Toshiba

INTEGRATED CIRCUIT

TECHNICAL DATA

TA7229P

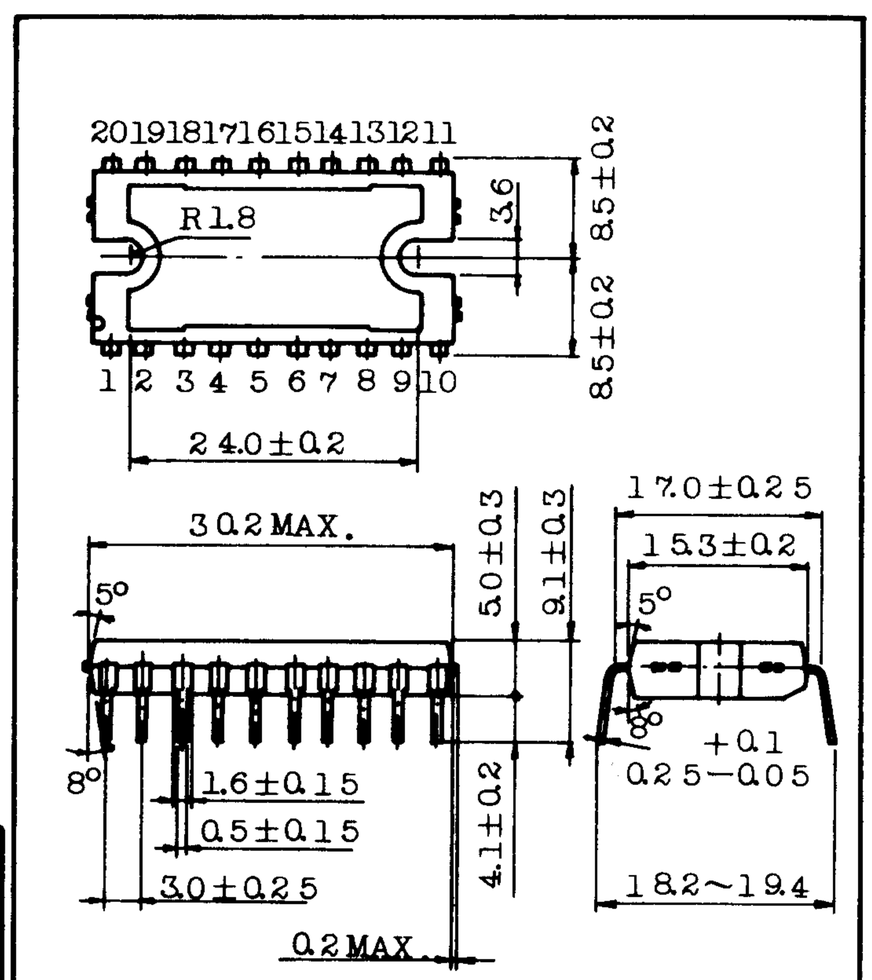
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT

SILICON MONOLITHIC

DUAL CHANNEL AUDIO POWER AMPLIFIER FOR CASSETTE TAPE RECORDER

- Dual Channel : P_{OUT}=3.9W × 2 at V_{CC}=12V, R_L=4Ω, THD=10%
- BTL Connection : P_{OUT}=12W at V_{CC}=12V, R_L=4Ω, THD=10%
- Operating Supply Voltage Range : V_{CC}=7～16V
- Low Distortion
- Self Centering Bias
- High Peak Output Current
- Dual Channel/BTL Amp. Use.
- Low Off Set Voltage (Between CH-1 and CH-2 D.C Voltage)

Unit in mm



JEDEC	—
TOSHIBA	5−30A

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	18	V
Output Current (each CH, peak)	$I_{O(peak)}$	4	A
Power Dissipation	P_D	20	W
Operating Temperature	T_{opr}	-20～75	°C
Storage Temperature	T_{stg}	-55～150	°C

