

# ECG<sup>®</sup> Semiconductors

## ECG1259

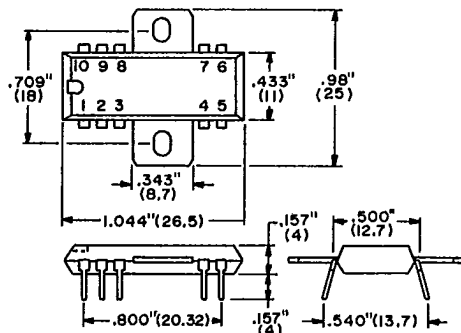
### 6.5 W Audio Power Amplifier

T-74-05-01

**Features**

- Low noise characteristic
- Excellent ripple rejection
- 10 pin DIP
- Integral Heat Sink

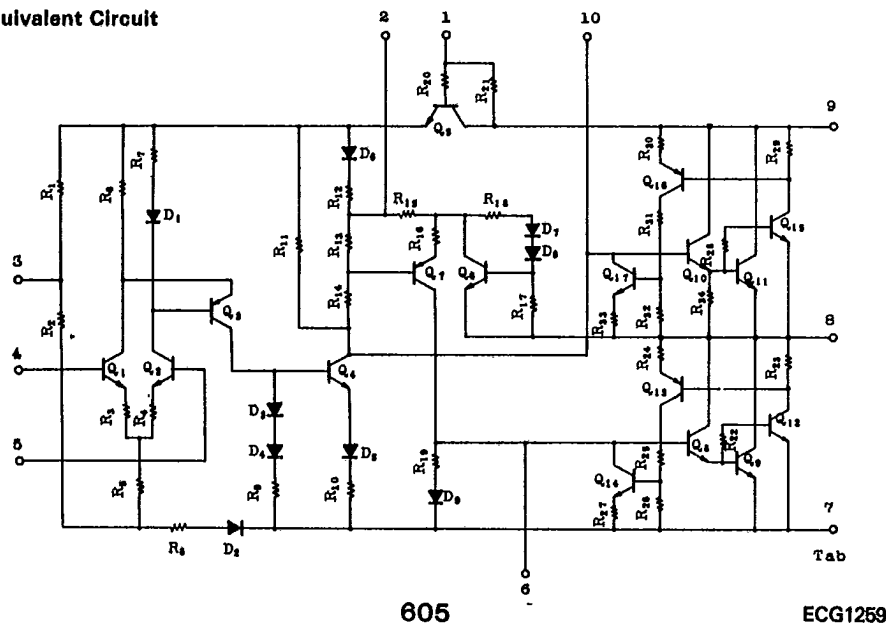
ECG1259 is a monolithic audio power amplifier circuit that operates over a supply voltage range of 14 to 28 V. It provides 6.5 W typical output power to an 8 Ω load at 23 V. ECG1259 is designed as an audio output stage for stereo, TV, radio and tape players.



**Maximum Ratings (T<sub>A</sub> = +25°C)**

Characteristic	Symbol	Rating	Unit
Supply Voltage	V <sub>CC</sub>	32	V
Peak Output Current	I <sub>o</sub>	2	A
Power Dissipation	P <sub>D</sub>	7	W
Operating Temperature	T <sub>opg</sub>	-20 to 75	°C
Storage Temperature	T <sub>stg</sub>	-65 to 150	°C

**Equivalent Circuit**

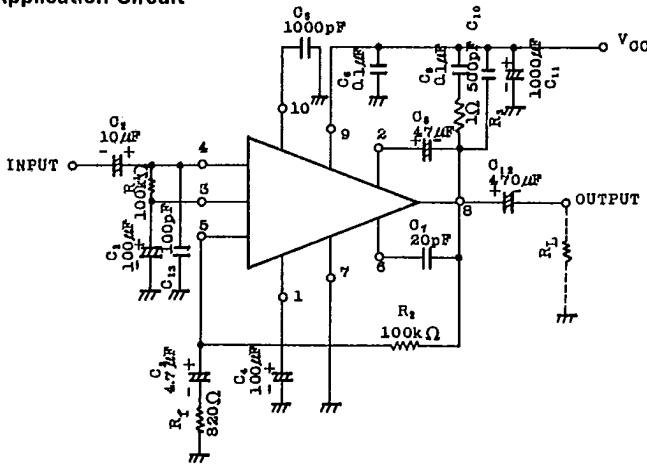


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Electrical Characteristics ( $T_A = 25^\circ\text{C}$ ,  $V_{CC} = 23\text{ V}$ ,  $R_L = 8\ \Omega$ ,  $R_g = 600\ \Omega$ ,  $R_f = 820\ \Omega$  unless otherwise specified)

