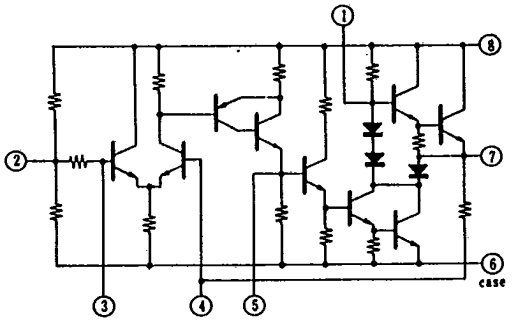
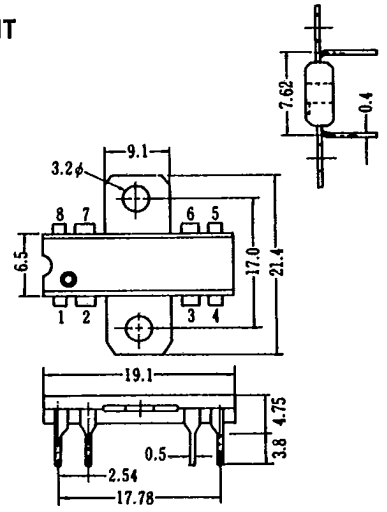
T-74-05-01

ECG1009 1W AUDIO POWER AMPLIFIER
ECG1010 2W AUDIO POWER AMPLIFIER
ECG1011 3W AUDIO POWER AMPLIFIER

SILICON MONOLITHIC INTEGRATED CIRCUIT



EQUIVALENT CIRCUIT



Dimensions in Millimeters

ECG1009

Absolute Maximum Ratings Ta=25°C

Maximum Supply Voltage	Vcc max	16	V
Maximum Power Dissipation	Pd max	2.8	W
	(with Heat Sink 100mm x 100mm x 1mm t AL)		
Maximum Output Current	Io max	1	A
Storage Temperature	Tstg	-40 – +125	°C
Operating Temperature	Topg	-20 – +80	°C

Recommended Operating Condition Ta=25°C

Supply Voltage	Vcc	11	V
Load Resistance	R_L	8	ohm

Electrical Characteristics / Ta=25°C, Vcc=11V, R_L=8 ohm, f=1KHz, R_{NF}=330 ohm

			min	typ	max	unit
Quiescent Current	Icco			15	25	mA
Voltage Gain	VG		27	30	33	dB
Output Power	Po	KF=10%	0.8	1.0		W
Power Efficiency	η	Po=1W		50		%
Distortion	KF	Po=0.5W		0.5	1.5	%
Input Resistance	R_i		6K	8K		ohm
Output Resistance	R_o			0.45		ohm
Bandwidth	BW	-3dB	100K			Hz
Noise Voltage	V_{NO}	input shorted			1.0	mV

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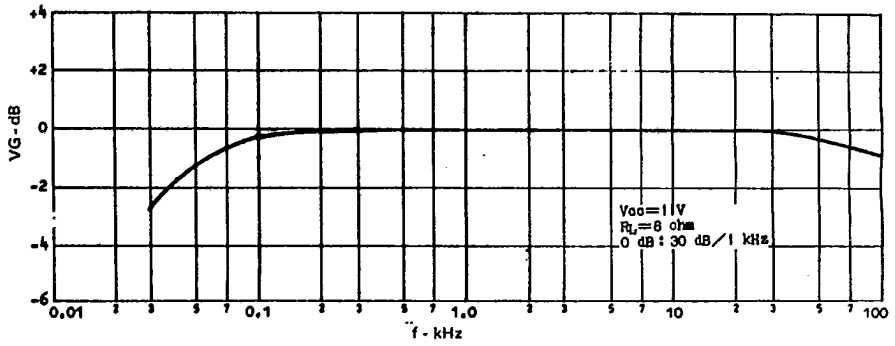
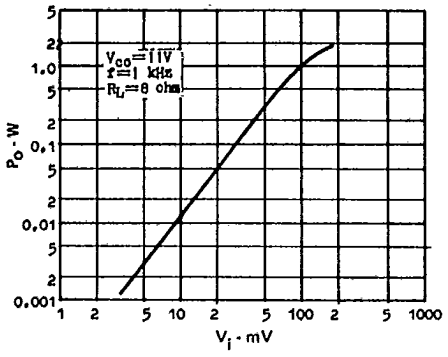
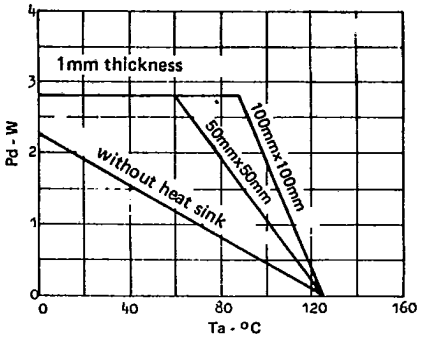
VOLTAGE GAIN VS FREQUENCY