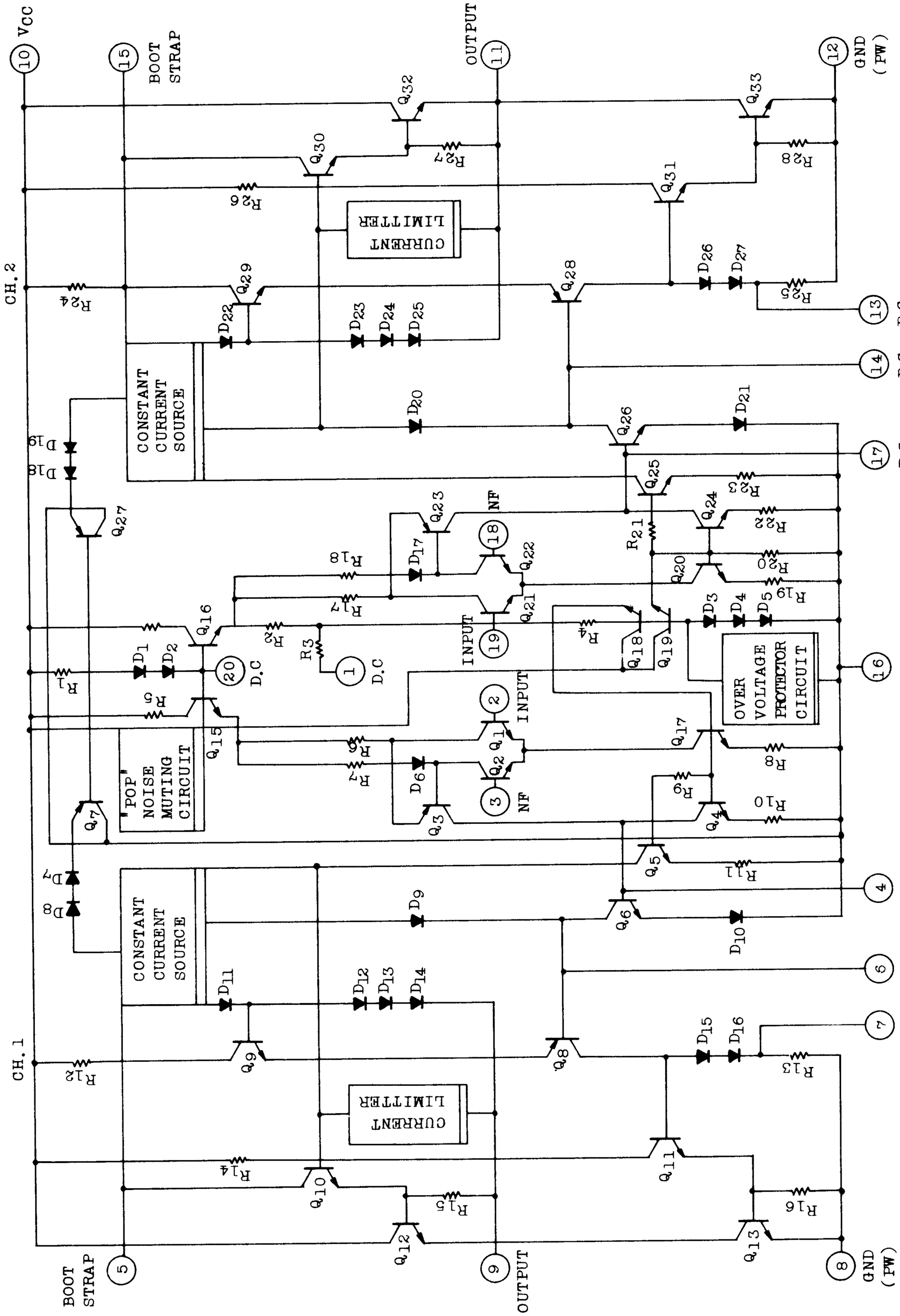
ELECTRICAL CHARACTERISTICS

(Unless otherwise specified, V_{CC}=12V, R_L=4Ω, R_g=600Ω, R_f=100Ω, f=1kHz, Ta=25°C, Dual Channel Operating, G_V≒54dB)

