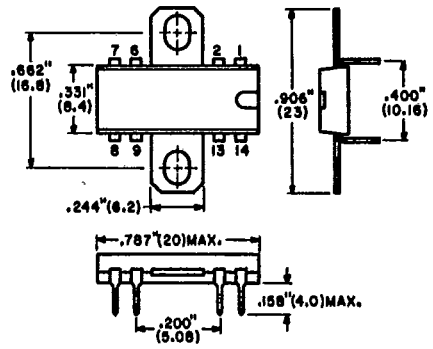
ECG® Semiconductors

ECG1023, ECG1107
AUDIO POWER AMPLIFIER

T-74-05-01

ECG1023 and ECG1107 are monolithic integrated circuits designed for high gain power amplifier applications. They are ideally suited for automotive radio or stereo output applications. At 13.2 volts typical voltage, ECG1023 will deliver 4.0 watts and ECG1107 will deliver 4.8 watts output.



MAXIMUM RATINGS (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Power Supply Voltage	V_{CC}	16	V
Power Supply Current	I_{CC}	1	A
Power Dissipation (See Note)	P_D	3.5	W
Tab Temperature	T_{tab}	-30 to 125	°C
Storage Temperature	T_{stg}	-55 to 150	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

Characteristic	Symbol	Test Circuit Fig.	Test Condition	Min.	Typ.	Max.	Unit
Idle Current	I Idle	1	V_{CC} = 12.5V	--	--	50	mA
Output Power	P_{OUT}	2	V_{CC} = 13.2V R_L = 4 Ohms R_f = 68 Ohms f = 1kHz KF = 10%	3	4	--	W
Voltage Gain	G_V	3	V_{CC} = 12.5V R_L = 4 Ohms R_f = 68 Ohms f = 1kHz	40.5	43	47.5	dB
Distortion	KF	2	V_{CC} = 12.5V R_L = 4 Ohms R_f = 68 Ohms f = 1kHz P_{OUT} = 1W	--	--	1.5	%
Output Noise Voltage	V_{NO}	4	V_{CC} = 12.5V R_L = 4 Ohms R_f = 68 Ohms	--	--	4.5	mV

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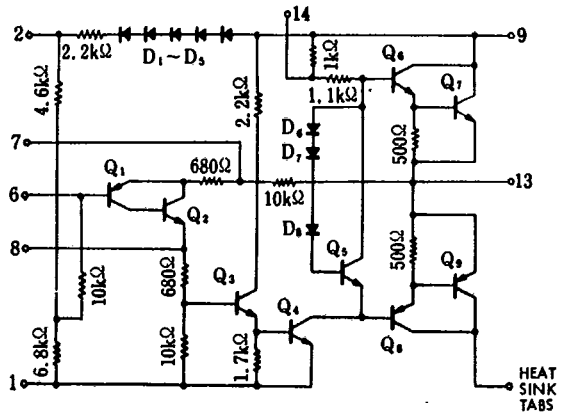
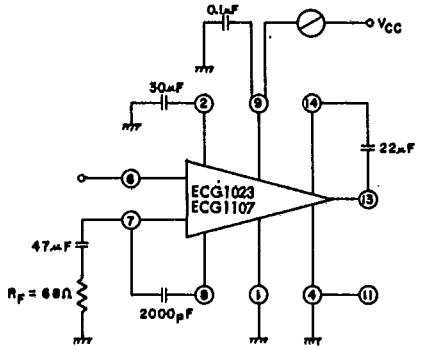
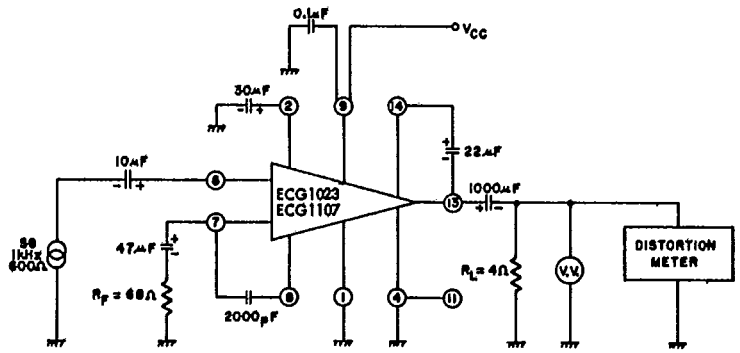
Schematic Diagram



