

# ECG<sup>®</sup>

## Semiconductors

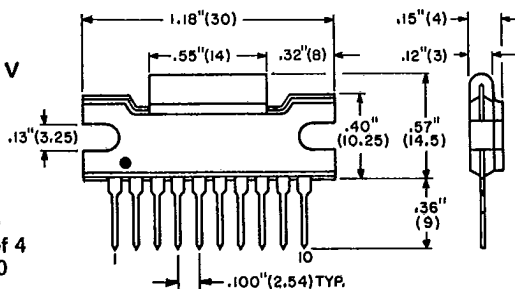
# ECG1397

## 3.5 Dual AF PO

**Features**

- Dual power amplifier
- Few external components
- Supply voltage range:  $V_{CC} = 8$  to 25 V
- Internal thermal protection
- Internal phase compensation
- High crosstalk: typ 56 dB

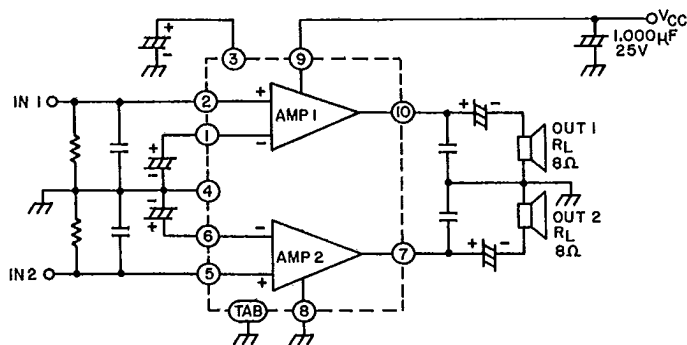
The ECG1397 is a monolithic dual power amplifier designed for economical stereos. The ECG1397 provides an output power of 4 watts per channel with an 8  $\Omega$  load and 10 percent distortion with a 17 volt power supply.



**Absolute Maximum Ratings ( $T_A = 25^\circ\text{C}$ )**

Parameters	Symbol	Rating	Unit
Supply Voltage	$V_{CC}$	25	V
Output Current Per Channel	$I_o$	3.2	A
Power Dissipation ( $T_C = 78^\circ\text{C}$ )	$P_D$	7.2	W
Thermal Resistance (Junction-to-Case)	$\theta_{j-c}$	10	$^\circ\text{C/W}$
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Operating Temperature	$T_{opg}$	-20 to +70	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +125	$^\circ\text{C}$

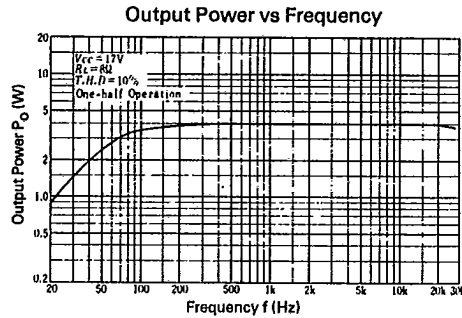
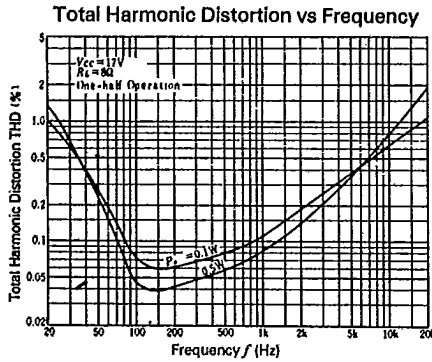
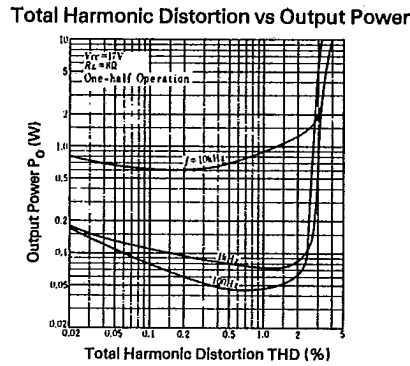
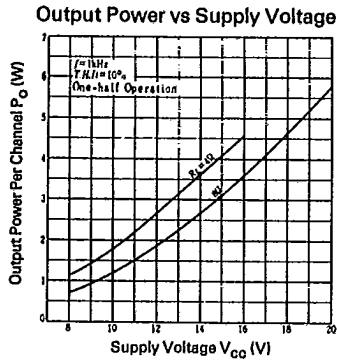
**Typical Application Circuit**