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	I_{CCQ}	-	V_{IN}=0	19	35	60	mA
Output Power (1)	$P_{OUT(1)}$		Dual (THD=10%)	3.5	3.9	-	W
			BTL (THD=10%)	-	12	-	
Maximum Output Power	P_{OM}	-	Dual	-	5	-	W
			BTL	-	15	-	
Total Harmonic Distortion	THD	-	Dual P_O=1W	-	0.2	0.8	%
			BTL P_O=1W	-	0.4	1.0	
Output Noise Voltage	V_{NO}	-	R_g=10kΩ, BW=50Hz～20kHz	-	1.2	3.5	mV
Channel Separation Ratio	CSR	-	R_g=10kΩ, P_O=10dBm	-	-58	-	dB
Ripple Rejection	RR	-	V_{IN}=0dBm, 100Hz, R_g=0Ω	-	-48	-	dB
Output Power (2)	$P_{OUT(2)}$	-	R_L=2Ω, THD=10%	-	6	-	W
Input Resistance	R_{in}	-	-	-	40	-	kΩ
Voltage Gain	G_{VO}	-	R_f=0Ω, V_{IN}=0.245mV$_{rms}$	70	75	-	dB

(Note) G_V≒47kΩ/R_f ($G_{V(Max)}$: 70dB)

