ECG® Semiconductors

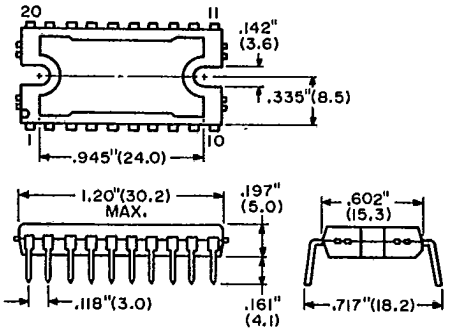
ECG1372

12 W BTL AF PO
3.9 W/Ch Dual AF PO

T-74-05-01

Features

- **Dual channel:**
  P_{OUT} = 3.9 W/Ch (V_{CC} = 12 V, R_L = 4 Ω, THD = 10%)
- **BTL connection:**
  P_{OUT} = 12 W (V_{CC} = 12 V, R_L = 4 Ω, THD = 10%)
- **Operating supply voltage range:**
  V_{CC} = 7 to 16 V)
- **Low distortion**
- **Self centering bias**
- **High peak output current**
- **Dual channel or BTL amp**
- **Low offset voltage (between Ch-1 and Ch-2 DC voltage)**
- **Overvoltage protect circuit**



Absolute Maximum Ratings (T_A = 25°C)

Parameters	Symbol	Rating	Unit
Supply Voltage	V_{CC}	18	V
Output Current (Per Ch) Peak	I_O (peak)	4	A
Power Dissipation	P_D	20	W
Operating Temperature	T_{opr}	−20 to +75	°C
Storage Temperature	T_{stg}	−55 to +150	°C

Electrical Characteristics (V_{CC} = 12 V, R_L = 4 Ω, R_g = 600 Ω, R_f = 100 Ω, f = 1 kHz, T_A = 25°C, Dual Channel Operation Typ G_V 54 dB unless otherwise specified)

Parameters	Symbol	Test Condition	Min	Typ	Max	Unit
Quiescent Current	I_{CCO}	V_{IN} = 0	19	35	60	mA
Output Power (1)	P_O (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 = 1 W	--	0.2	0.8	%
		BTL P_O = 1 W	--	0.4	1.0	
Output Noise Voltage	V_{NO}	R_g = 10 kΩ, BW = 50 Hz to 20 kHz	--	1.2	3.5	mV
Channel Separation Ratio	CSR	R_g = 10 kΩ, P_O = 10 dBm	--	−58	--	dB
Ripple Rejection	RR	V_{IN} = 0 dBm, 100 Hz, R_g = 0 Ω	--	−48	--	dB
Output Power (2)	P_O (2)	R_L = 2 Ω, THD = 10%	--	6	--	W
Input Resistance	R_{in}		--	40	--	kΩ
Voltage Gain	G_{VO}	R_f = 0 Ω, V_{IN} = 0.245 mV_{rms}	70	75	--	dB

(1) R_L = 4 Ω (2) R_L = 2 Ω

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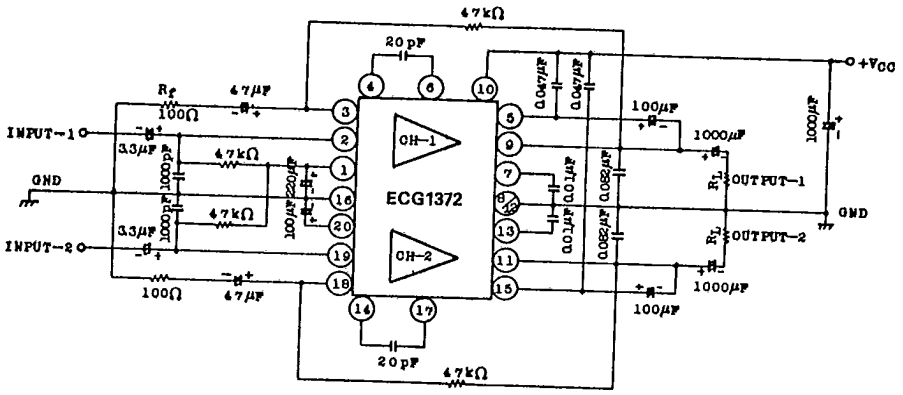
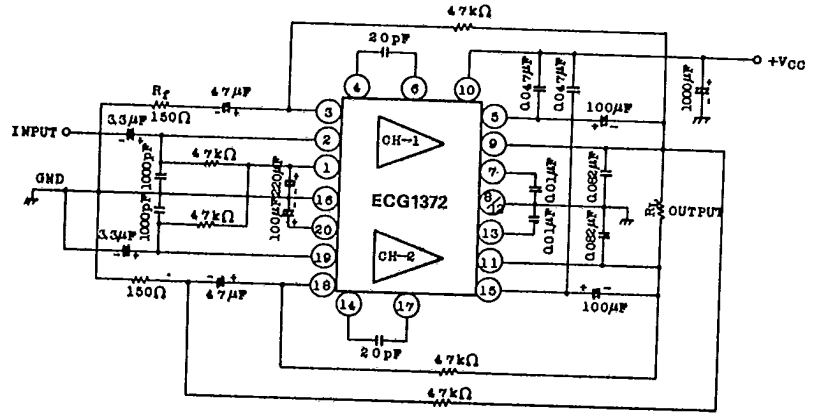
Test and Application Circuits