Electrical Characteristics ( $T_A = 25^\circ\text{C}$ ,  $V_{CC} = 17\text{ V}$ ,  $R_L = 8\ \Omega$ ; One-half Operation of Dual Amplifier, unless otherwise noted)

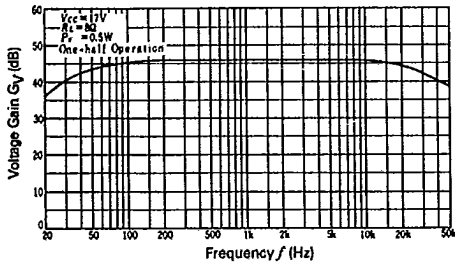
Parameters	Symbol	Test Condition	Min	Typ	Max	Unit
Quiescent Current	$I_{CCO}$	$V_i = 0$ (Dual Total)	18	36	70	mA
Voltage Gain	$G_V$	$f = 1\text{ kHz}$	--	46	--	dB
Difference of Voltage Gain	$\Delta G_V$	$f = 1\text{ kHz}$	--	--	1.5	dB
Output Power Per Channel	$P_O$	$R_L = 8\ \Omega$ , THD = 10%	3.0	4.0	--	W
Total Harmonic Distortion	THD	$P_O = 0.5\text{ W}$	--	0.1	1.0	%
Wide Band Noise Output	WBN	$R_g = 10\text{ k}\Omega$ , $BW = 20\text{ Hz to } 20\text{ kHz}$	--	0.5	1.5	mV
Input Resistance	$R_i$	$f = 1\text{ kHz}$	--	100	--	$\text{k}\Omega$
Crosstalk	CT	$f = 1\text{ kHz}$ , $R_g = 10\text{ k}\Omega$	40	56	--	dB
Supply Voltage Rejection	SVR	$f = 100\text{ Hz}$ , $R_g = 600\ \Omega$	--	40	--	dB
Roll-off Frequency		$G_V = -3\text{ dB from } f = 1\text{ kHz Ref.}$				
	$f_L$	Low	--	45	--	Hz
	$f_H$	High	--	30 k	--	

Typical Characteristics

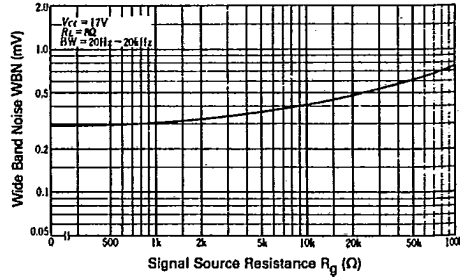


Typical Characteristics (Cont.)

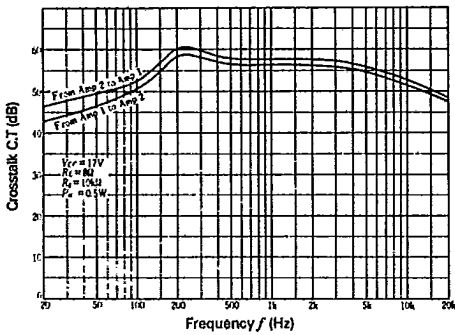
Voltage Gain vs Frequency



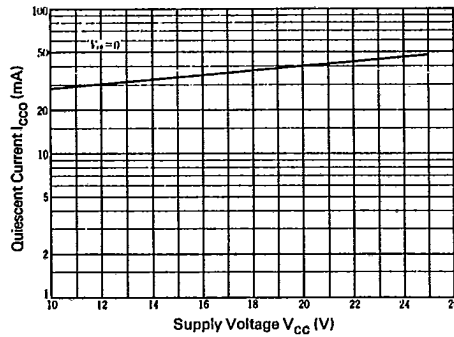
Wide Band Noise vs Signal Source Resistance



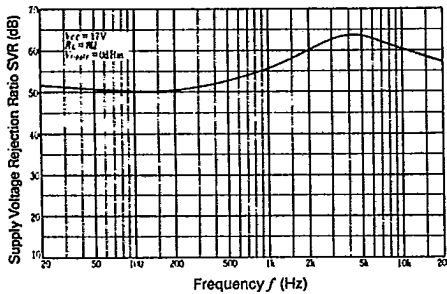
Crosstalk vs Frequency



Quiescent Current vs Supply Voltage



Supply Voltage Rejection Ratio vs Frequency



Power Dissipation vs Output Power