EQUIVALENT CIRCUIT



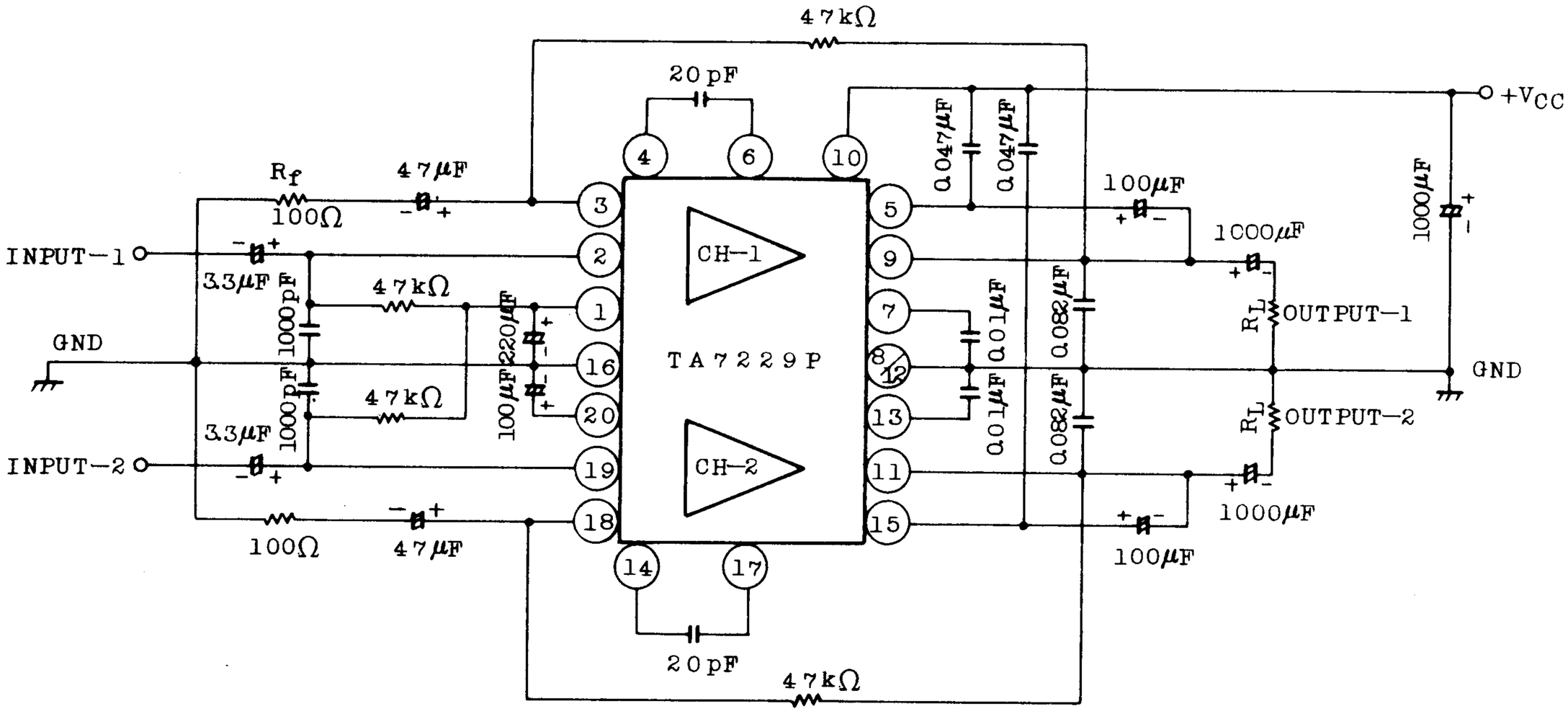
NOTE : P.C phase compensation

