΩ, f=1kHz	-	1.3	2.5	μV_{rms}
Input Resistance	R_{IN}	-	f=1kHz	-	150	-	kΩ
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.

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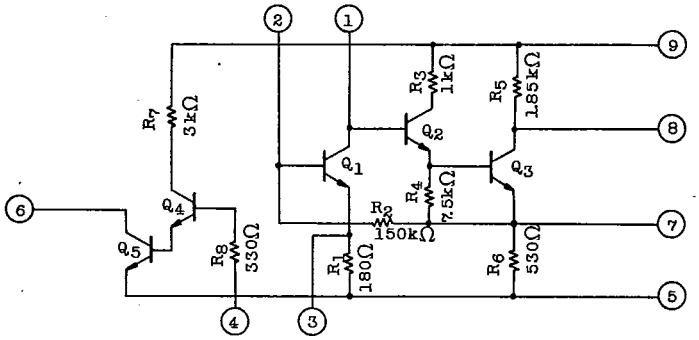
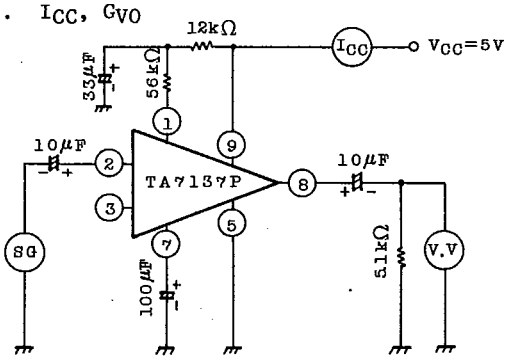
EQUIVALENT CIRCUIT

