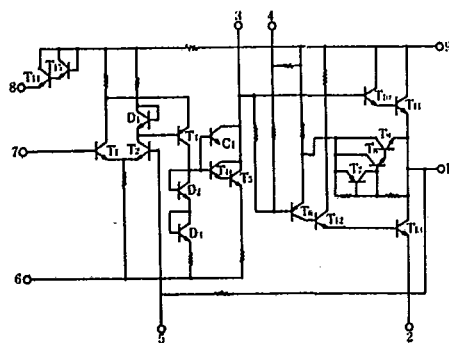


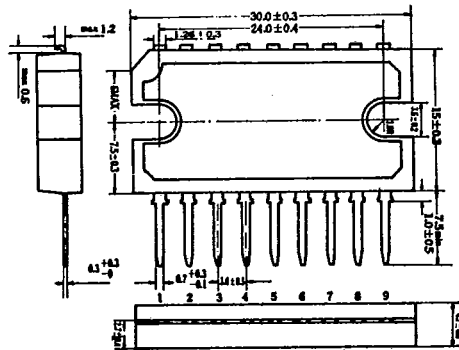
# ECG1058

## 4.4 WATT AUDIO POWER AMPLIFIER

**EQUIVALENT CIRCUIT**



Unit : mm



The ECG1058 is a monolithic low noise, high gain and high power audio amplifier designed for a battery operation (13V). The device consists of a differential preamplifier, a driver amplifier, a ripple filter, an automatic operating point stabilizer and a quasi-complementary SEPP OTL power amplifier circuit. It is particularly suitable for power amplifiers in auto-stereos, auto-radio receivers and tape recorders.

This device can be driven by a single DC supply, and the built-in hum-filter terminal enables operation on rectified AC, also.

**QUICK REFERENCE DATA**

Item	Symbol	Value	Unit
Supply Voltage	V <sub>cc</sub>	13	V
Power Output	P <sub>o</sub>	4.4 (R <sub>L</sub> =4Ω)	W
Voltage Gain	G <sub>v</sub>	45	dB

**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub> = 25°C)**

Item	Symbol	Rating	Unit
Operating Ambient Temperature Range	T <sub>opr</sub>	-20 ~ +70	°C
Storage Temperature Range	T <sub>stg</sub>	-55 ~ +150	°C
Supply Voltage	V <sub>θ-2</sub>	18	V
Total Current Consumption	I <sub>tot</sub>	1.2	A
Total Power Dissipation *	P <sub>T</sub>	4.5	W

\* With a 100 x 100 x 1mm aluminium heat-sink.

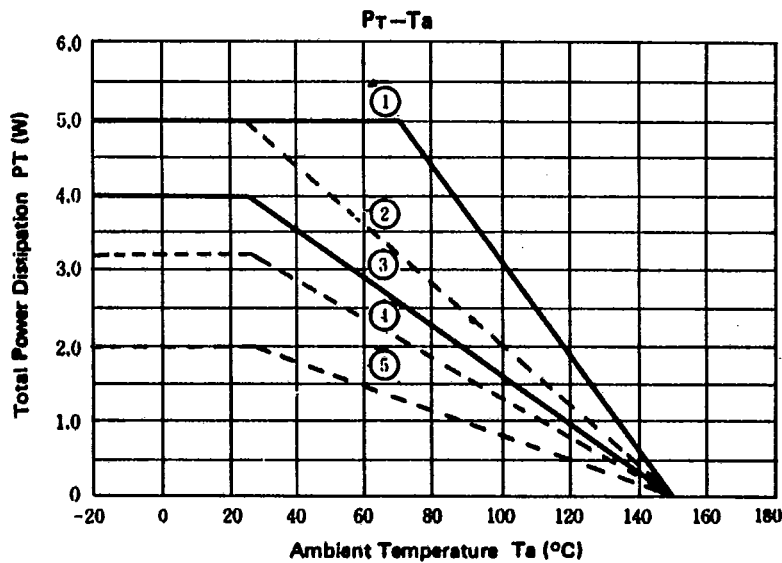
**Cautions in use**

- (1) The device will break down if short-circuit takes place between either pins 1 and 2, or 1 and 6.
- (2) A recommended board layout is shown on page 4.

ELECTRICAL CHARACTERISTICS ( $V_{cc} = 13V, T_a = 25^{\circ}C$ )

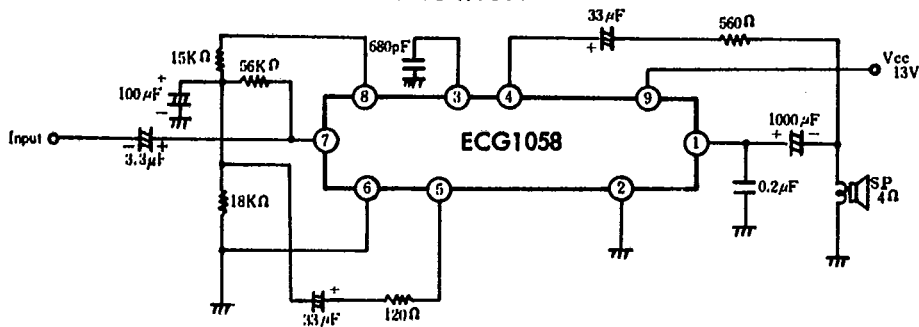
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Item	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
Quiescent Current	$I_{CQ}$	$V_{IN} = 0$	10	20	50	mA
Voltage Gain	$G_v$	$V_{IN} = 10mV,$ $f = 1KHz, R_L = 4\Omega$	42	45	47	dB
Power Output	$P_o$	$D_{tot} = 10\%,$ $f = 1KHz, R_L = 4\Omega$	4.0	4.4		W
Harmonic Distortion	$D_{tot}$	$P_o = 1W,$ $f = 1KHz, R_L = 4\Omega$		0.3	1.5	%
Noise Voltage	$V_N$	$R_g = 10K\Omega, R_L = 4\Omega$		1.0	4.5	mV