D C De-coupling

TEST AND APPLICATION CIRCUIT

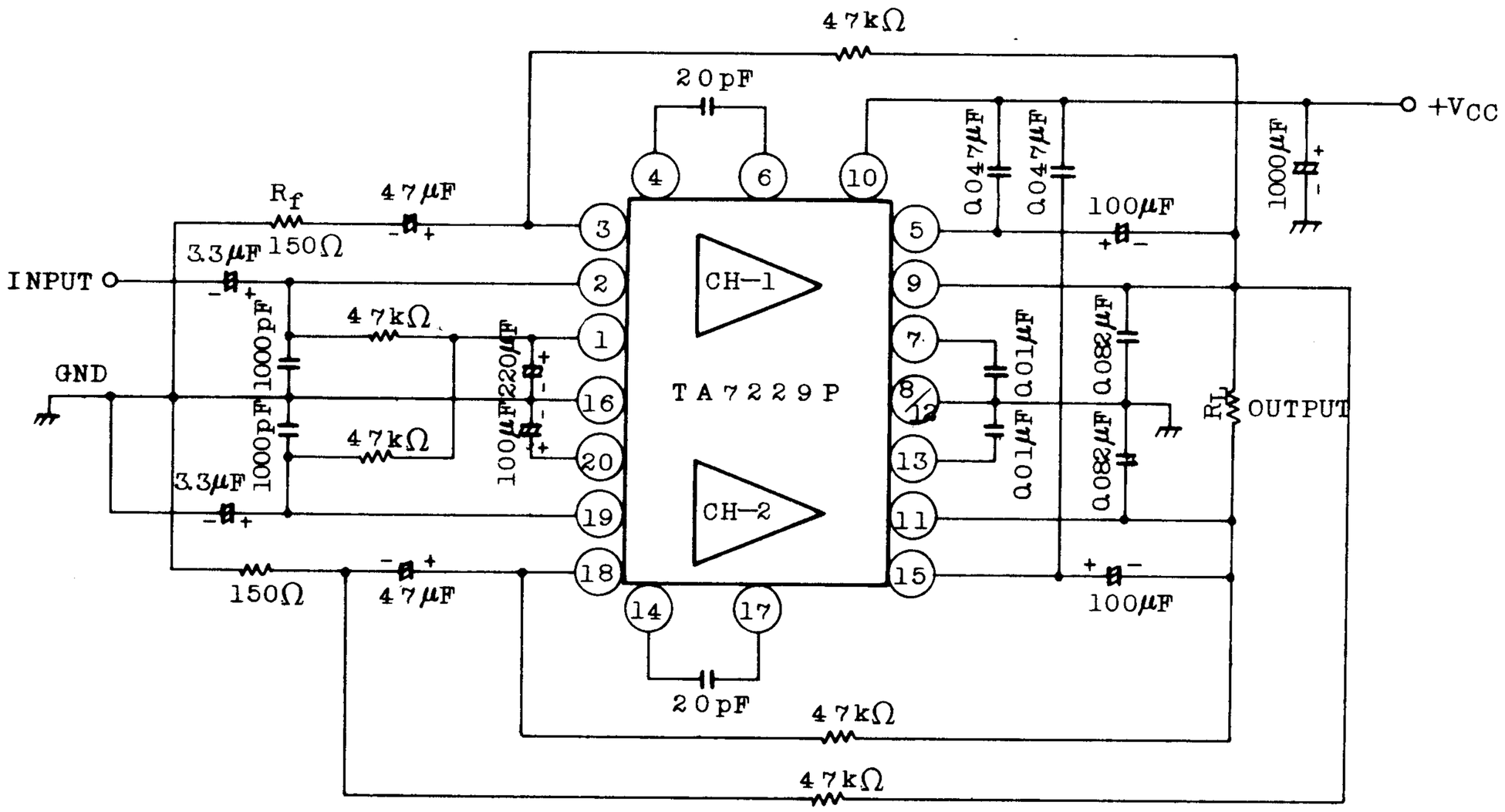
1. DUAL AMP.