Test Circuit 1. Idle Current Test Circuit (50 x 50 x 2 mm Al Heat Sink)



Test Circuit 2. Output Power and Distortion Test Circuit (50 x 50 x 2 mm Al Heat Sink)



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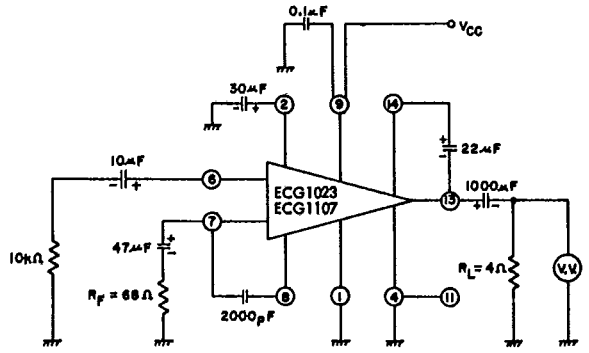
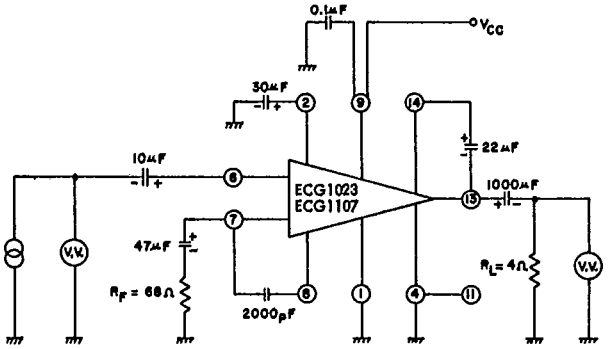
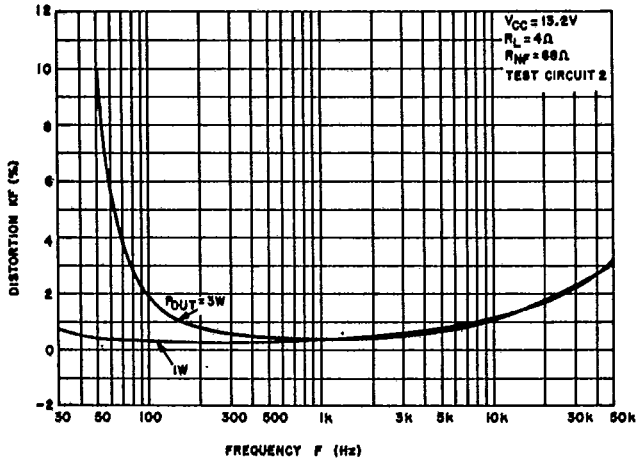
Test Circuit 3. Voltage Gain Test Circuit (50 x 50 x 2 mm Al Heat Sink)



Test Circuit 4. Output Noise Voltage Test Circuit (50 x 50 x 2 mm Al Heat Sink)



Distortion vs. Frequency Characteristics



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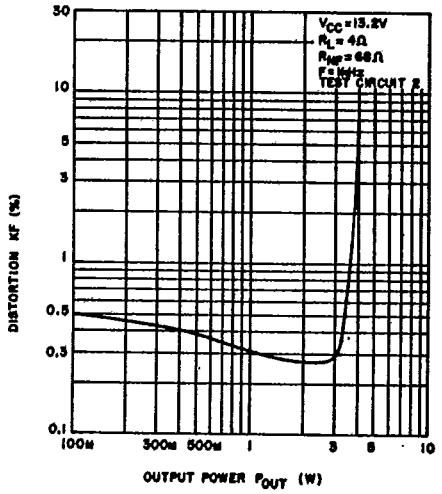
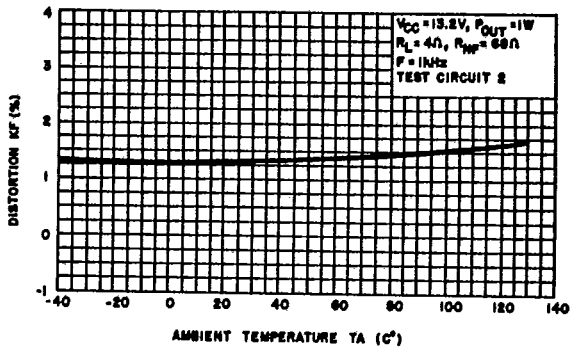
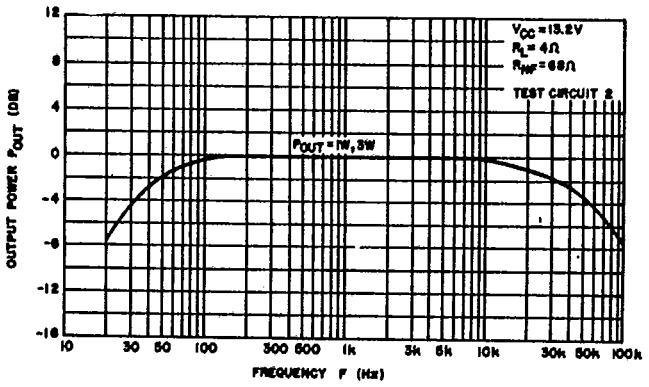
Distortion vs. Output Power Characteristics