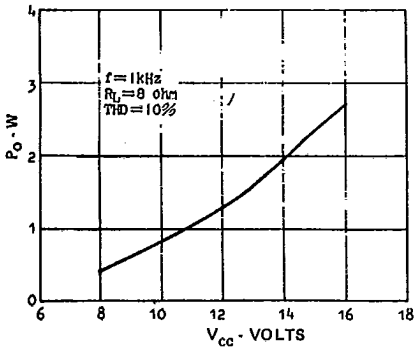
OUTPUT POWER VS INPUT VOLTAGE



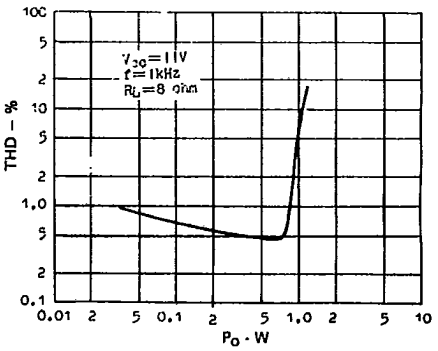
POWER DISSIPATION VS AMBIENT TEMPERATURE



OUTPUT POWER VS SUPPLY VOLTAGE



DISTORTION VS OUTPUT POWER



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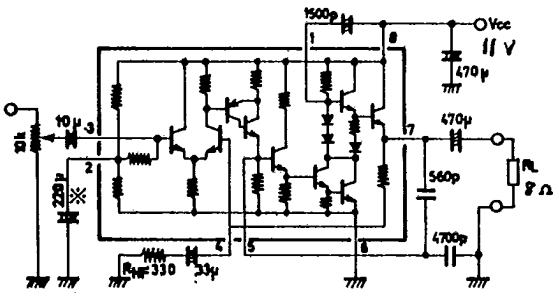
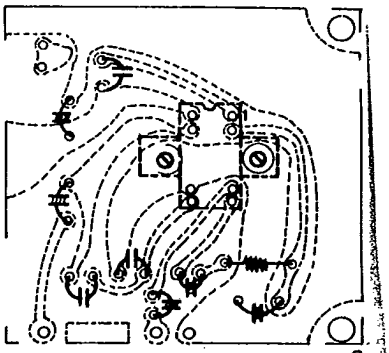
APPLICATION CIRCUIT



※ AC OPERATING

PRINTED CIRCUIT BOARD



70 x 70 mm²

ECG1010

Absolute Maximum Ratings Ta=25°C

Maximum Supply Voltage	Vcc max		18	V
Maximum Power Dissipation	Pd max		4.5	W
	(with Heat Sink 100mm x 100mm x 1mm t AL)			
Maximum Output Current	Io max		1.5	A
Storage Temperature	Tstg	-40 – +125		°C
Operating Temperature	Topg	-20 – +80		°C