(V_{CC}=12V, R_L=4Ω, f=1kHz, THD=10%, P_O=3.9W (Typ.))

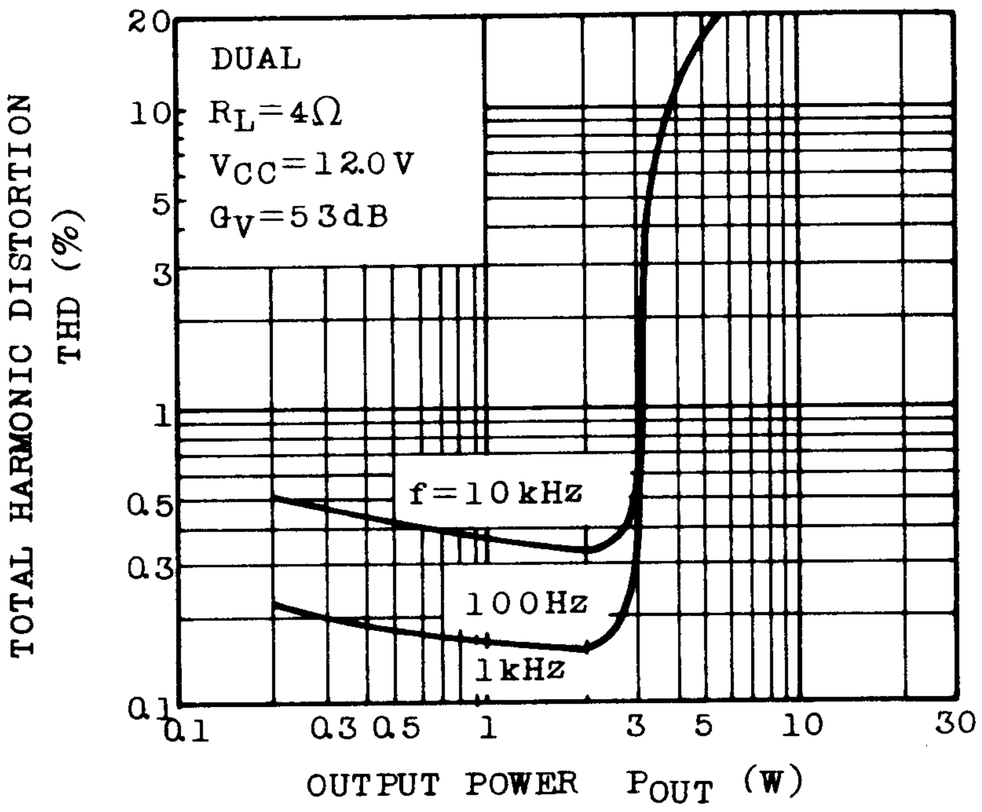


2. BTL AMP.

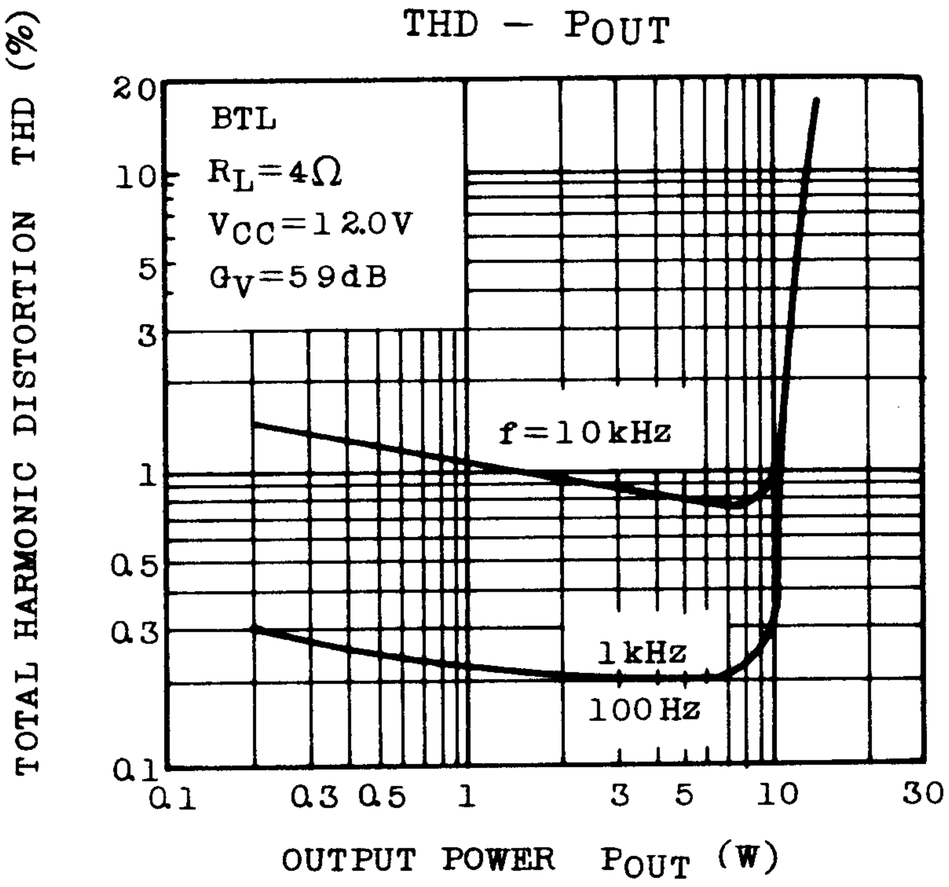
(V_{CC}=12V, R_L=4Ω, f=1kHz, THD=10%, P_O=12W (Typ.))



