

9097247 TOSHIBA. ELECTRONIC

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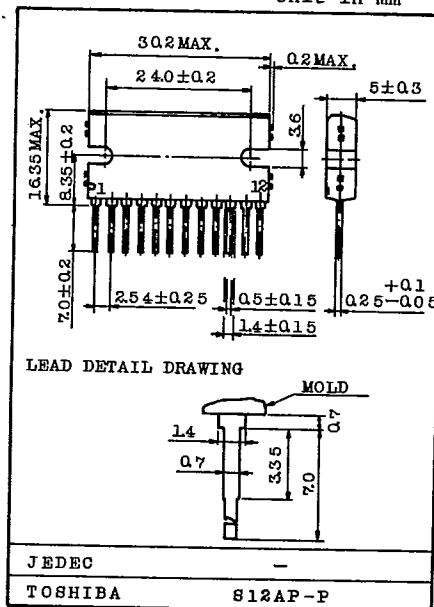
TA7227P

T-74-05-01

5.5W DUAL POWER AMPLIFIER**CAR RADIO, CAR STEREO OUTPUT****AUDIO POWER AMPLIFIER**

- Dual Mode or Bridge Connection Mode Type.
- Some Protection Circuits Included
Thermal Protection, Over Voltage Protection,
Current Limiter, BTL DC Short Protection.
- Wide Operating Voltage Range : $V_{CC(opr)}=8\sim 18V$
- A Chassis Mounting is Easily Designed Using SIP
(Single in Line Package) 12 Pins.
- Very Few External Parts.
- This Power IC Obtains High Output Power by
Bridge Connection : $P_{OUT}=17W$ (Typ.)
at $V_{CC}=13.2V$, $R_L=4\Omega$, $THD=10\%$
- Dual Mode : Minimum Load Impedance is 2 ohm.
- BTL Mode : Minimum Load Impedance is 4 ohm.

Unit in mm

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Peak Supply Voltage	V_{CC} surge	45	V
D.C Supply Voltage (30 sec)	V_{CC} DC	25	V
Operating Supply Voltage	V_{CC} opr	18	V
Output Current (peak)	I_O (peak)	4.5	A
Power Dissipation	P_D	25	W
Operating Temperature	T_{opr}	-30 ~ 75	$^\circ C$
Storage Temperature	T_{stg}	-55 ~ 150	$^\circ C$

(Note) Less than 2 ohm (Dual mode) or 4 ohm (BTL mode) load impedance is not recommended from allowable power dissipation and over current limiter.

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ELECTRICAL CHARACTERISTICS

(Unless otherwise specified, $V_{CC}=13.2V$, $R_L=4\Omega$, $R_g=600\Omega$, $f=1kHz$, $T_a=25^\circ C$,
Dual mode (Fig.-1) or BTL connection (Fig.-2))

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Quiescent Current	ICCQ	-	-		-	85	200	mA
Output Power	P _{OUT}	-	THD=10%	Dual	4.5	5.5	-	W
				BTL	14	17.0	-	
Output Power	P _{O2}	-	THD=10%, R _L =2Ω	Dual	-	8.0	-	W
Maximum Output Power	P _{OM}	-	V _{IN} =100mV _{rms}	Dual	-	9.0	-	W
				BTL	-	30	-	
Total Harmonic Distortion	THD	-	P _{OUT} =1W	Dual	-	0.2	1.5	%
				BTL	-	0.3	1.5	
Voltage Gain	G _V	-	V _{OUT} =0dBm (Note 1)		52.5	54.0	55.5	dB
Channel Balance	ΔG _V	-	V _{OUT} =0dBm		-	0	±1.0	dB
Channel Separation	CT	-	V _{OUT} =0dBm		-	-45	-	dB
Ripple Rejection	R.R	-	f=100Hz	Dual	-	-20	-	dB
				BTL	-	-29	-	
Input Resistance	R _{IN}	-	-		20	35	50	kΩ
Output Noise Voltage	V _{NO}	-	R _g =10kΩ, BW=50 ~ 20kHz		-	1.0	2.0	mV _{rms}

Note 1. Voltage gain G_V is fixed by internal resistance. The typical voltage gain is 54dB. When you need lower voltage gain than 54dB, connect resistance R(*) which is shown on Fig.-1 or Fig.-2. To get stable action of IC, voltage gain G_V minimum limit is 40dB.