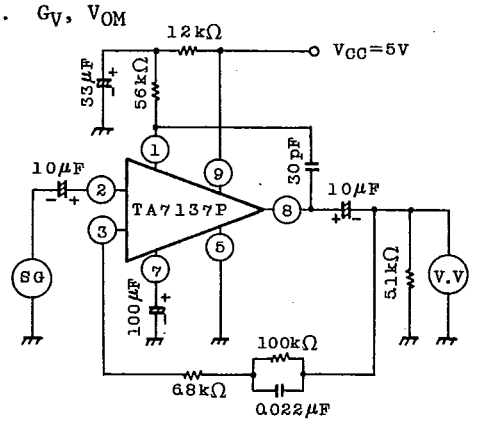


TEST CIRCUIT

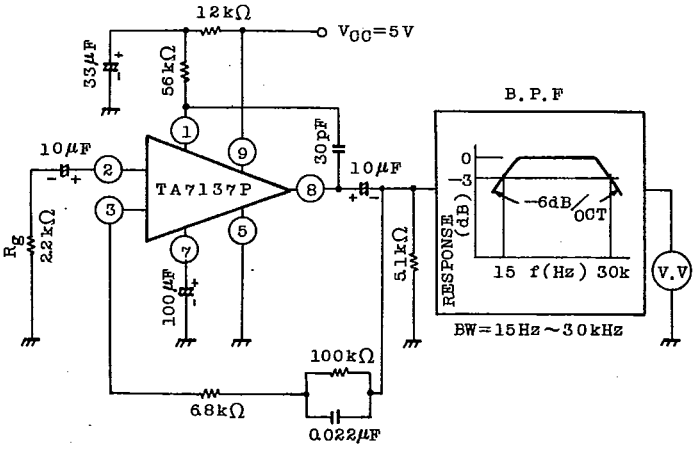
1. I_{CC}, G_{VO}



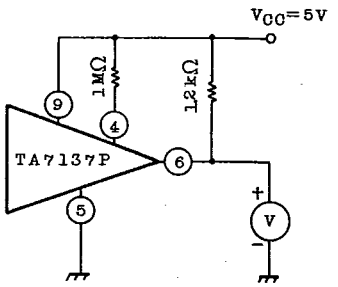
2. G_V, V_{OM}



3. V_{NI}



4. V_6(ON)



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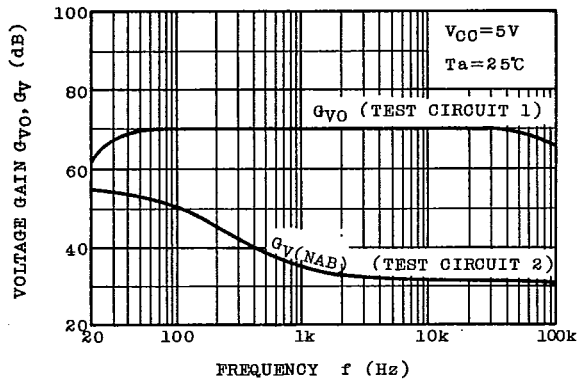
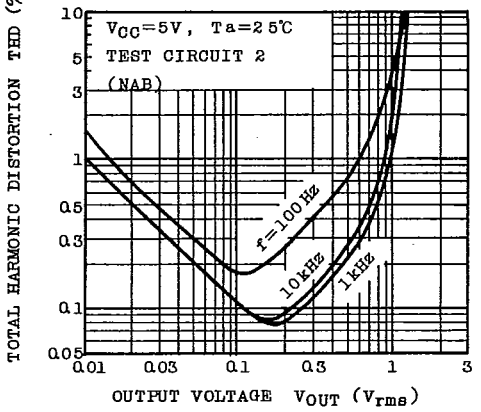
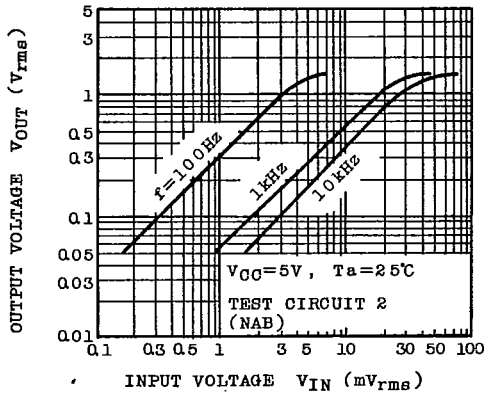
$G_{VO}, G_{V(NAB)}$ – f



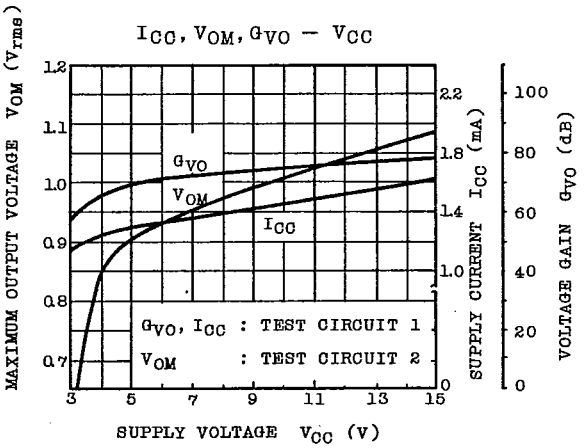
THD – V_{OUT}



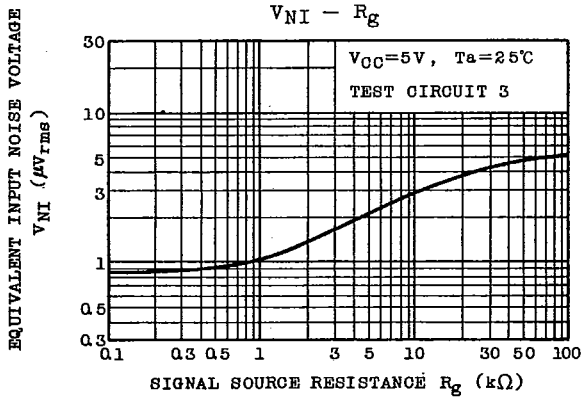
V_{OUT} – V_{IN}



I_{CC}, V_{OM}, G_{VO} – V_{CC}



V_{NI} – R_g



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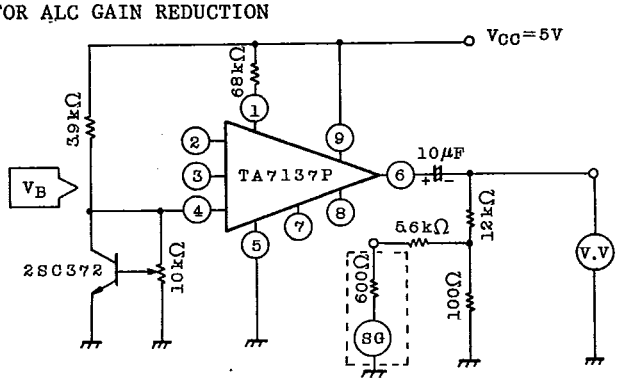
TEST CIRCUIT FOR ALC GAIN REDUCTION



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_1 to C_6, 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