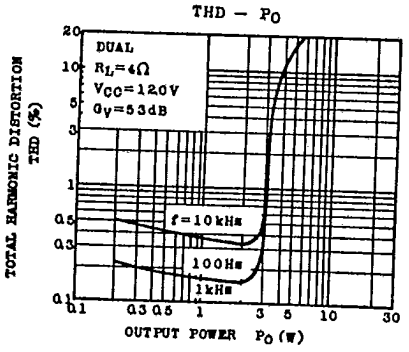
1. Dual Amp
(V_{CC} = 12 V, R_L = 4 Ω, f = 1 kHz, THD = 10%, P_O = 3.9 W typ)

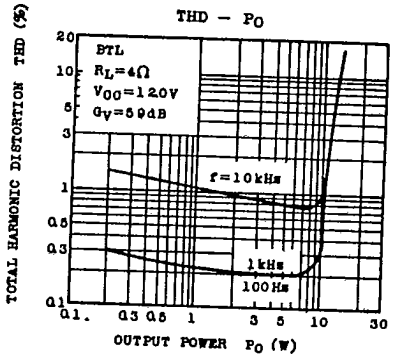


2. BTL Amp
(V_{CC} = 12 V, R_L = 4 Ω, f = 1 kHz, THD = 10%, P_O = 12 W typ)

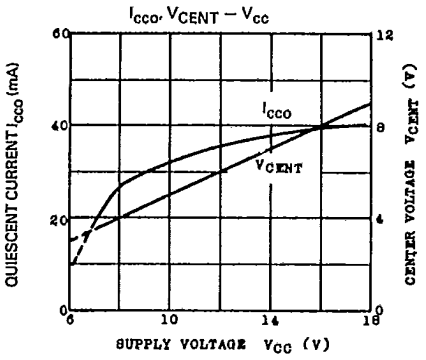


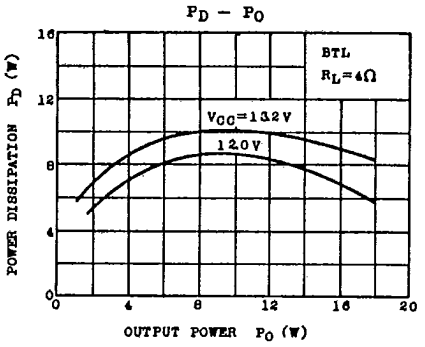
Typical Characteristics

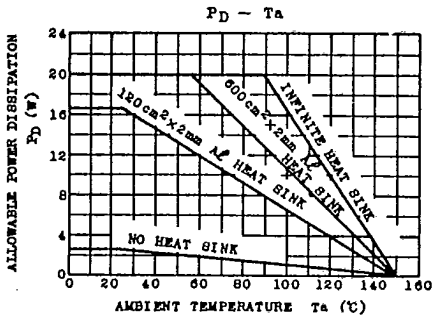




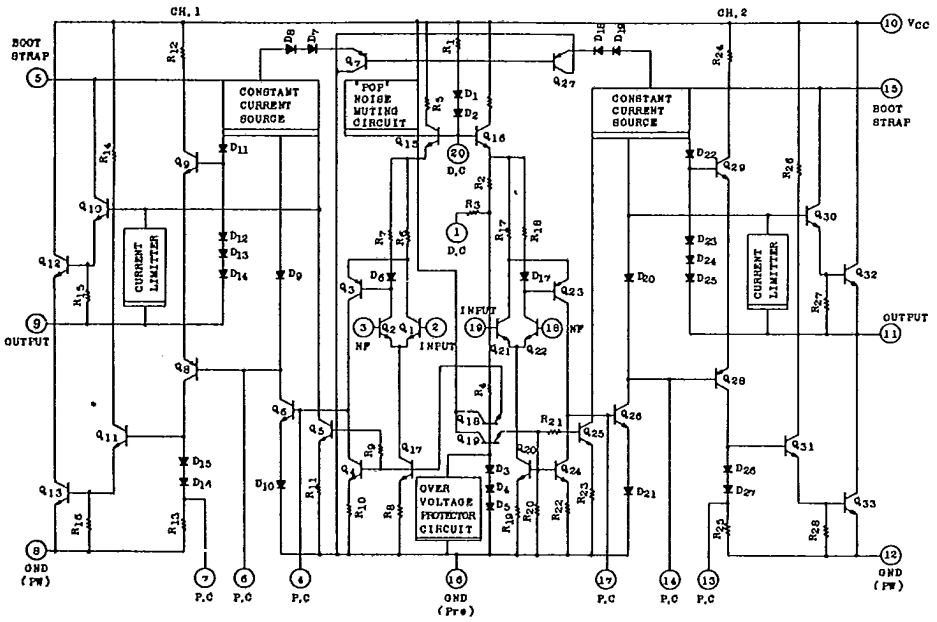
Typical Characteristics (Cont'd)







Equivalent Circuit



Note: PC = Phase Compensation, DC = De-Coupling