- Capacitor C_5 , C_6 are demanded good temperature characteristic and we recommend large value capacitors more than $0.1\mu F$ to avoid application problems.
- Don't short output PINS (PIN2 and PIN10) to the GND directly, this situation gives the damage to the IC.
To avoid destruction of IC, please put in inductance (about $1.5\mu H$) between output pin and load. (BTL Application mode)

AUDIO LINEAR IC

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TEST CIRCUIT

FIG.1 DUAL MODE

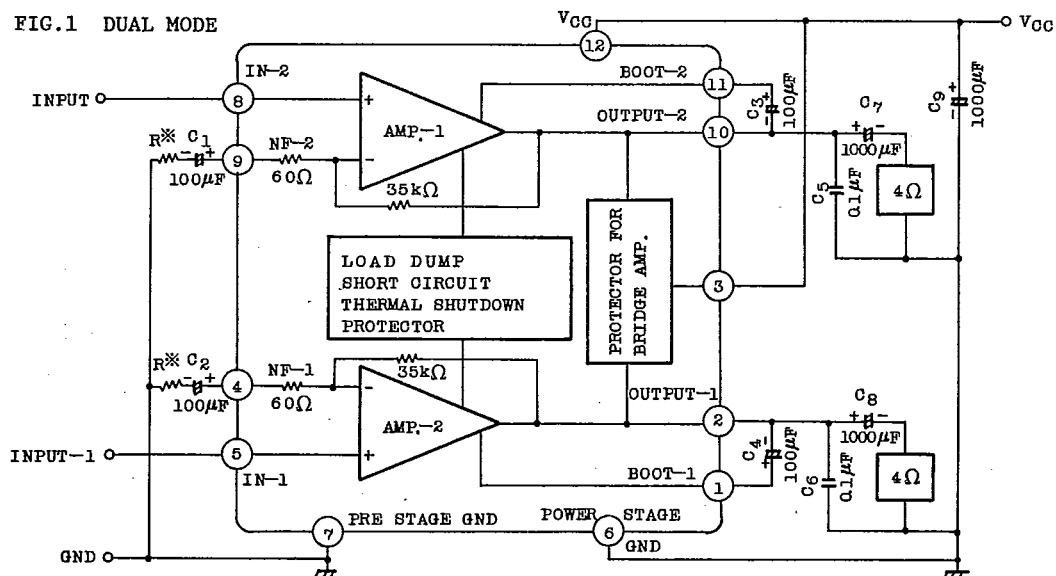
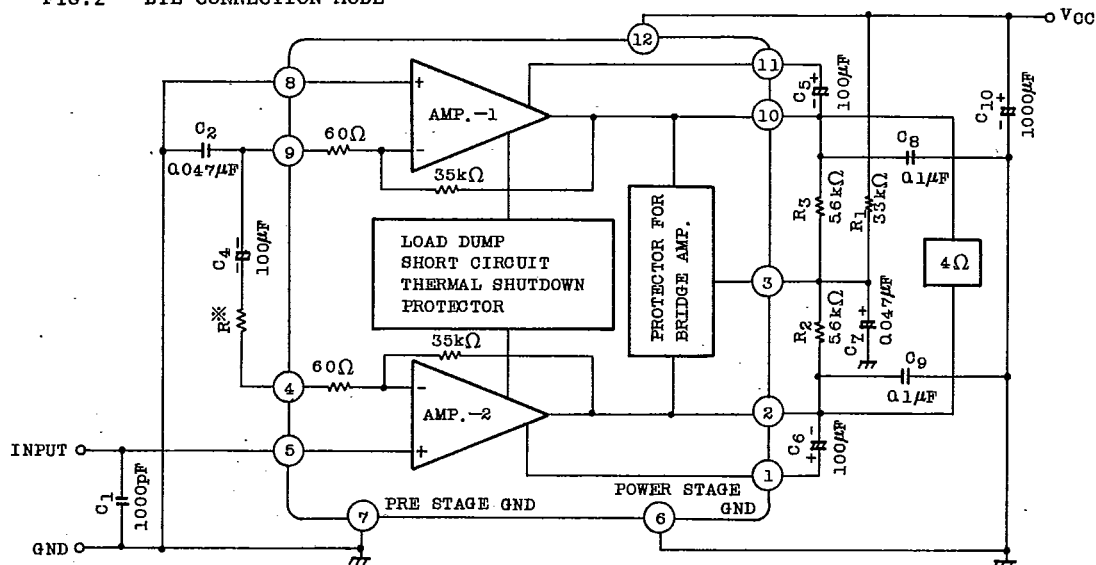