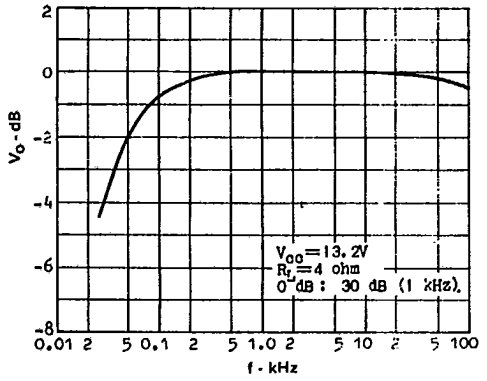
Recommended Operating Condition Ta=25°C

Supply Voltage	Vcc	13.2	V
Load Resistance	R_L	4	ohm

Electrical Characteristics / Ta=25°C, Vcc=13.2V, R_L=4 ohm, f=1KHz, R_{NF}=330 ohm

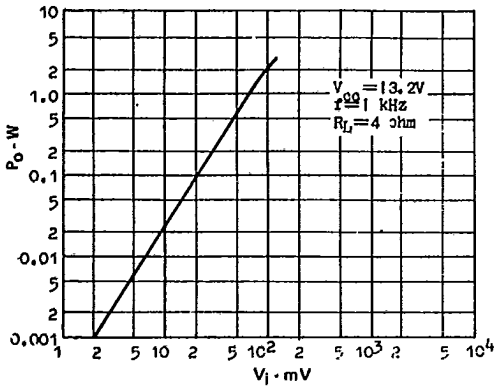
			min	typ	max	unit
Quiescent Current	Icco			18	30	mA
Voltage Gain	VG		27	30	33	dB
Output Power	Po	KF=10%	1.8	2.0		W
Power Efficiency	η	Po=2W		45		%
Distortion	KF	Po=0.5W		0.5	2.0	%
Input Resistance	R_i		6K	8K		ohm
Output Resistance	R_o			0.45		ohm
Bandwidth	BW	-3dB	100K			Hz
Noise Voltage	V_{NO}	input shorted			1.0	mV

VOLTAGE GAIN VS FREQUENCY

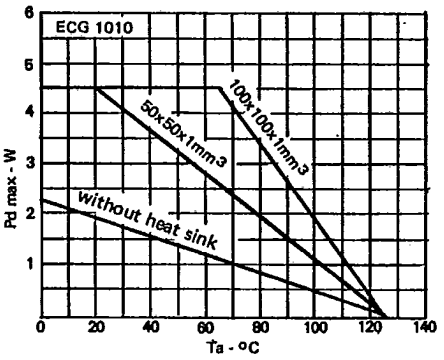


ECG1010

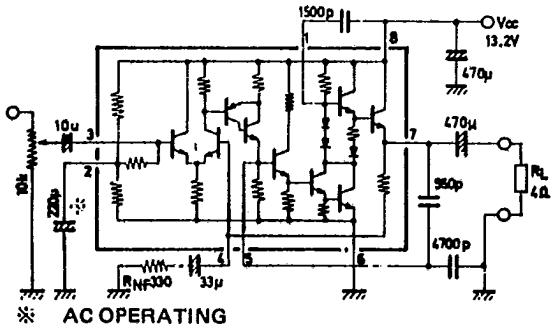
OUTPUT POWER VS INPUT VOLTAGE



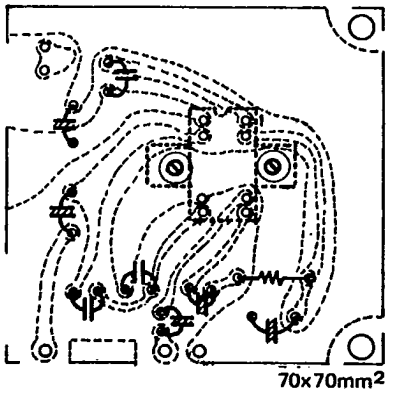
POWER DISSIPATION VS AMBIENT TEMPERATURE