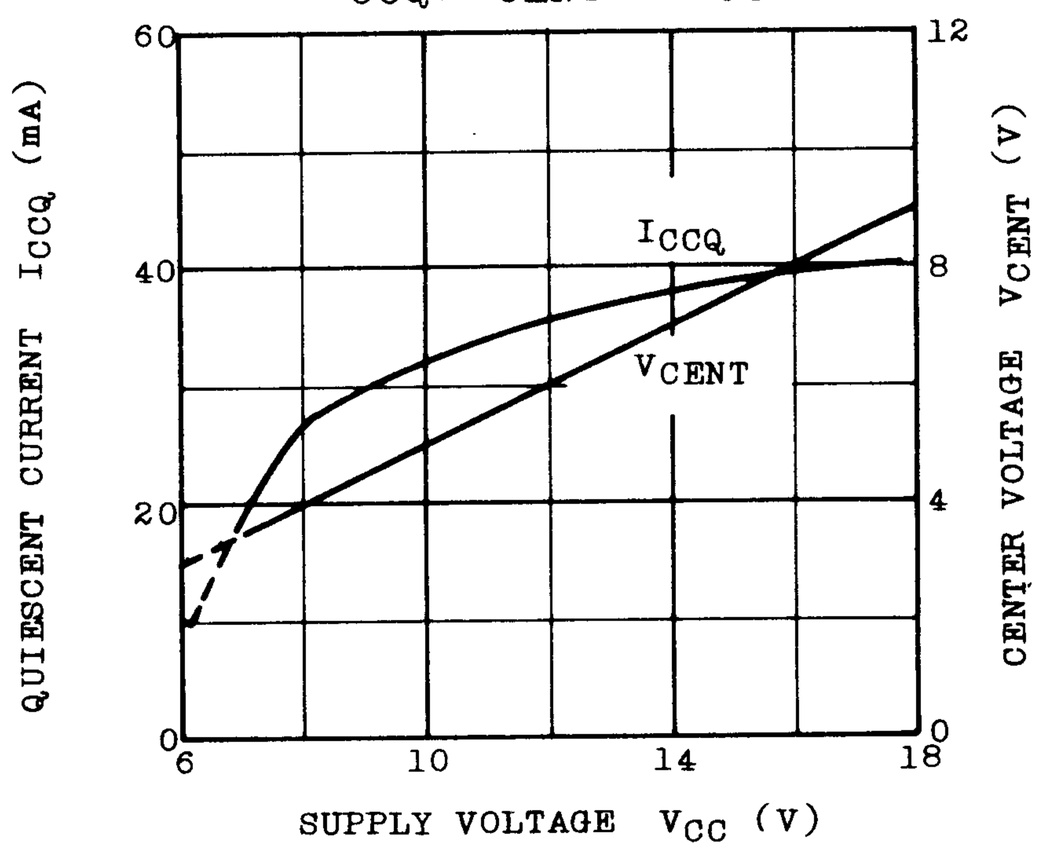
THD – POUT



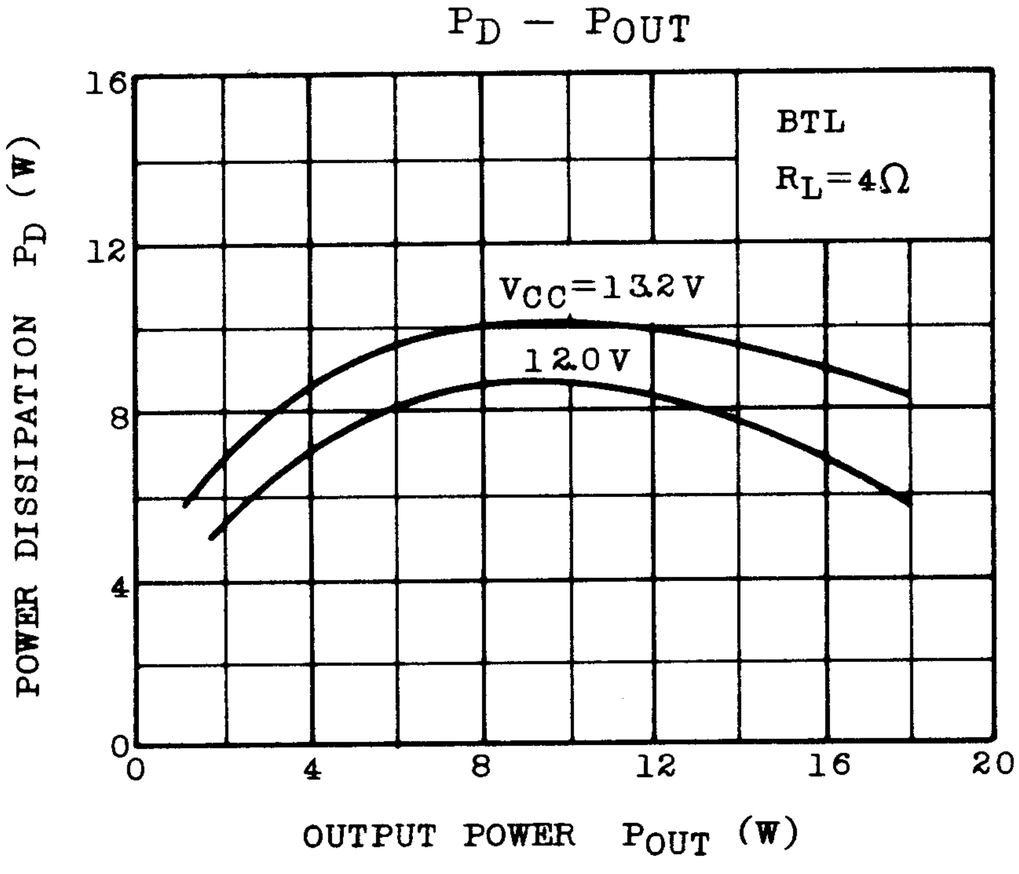
THD – POUT



ICCQ, VCENT – VCC



PD – POUT



PD – Ta