FIG.2 BTL CONNECTION MODE



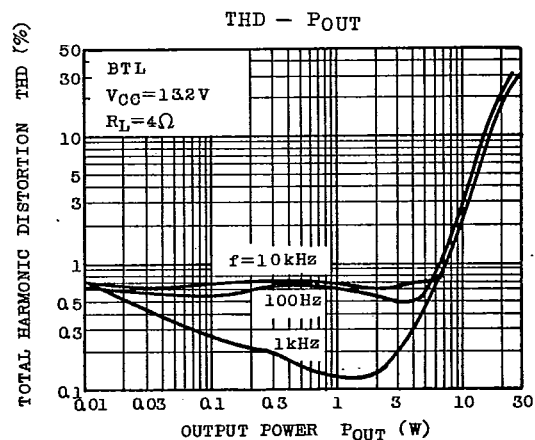
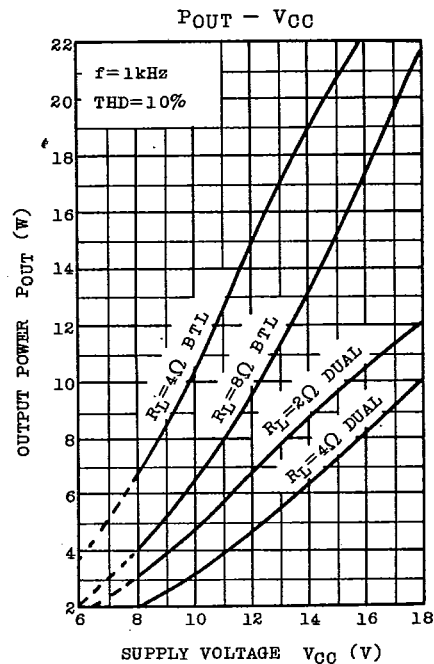
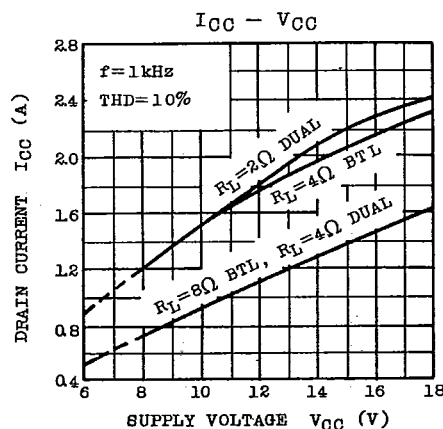
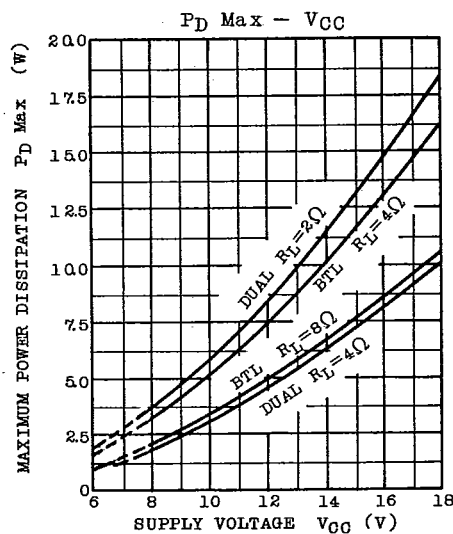
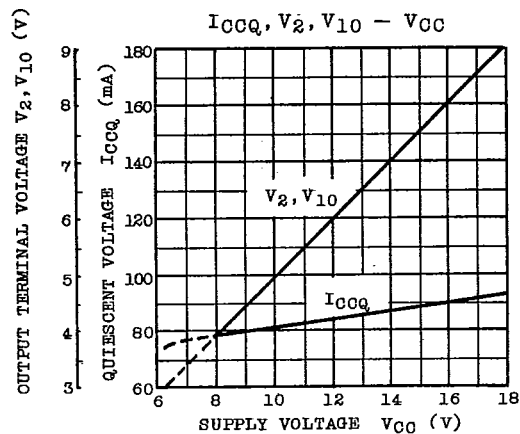
Note 1. PIN 6 and PIN 7 are necessary to connect directly with GND pattern.
(Care GND pattern of print board.)