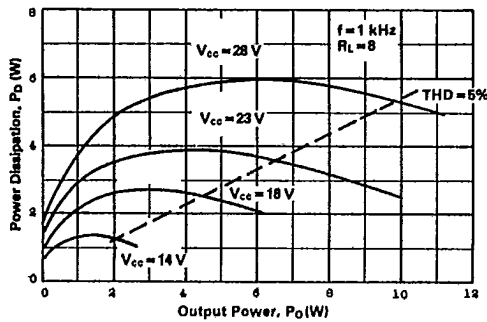
Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Quiescent Current	$I_{CCO}$	$V_{CC} = 14\text{ V}$	6	--	60	mA
		$V_{CC} = 23\text{ V}$	8	--	60	
		$V_{CC} = 32\text{ V}$	10	--	60	
Output Power	$P_o$	THD = 5%	5	6.5	--	W
Total Harmonic Distortion	THD	$P_{OUT} = 1\text{ W}$	--	0.2	0.5	%
		$P_{OUT} = 5\text{ W}$	--	0.5	5	
Voltage Gain	$G_v$	$R_f = 0$	55	62	70	dB
		$R_f = 820\ \Omega$	--	41	--	
Input Resistance	$R_i$	--	--	80	--	k $\Omega$
Output Noise Voltage	$V_{NO}$	$R_g = 30\text{ k}\Omega$ , $BW = 50\text{ to }20\text{ kHz}$	--	--	1.5	mV

Test and Application Circuit

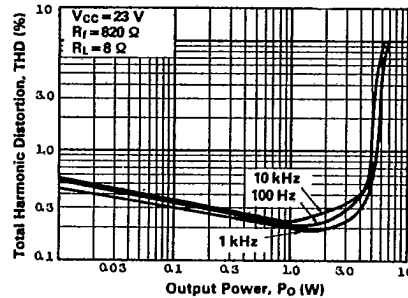


Typical Characteristics

Power Dissipation vs Output Power

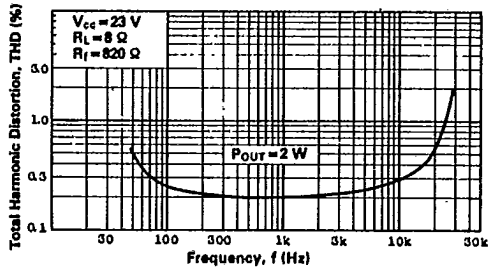


Distortion vs Output Power

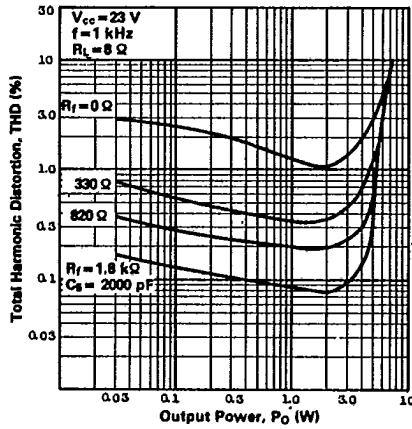


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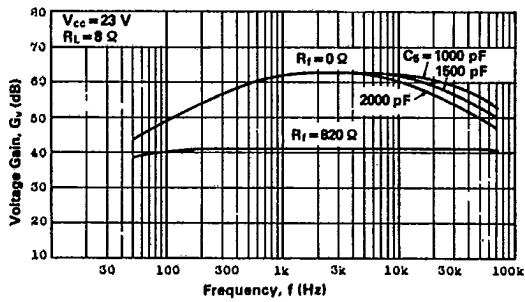
Distortion vs Frequency



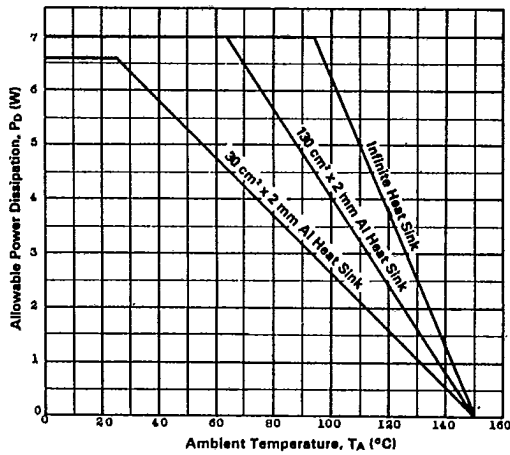
Distortion vs Output Power



Voltage Gain vs Frequency

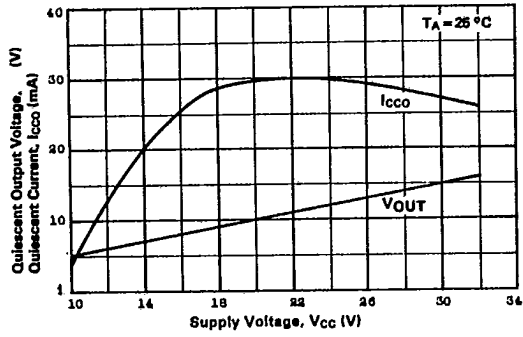


Power Dissipation vs Ambient Temperature



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Quiescent Voltage and Current vs Supply Voltage



Quiescent Voltage and Current vs Ambient Temperature