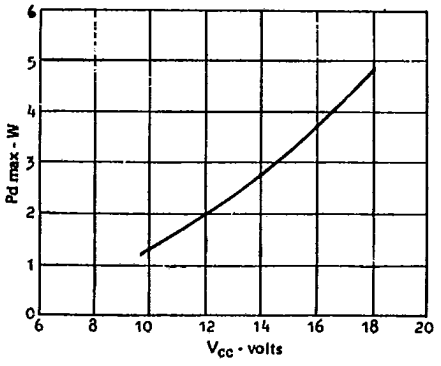
APPLICATION



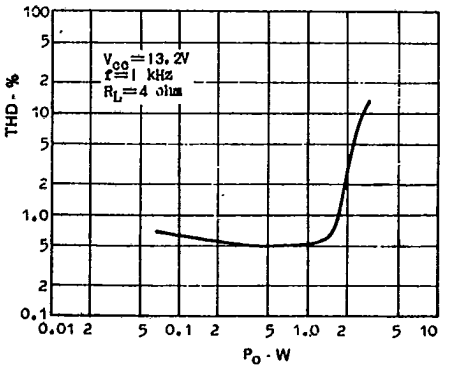
PRINTED CIRCUIT BOARD



OUTPUT POWER VS SUPPLY VOLTAGE



DISTORTION VS OUTPUT POWER



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ECG1011

Absolute Maximum Ratings Ta=25°C

Maximum Supply Voltage	Vcc max	25	V
Maximum Power Dissipation	Pd max	*7.5	W
Maximum Output Current	Io max	1.5	A
Storage Temperature	Tstg	-40 – +125	°C
Operating Temperature	Topg	-20 – +80	°C

*with aluminum heat sink 100mm^2 x 1mm

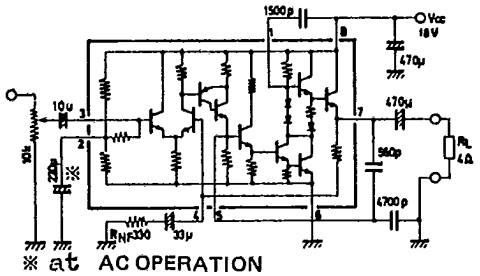
Recommended Operating Conditions Ta=25°C

Supply Voltage	Vcc	18	V
Load Resistance	R_L	8	ohm

Electrical Characteristics / Ta=25°C, Vcc=18V, R_L=8 ohm, R_{NF}=330 ohm, f=1KHz

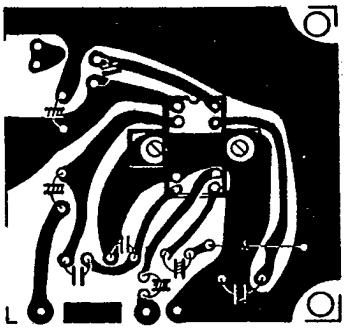
			min	typ	max	unit
Quiescent Current	Icco			25	40	mA
Voltage Gain	VG		27	30	33	dB
Output Power	Po	KF=10%	2.5	3.0		W
		KF=2%	2.0	2.5		W
Power Efficiency	η	Po=2W		50		%
Total Harmonic Distortion	KF	Po=0.5W		0.5	1.5	%
Input Resistance	R_I		6K	8K		ohm
Output Resistance	R_O			0.35		ohm
Output Noise Voltage	V_{NO}	input shorted			1.0	mV

APPLICATION OF ECG 1011
3W(18V, 8 Ohm, 10%) AF POWER AMPLIFIER

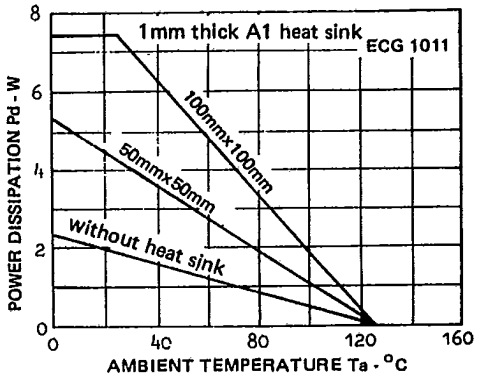


※ at AC OPERATION

PRINTED CIRCUIT BOARD
(copper foil side)



70x70mm^2



ECG1011