2. For BTL connection, TA7227P'S normal input terminal is PIN 5, and PIN 8 is GND level.

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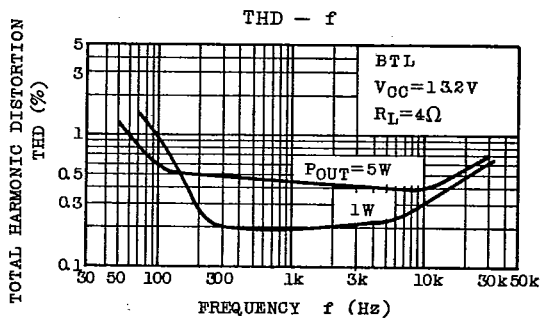
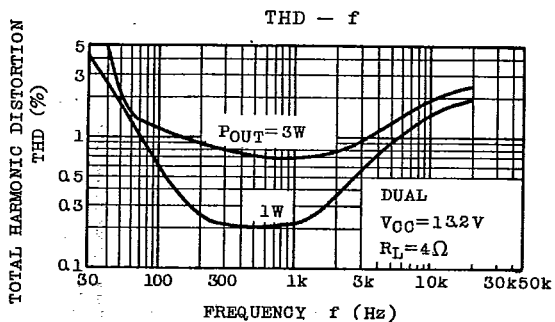
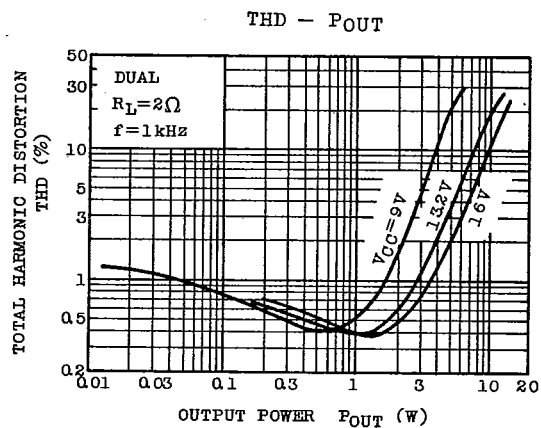
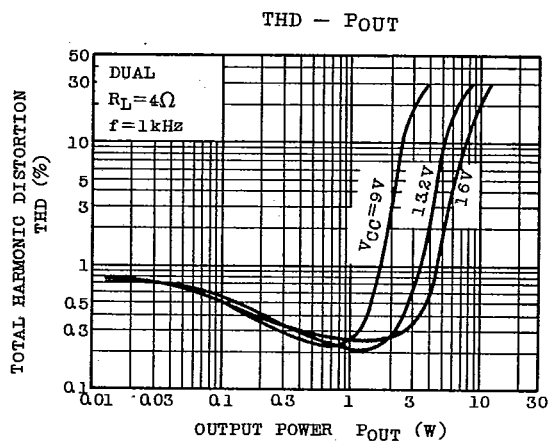
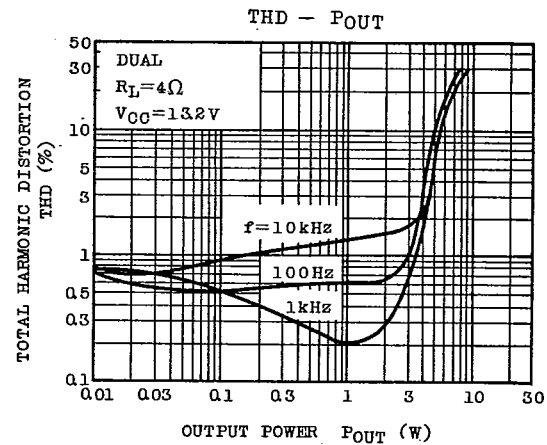