Distortion vs. Ambient Temperature Characteristics



Output Power vs. Frequency Characteristics



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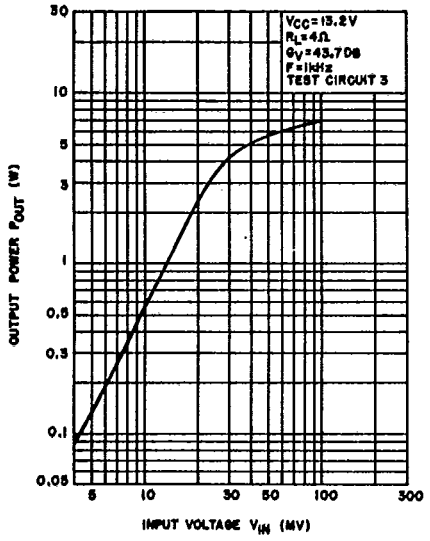
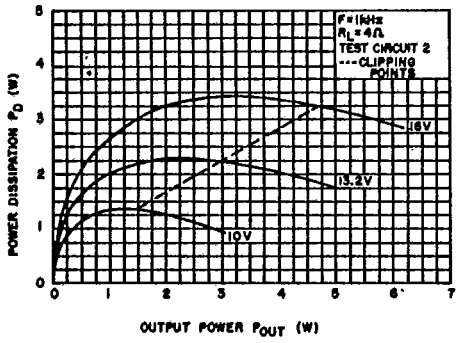
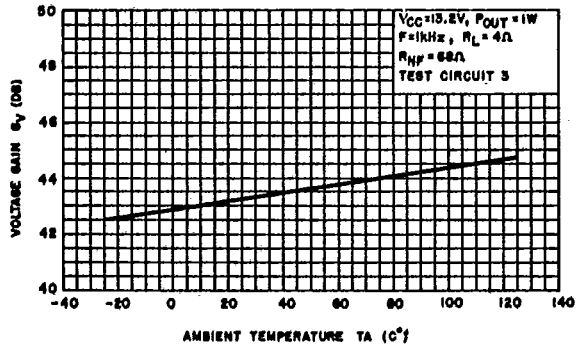
Output Power vs. Input Voltage Characteristics



Power Dissipation vs. Output Power Characteristics



Voltage Gain vs. Ambient Temperature Characteristics



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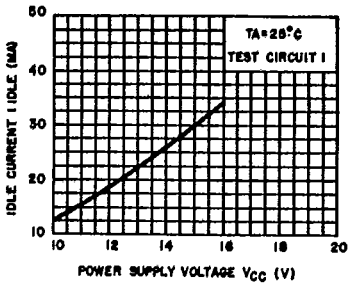
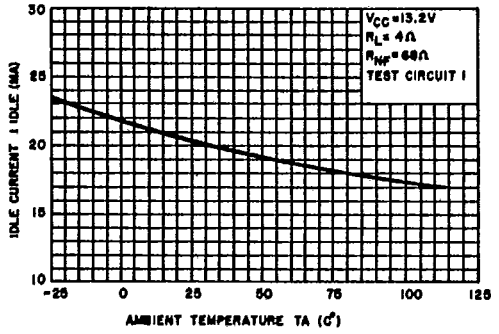
Idle Current vs. Power Supply Voltage Characteristics



Idle Current vs. Ambient Temperature Characteristics



Pin #13 Voltage vs. Ambient Temperature Characteristics