- ①  $T_a = T_c$
- ② with a 100 x 100mm aluminum heat-sink (t = 1mm)
- ③ with a 50 x 50mm aluminum heat-sink (t = 2mm)
- ④ with a 50 x 50mm aluminum heat-sink (t = 1mm)
- ⑤ with no heat-sink

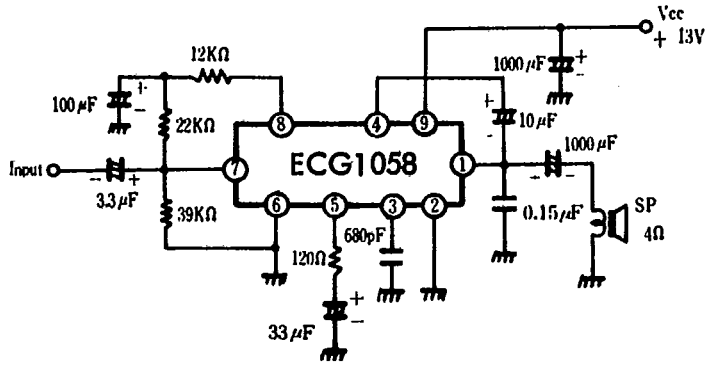
APPLICATION



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ECG1058

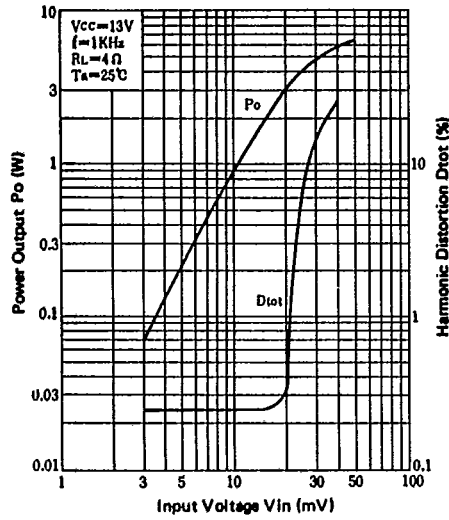
TEST CIRCUIT



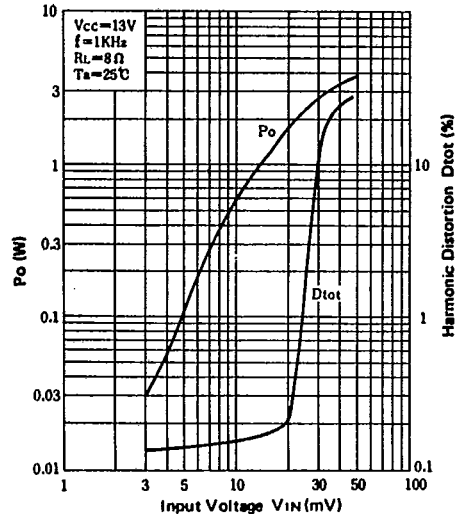
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TYPICAL CHARACTERISTICS

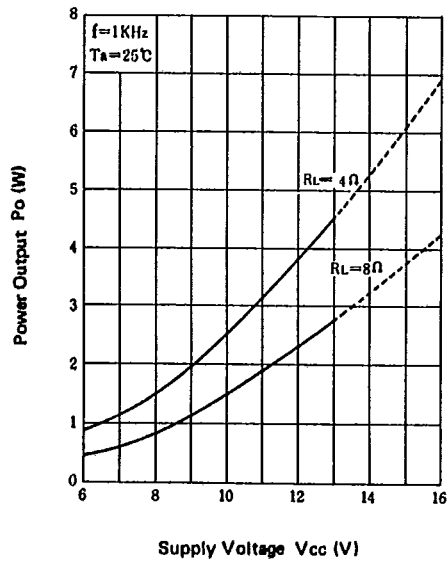
Po, Dtot-Vin



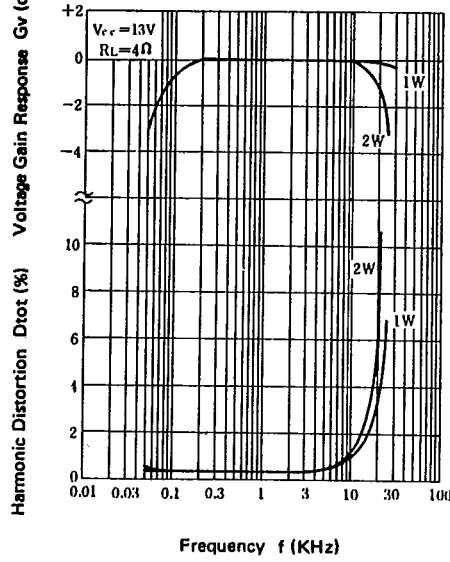
Po, Dtot-Vin



Po-Vcc

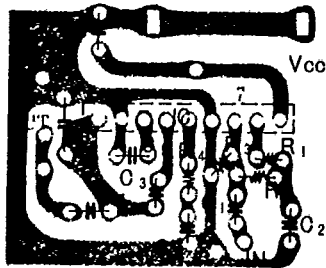


Dtot, Gv - f



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The pattern of the Printed Circuit Board for ECG1058



(Bottom View)