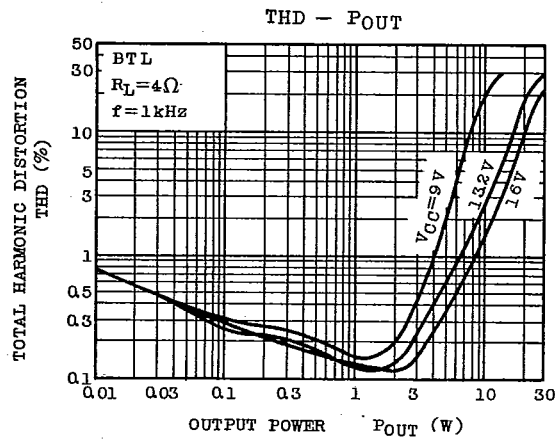
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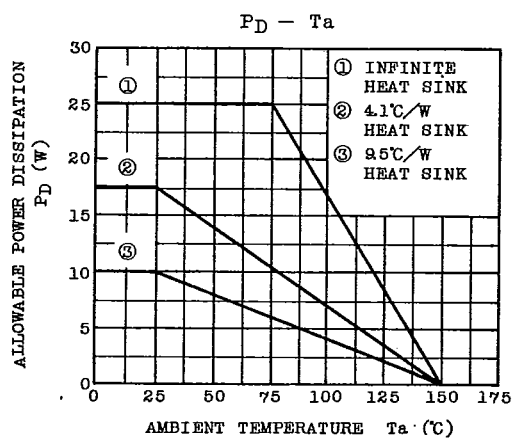
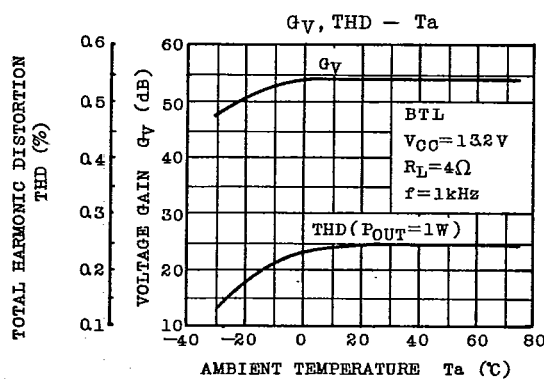
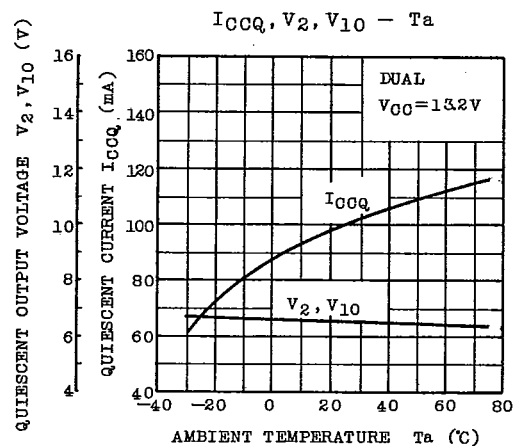
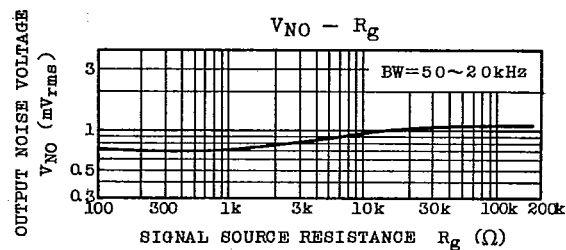
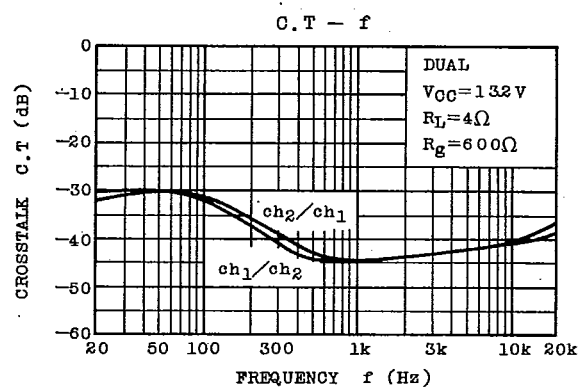
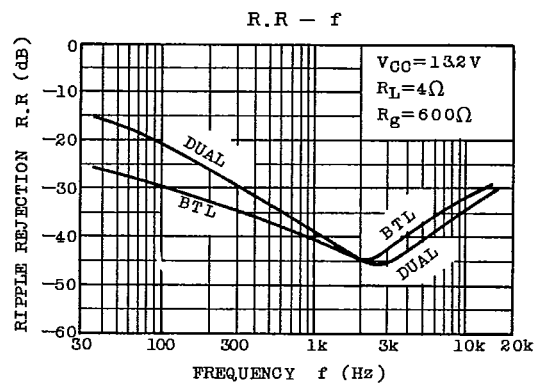
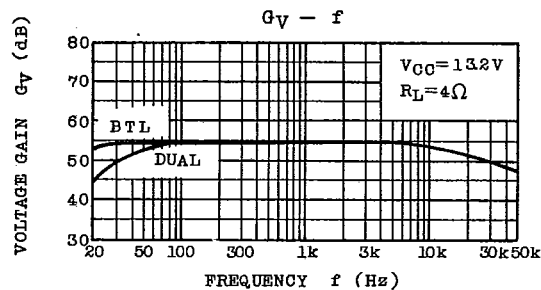
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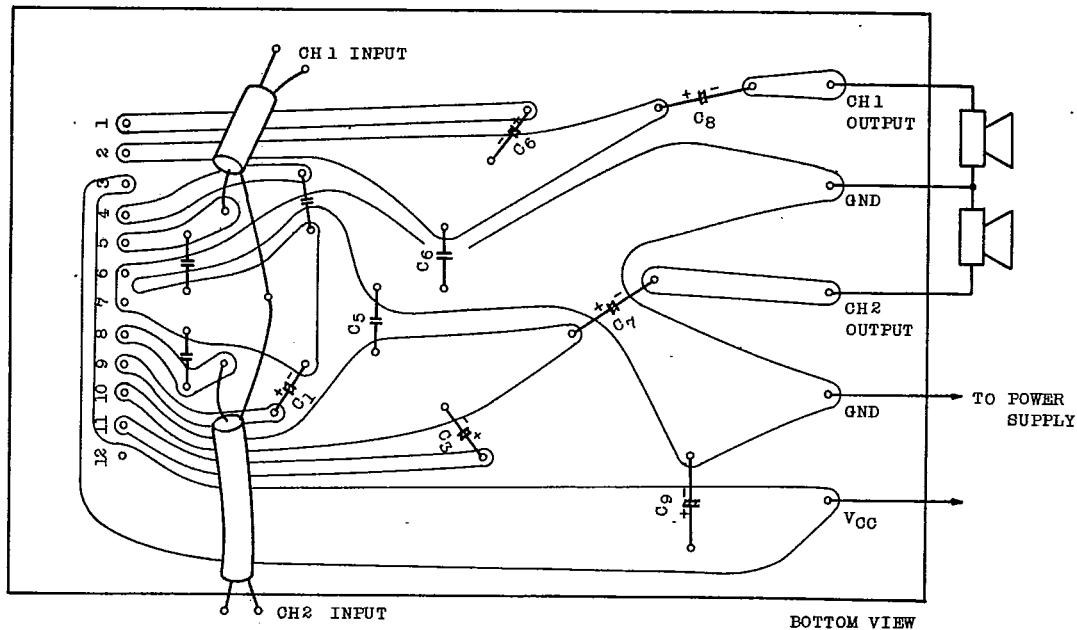
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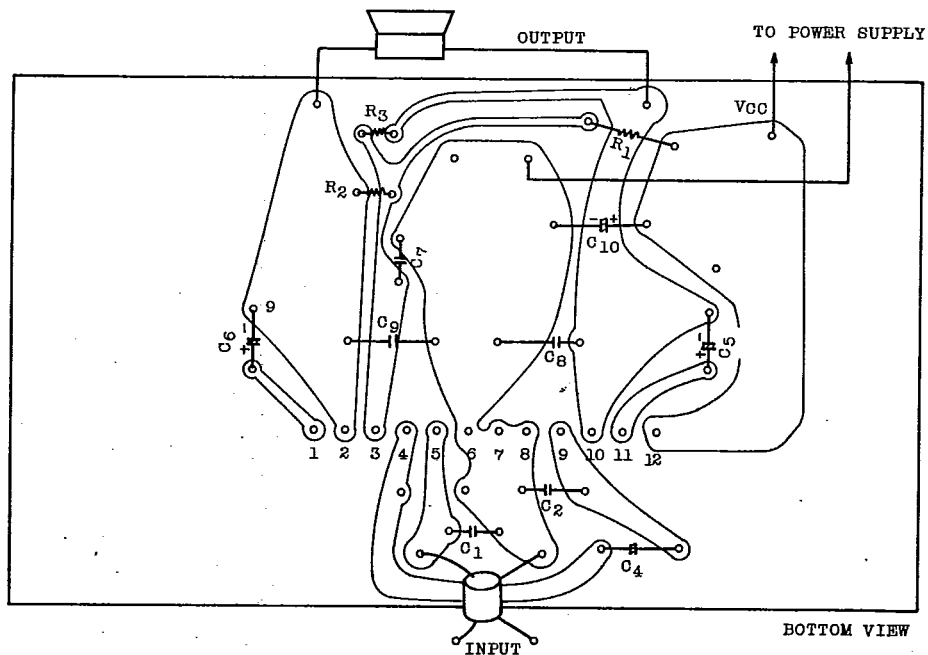
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PRINT BOARD (DUAL MODE)



PRINT BOARD (BTL MODE)

**TOSHIBA**